

Continuance of the main quality Metallic "Lead" in

4

service, leather, weather, And limit "East-ly look more.



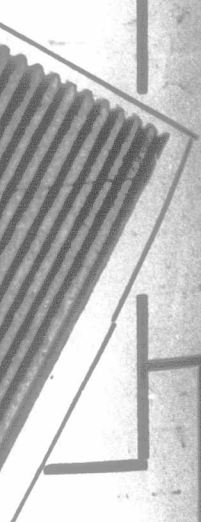
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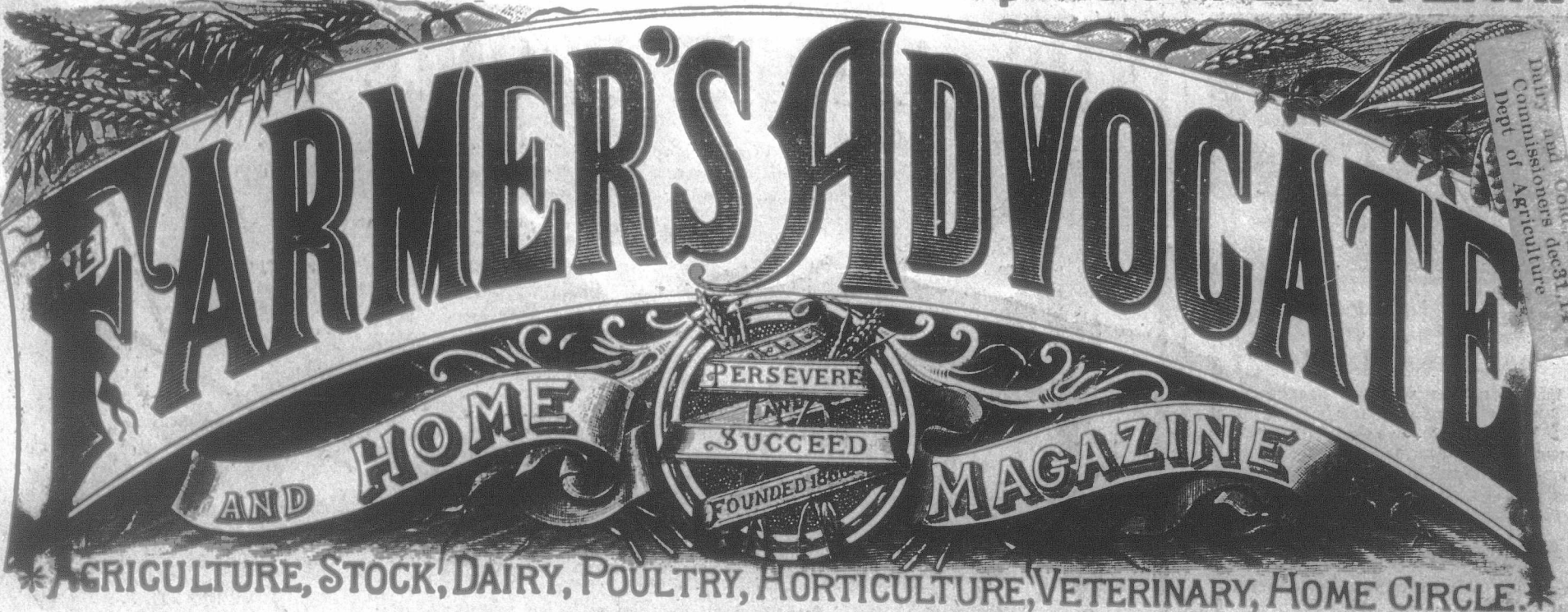
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PUBLISHED EVERY WEEK. \$1.50 PER YEAR.



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

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VOL. XLIX.

LONDON, ONTARIO, FEBRUARY 26, 1914.

No. 1118

# FROST FENCE FIRST

## Specify Frost!

**F**ROST FENCE is sold everywhere by reliable dealers who purchase in large quantities, and can supply it to you more direct and at less cost than any other good fence you can get. Frost dealers buy in carloads and save freight. You get the benefit, because the freight is always added in the cost. You are paying it regardless of what is claimed, and it is considerably more per cwt. than when shipped in cars. On the other hand, what could be more direct than having a chance to inspect the fence on your own posts before you part with your money?

Ask the "cheap fence" manufacturer what size No. 9 wire he puts on his fence. Does he take advantage of the fact that he buys wire by the pound and sells it by the rod, and can thus make wire of

less weight and value go just as many rods as full-size No. 9? Make him show you that it is NOT several one-thousandths of an inch under size, and also that it is galvanized and woven as well as Frost Fence. Ask him if he's willing to set Frost Fence up as a standard and have his fence compared with it.

Every fence buyer has a right to know all these things before paying out his money; but how can you, when you send your money along with your order and wait several weeks before you get your fence? Then, supposing anything is wrong, what does the average man do? Nothing! Because he doesn't want it known that he's disappointed.

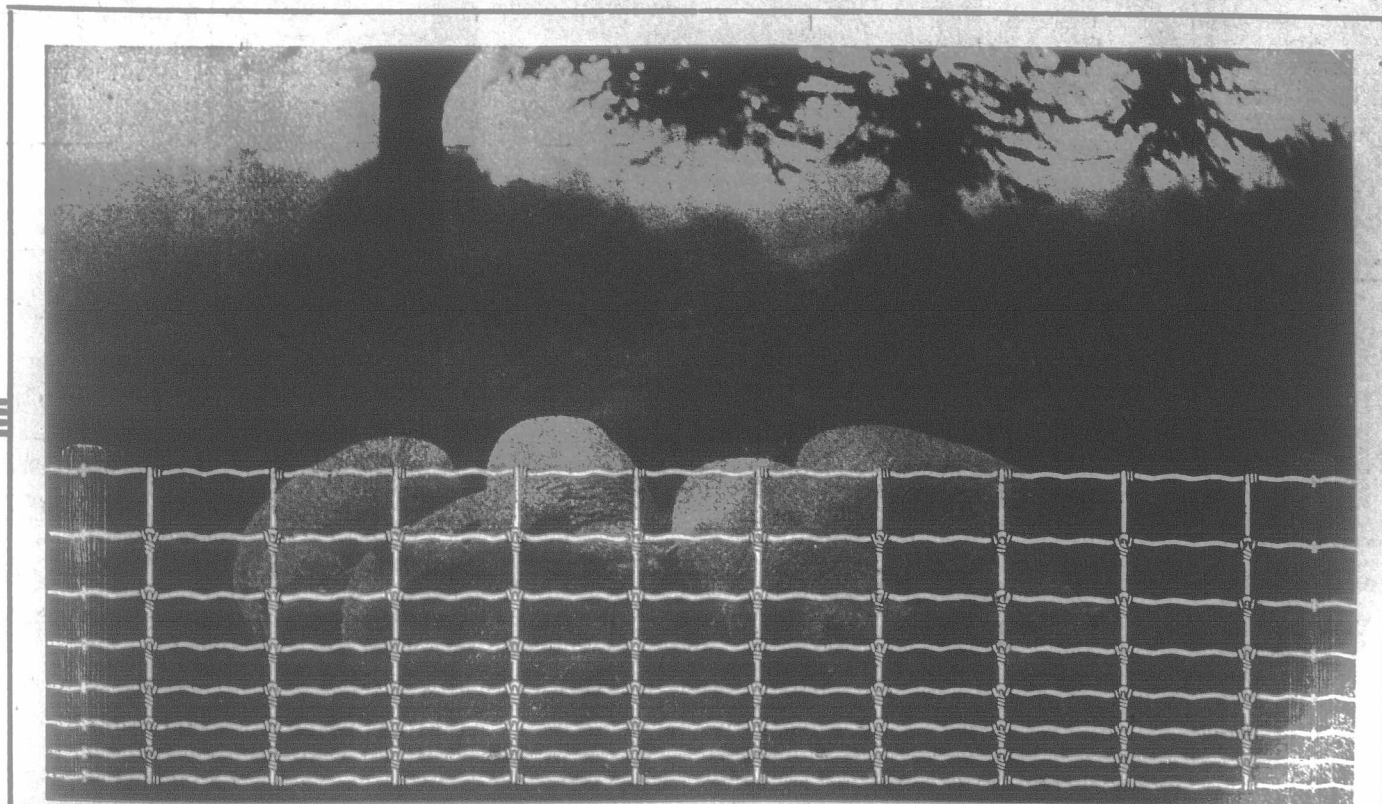
Frost Fence is known to give service. It is carefully made from wire manufac-

tured right here in your own Province. The Canadian farmer knows he gets value. He has already purchased and has in use \$4,000,000 worth of Frost Fence, and we do not know of a dissatisfied user.

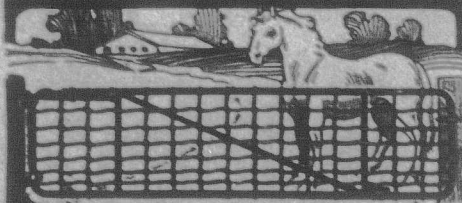
Don't buy any fence unless it has laterals of even length, stays evenly spaced and straight, a binding which absolutely holds without kinking the laterals, and above all, full-size wire, well galvanized. Make a comparison, and you'll see for yourself that Frost Fence stands up at the vital points, just where others fall down.

Don't delay in making a note of this right away and get full particulars. If you insist on getting a fence with the above features, it will not be a hard matter to pick out a good one.

**FROST WIRE FENCE COMPANY, LIMITED, HAMILTON, CANADA**



**THE GATE THAT SERVES YOU BEST**



**THE PEERLESS**

**Braced Like a Steel Bridge**

JUST as the engineer strengthens the points of strain in a big, mighty bridge, so we have designed braces, stronger than was necessary, to make our gates stiff and rigid. They can't sag—they can't twist—they are a great improvement over gates made the old way.

**Peerless Gates**

are made of first-class material. Frame work of 1 1/2 inch steel tubing electrically welded together. Peerless pipe braced gates are all filled with heavy No. 9 Open Hearth galvanized steel wire—built for strength and durability—weather proof and stock proof.

Send for free catalog. Ask about our farm and poultry fencing, also our ornamental fence and gates. Agents nearly everywhere. Agents wanted in open territory.

**BANWELL-HOXIE WIRE FENCE CO. LN.**  
Winnipeg, Man. Hamilton, Ont.

**THE AYLMER BRONZE SPRAYER**



No. 2.—Outfit A

Won highest award at St. Petersburg, Russia, over all Canadian, French and German Pumps. Also secured first place at Manchester (England), Toronto, Ottawa and Halifax.

**SPRAYER NO. 2.—OUTFIT D**

Being Outfit A, ten feet of hose, with couplings attached, two Bordeaux nozzles, one brass stopcock, one Y, one long iron extension rod, without barrel. Price.....\$15.25  
Extra hose, per foot......12

For lined bamboo extension rod, in place of iron extension rod:  
Add.....\$1.50  
With barrel..... 3.00

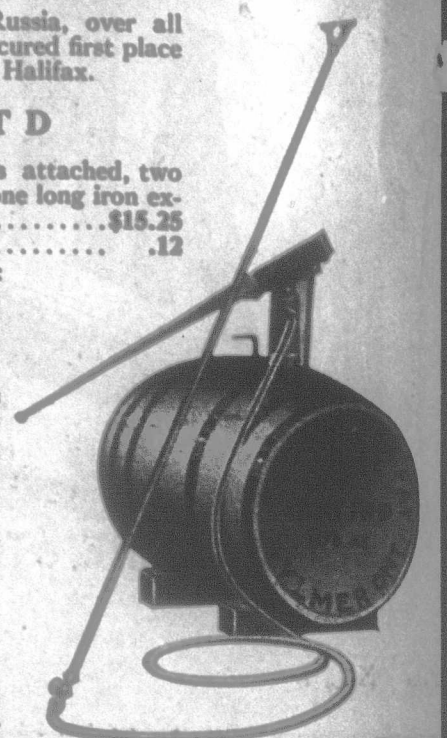
**SPRAYER NO. 3.—OUTFIT E**

Being Outfit A, two lines of hose, ten feet each, with couplings attached, four Bordeaux nozzles, two brass Y's, two brass stopcocks, and two eight-foot iron extension rods, without barrel.

Price.....\$22.50  
With bamboo extension rods in place of eight-foot iron. Price.....\$25.50  
With barrel..... 3.00

Our Catalogue gives full information as to sizes, capacity, equipment, etc. Write us for one. If your dealer can't supply you, your mail orders will receive our prompt attention.

**The Aylmer Pump & Scale Company, Limited**  
AYLMER, ONTARIO



Sprayer No. 2—Outfit D

**The Royal Mail Steam Packet Co'y**

ST. JOHN and HALIFAX to BERMUDA, WEST INDIES and DEMERARA

NEW improved mail, passenger and freight steamship service from St. John and Halifax to Bermuda, West Indies and Demerara.

All twin-screw and fitted with Electric Fans, Wireless Telegraphy, Bilge Keels and Submarine Signals

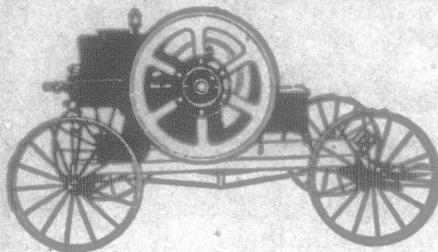
These steamers have excellent passenger accommodation, and attractive tours are offered.

Sailing from Halifax February 27th and March 13th.

For literature apply to any agency of The Royal Mail Steam Packet Co., or in Halifax to Pickford & Black, Limited.

**SAFETY—SERVICE—SATISFACTION**

FOR EVERY POWER USER IF HE GETS A



**GILSON "GOES-LIKE-SIXTY" ENGINE**

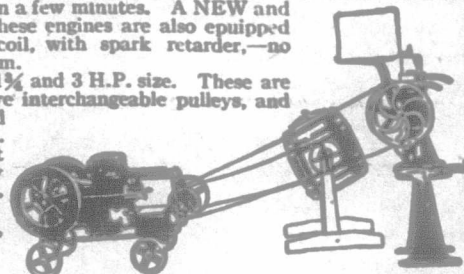
MORE VALUE, MORE POWER, MORE SERVICE, MORE SATISFACTION.

Does SERVICE, SAFETY and SATISFACTION mean nothing to you? Does money saved in repairs and expense bills, time, equipment, etc., mean anything to you? Get Gilson Facts and find out how the Gilson 60-speed and 100% Service Engines do the greatest variety of work—give the maximum satisfaction—are trouble proof and fool proof. Their scientific design makes them absolutely safe—they are approved by the National Board of Fire Underwriters; no insurance troubles.

**NEW FEATURES AND LATEST IMPROVEMENTS.**

The new Gilson 100% SERVICE ENGINES, 4 H.P. and upwards, are equipped with our new friction clutch pulley with 5 interchangeable rims, each of a different diameter. Change to the proper speed for every job in a few minutes. A NEW and EXCLUSIVE GILSON FEATURE. These engines are also equipped with a magneto, without batteries or coil, with spark retarder,—no cranking necessary. A child can start them. We also make 60-SPEED engines in 1 1/2 and 3 H.P. size. These are mounted on truck, with line shaft and five interchangeable pulleys, and pump-jack. Drop us a card to-day, and we will send you full descriptive literature. We are making special prices to the first purchasers of one of these engines in every locality. Write NOW. Agents Wanted.

**GILSON MFG., CO., LTD.**  
2209 York St., Guelph, Ont.



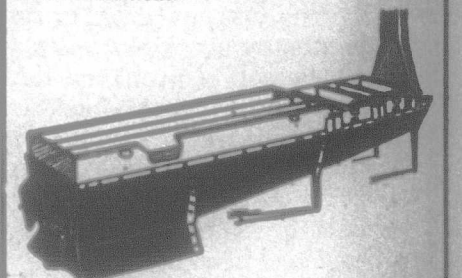
**PROFITABLE MAPLE SYRUP**

can only be made by the Shallow Boiling System, which produces a very light-colored syrup, providing the sap is fresh from the tree.

This is the high-priced syrup—the syrup that makes syrup-making profitable.

**THE "CHAMPION" EVAPORATOR**

is a shallow boiler, and has the largest sale of any Evaporator on the market. The "Champion" captured over 90% of all prizes at the Fall Exhibitions.



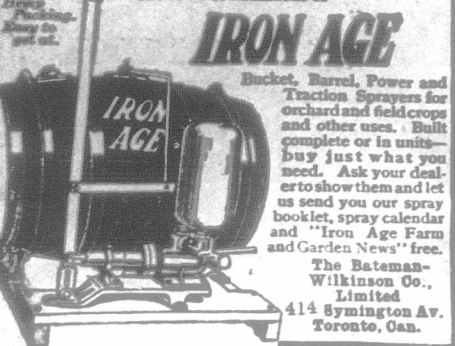
The reasons why the "Champion" is the Evaporator you need are given in our free booklet, together with a lot of information that will double the value of your sugar bush.

Don't put it off, now is the time to think about your maple syrup business for the coming season. Write us to-day.

**The GRIMM MFG. CO., Limited**  
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Montreal, Que.

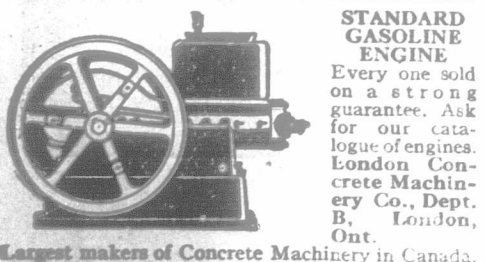
**SPRAYERS** Are a Necessity and a Benefit.

They save your crop, increase the yield and improve the quality. Our Spray Calendar shows when to spray and what materials to use. Our "Spray" booklet shows 70 combinations of



**IRON AGE**

Bucket, Barrel, Power and Traction Sprayers for orchard and field crops and other uses. Built complete or in units—buy just what you need. Ask your dealer to show them and let us send you our spray booklet, spray calendar and "Iron Age Farm and Garden News" free. The Bateman-Wilkinson Co., Limited  
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**STANDARD GASOLINE ENGINE**

Every one sold on a strong guarantee. Ask for our catalogue of engines. London Concrete Machinery Co., Dept. B, London, Ont.

Largest makers of Concrete Machinery in Canada.

**Corn That Will Grow**

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

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**Connect Up Columbias**  
Cost No More—Last Longer

Honest energy for engines, bells, tractors, autos, telephones and all hard working battery service. Quarter-century reputation. Known and sold all over the world. Say Columbia to your dealer and insist.

Maker's name on every cell  
Made in Canada by Canadian National Carbon Co., Limited, Toronto, Ontario  
Fahnestock spring clip binding posts at no extra charge



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YOU can become a competent chauffeur in a very short time by taking our thorough and complete Auto Course. Our instructors are specialists in their line and our equipment is most complete. Illustrated booklets will be sent free on request.

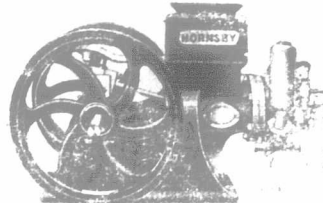
**Y.M.C.A. AUTO SCHOOL**  
281 Broadview Ave.  
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**Low Cash Prices**  
6 1/2 and 8 B. H.-P.

**Hornsby Gasoline Engines**

COOPER COOLED. BRITISH BUILT.  
IMMEDIATE DELIVERY. WRITE:



**RICHARD HORNSBY & SONS, LIMITED**  
214 McGill Street  
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**GOLDEN VINE SEED PEAS**

We offer any part of 100 bushels at \$1.75 per bush, while they last. These will soon go, so act quickly!

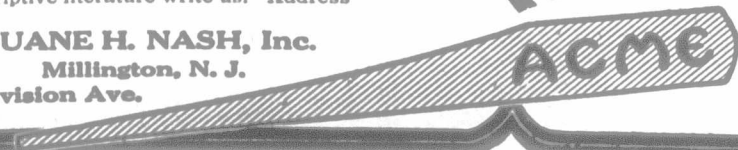
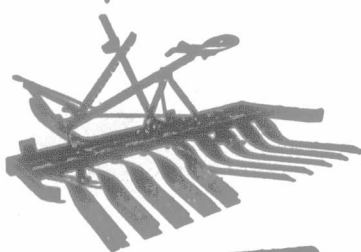
**CRAMPSEY & KELLY**  
Dovercourt Rd.  
TORONTO

### Make an Easy Job of Weeding

with the ACME Foot Lift Weeder. It gets all the weeds the easiest way possible. The long knives cut the entire surface and leave it covered with a moisture holding mulch. Made entirely of steel, indestructible. Below we reproduce a full size section of the steel used in Acme Weeder Blades. Ask your John Deere dealer about the ACME.

For descriptive literature write us. Address

**DUANE H. NASH, Inc.**  
Millington, N. J.  
355 Division Ave.



### Cypress Hot Bed Sash

Have An Early Spring Independent of the Weather

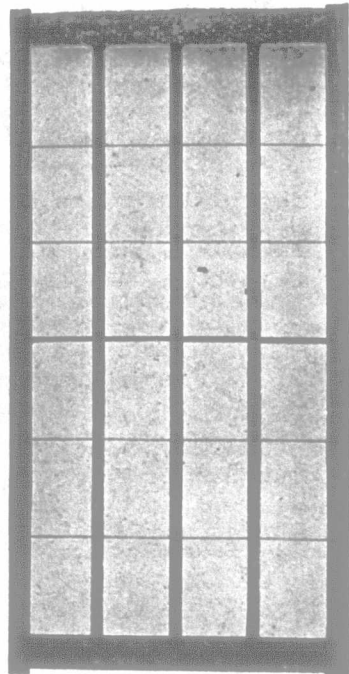
You can have flowers or fresh vegetables six weeks ahead of your neighbor, if you have a well-made hot bed, fitted with our superior hot bed sash. Now is the best time to place your order.

Our hot bed sash are built to last. All the joints are tight-fitting, blind-mortised and white-leaded before being put together. A half-inch oak rod runs through the bars and into the stiles. A metal pin is driven into each of the bars and stiles through the rod. In this way each bar is held in proper place and prevented from sagging.

Sizes:

3 ft. 2 ins. wide by 6 ft. long, for 4 rows of 8-in. glass, \$1.20  
3 ft. 0 ins. wide by 6 feet long, for 3 rows of 10-in. glass, \$1.15

The above prices are for clear red cypress. When ordering, kindly state whether for butted or lapped glass.



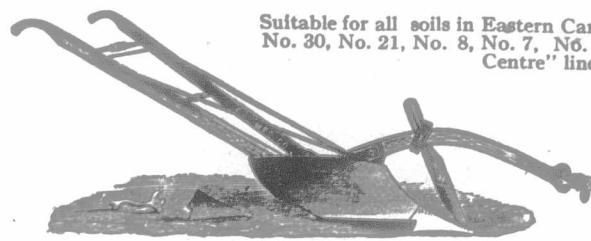
Stock Hot Bed Sash.

**BATTS LIMITED, 368-400 Pacific Avenue, West Toronto, Ont.**

### 100 Standard Walking Plows

Suitable for all soils in Eastern Canada and British Columbia. No. 33, No. 30, No. 21, No. 8, No. 7, No. 5, No. 4, No. 2. The famous "Essex Centre" line to be sold at factory price

**\$10 each**



Wheels extra, 75c. each.

Skimmers extra, 75c. each.

**Erie Iron Works, Limited, St. Thomas, Ont.**

Now is the time to install one of our

### Hay Carriers

In the winter months when you are not busy is the time to figure and plan for your next summer's work. Every farmer should have in his barn a Hay Carrier, and we feel satisfied when you look into the merits of the Stratford Short Draft Hay Sling Carrier, you will agree that it is one of the best on the market.

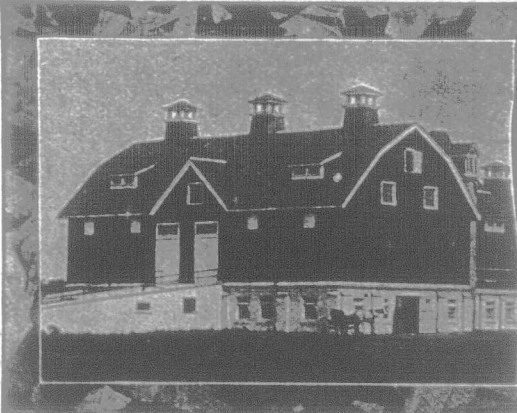
It is not a complicated machine. Its simple construction assures no expense or time lost in repairing.

The team can elevate and the car can easily handle 2,000 lbs. per draft. Team can be stopped at any point, and the load will be sustained instantly by the Carrier. There is a great saving of rope when you use the Stratford Hay Carrier. Do not wait till the busy spring-time or haying-time comes to install one of our Carriers, but order one now and install the same in your slack time this winter. We are making an exceptionally low price on the Carrier at this season, namely \$8.00.

Write us, giving measurements of your barn, and we will quote you price on a complete outfit. We carry in stock: Carriers, Pulleys, Slings, Steel Track and Hay Forks. Ask for Catalogue No. 1-

**The Stratford Mfg. Co., Ltd., Stratford, Ont.**

We make Ladders of all kinds and Lawn Swings. If your dealer does not handle our line, write us for Booklet "A."

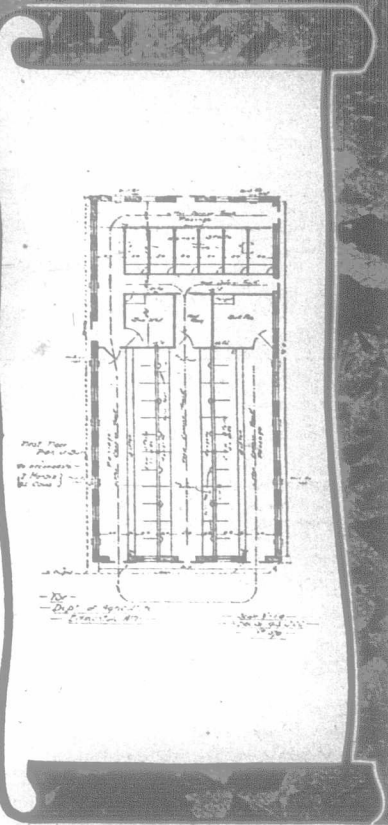


### Money - Saving Plans For Good Barns

Let Beatty Bros. help you plan your barn this winter. We're planning hundreds of dairy barns every year, and in every plan that comes before us for our criticism and advice, we always point out money-saving improvements—we believe we can do that for you.

We may be able to show you a more economical system of framing, a more convenient arrangement of stalls, box-stalls, feed bins, a better location for posts, silos, or windows, better sizes for cattle-sands, gutters, or passage-ways. We can help you in a score of ways.

When our service is free, why risk all the costly mistakes that are made when barns are hastily and carelessly planned?



### B T Barn Plan Service Is Free

Our knowledge of good stable construction covers everything, from the laying of cement floors and walls and general layout of the barn to the ventilation, lighting and framing. This expert knowledge is absolutely free to you.

We invite you to write us, tell us what your ideas are, what size your barn will be, the number of stock you will keep, and when you expect to build.

We'll write you a personal letter about any improvements we can suggest, and will send up-to-date plans, with all improvements carefully marked.

Your letter, or postal or the signed coupon, will have our immediate attention.

Address:

**BEATTY BROS., Limited**  
1221 HILL ST.,  
FERGUS,  
ONT.

When writing, also ask for Free Book "How to Build a Dairy Barn," and Free Book No. 21, about Galvanized Stable Equipment.

**FREE PLAN COUPON**

Beatty Bros., Limited  
1221 Hill St.,  
Fergus, Ont.

Please send me your book "How to Build a Dairy Barn," and Stall Book No. 21, about Galvanized Stable Equipment.

I expect to build in 1914, about

Or remodel about  
Size of my barn will be

I will keep ..... cows ..... horses

Name .....  
P.O. .... Prov.

### Oliver Plows



**THE** group of Oliver plows built for Eastern Canada includes walking plows, three-wheel sulky plows, high and low lift gang plows, walking gangs, hill-side plows, riding cultivators, and walking gang plows. Each of these is built for a certain purpose, and is the best plow obtainable for that particular purpose.

Back of the whole group is the fifty-nine years of successful plow experience of the Oliver Plow Works. This experience eliminates everything in the way of chance. You do not have to experiment with Oliver plows.

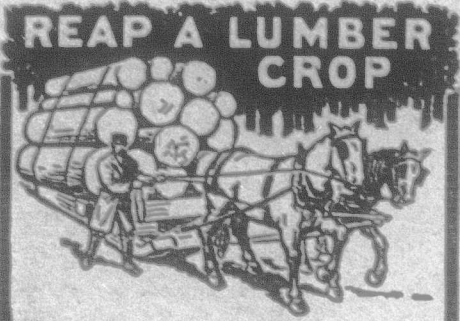
Go to the I H C local agent and tell him what kind of plowing you have to do, and he will sell you an Oliver plow built to do that kind of work and do it in the best possible manner. You can get catalogues and full information of the entire Oliver line from him, or, if you prefer, write the nearest branch house.

**International Harvester Company of Canada, Ltd**

At Hamilton, Ont.; London, Ont.; Montreal, P. Q.; Ottawa, Ont.;  
St. John, N. B.; Quebec, P. Q.

Oliver plows are built at Hamilton, Ont.

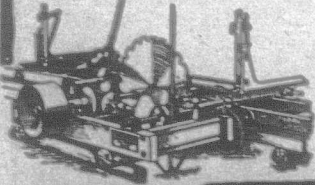




**REAP A LUMBER CROP**

Why not take a crop of lumber off the farm this winter? It's there, in your wood lot—and in your neighbors'—waiting to be harvested. You have the time, the team and the engine. All you need buy is an inexpensive "American" Saw Mill. You can run it yourself, and make good lumber for a new house, a new barn, or for the market. Lumber prices are high. Good lumber is in demand. There's big profit in working wood lot lumber with an "American" Mill because it does so much at so little cost. An 8 H. P. engine will cut up to 3500 feet a day. When you've cleared your wood lot, go to your neighbor. Saw his lumber for him and share his profits. You ought to know all about this farm lumbering business. Ask us for our new book No. 22—the book that tells the nearest office now, while interested.

**AMERICAN SAW MILL MACHINERY CO.**  
Makers of Standard Saw Mills of Any Size or Capacity.



112 Hope St.,  
Hackettstown,  
New Jersey  
1947 Terminal  
Bldg., New York  
CHICAGO  
SAVANNAH  
NEW ORLEANS  
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**SOW SIMMERS**

ESTAB'D 1856

**Used by successful planters**

for over half a century

Our large and beautifully illustrated CATALOGUE FREE

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**SEED CORN**

that will GROW. I have 300 bus. Wis. No. 1 White Corn and 100 bus. of White Cap Yellow Dent that was picked for seed. Picked from stand ing stalk after being fully matured and placed on drying racks. Never piled up, and thoroughly dried before cold weather. This corn is an early variety and especially good for silo and fodder. Will ship in crate or shelled. If shelled will be tipped and graded. Will ship on approval. Address

**THE POTTER FARM.**  
Roy Potter, Manager Essex Ont

**Registered Seed Potatoes**

My Registered Green Mts. yielded last season over 600 bus. per acre. Write me for price list of other varieties.

C. Brad Powers, Upper Sackville N.B.

**BARLEY & OATS**

We have another fine supply of 21 barley, sample excellent; also a supply of improved Siberian oats. Our original supply was grown from registered seed. Present supply was specially grown for seed purposes and is clean, barley, ninety cents; oats, fifty-five. Bags extra.

**JOHN ELDER & SONS.** Hensall, Ont.

**Seed Oats**

—Dalmeny winner of 1st, 2nd and 4th prizes in field crop competition, 1913. **GARTON'S RECORD**—Garton's latest production, pure seed from Lord Rosebery's stock, 2nd year in Canada, strong strain and large yield. 65c. per bus. bags free. Send for sample.

**W. T. DAVIDSON & SON,** MEADOWVALE, ONTARIO

**SEED CORN**

your money back if not satisfactory. Dent varieties. **RUSCOM RIVER FARM,** Essex Co., Deerbrook, Ont.

A limited quantity of carefully selected seed of White Cap, Yellow Dent and improved Early Leaning, place your order early and secure some. **S.E. Oakley, Edgar's Mills Essex Co.**

**DE LAVAL EQUIPMENT**

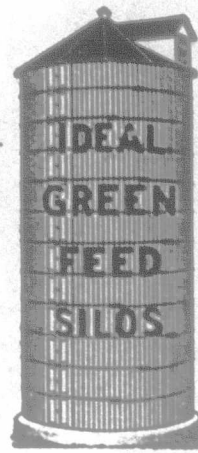
For Farm, Dairy or Creamery

**DE LAVAL** equipment is first, last and always high grade and dependable and includes only such machines and supplies as are known to be absolutely reliable and "standard."

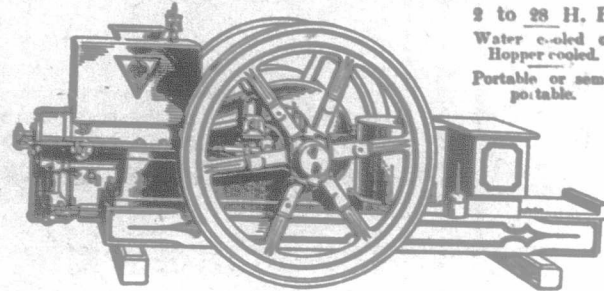
**Ideal Green Feed Silos**

It isn't too early right now to plan for the erection of a silo next summer.

The more you investigate the advantage of having succulent silage to feed your cows all winter, the sooner you will decide to erect a silo; and if you thoroughly investigate the silo question you can scarcely escape the conclusion that the Ideal Green Feed Silo is the best silo for you to buy.



**"Alpha" Gas Engines**



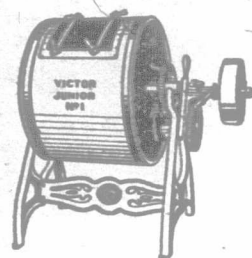
2 to 28 H. P.  
Water cooled or  
Hopper cooled.  
Portable or semi-portable.

Uses all fuels.  
Easy to start.  
Equipped with magnets.  
Develops full power.

The most convenient, reliable and economical power for the farm, dairy, creamery or shop

THE "ALPHA" Gas Engine is the highest grade and most reliable engine that you can buy for any purpose whatever; but on account of its simplicity of construction and reliability of operation it is unusually well adapted for farm use.

**Dairy and Creamery Supplies**



VICTOR CHURNS

THE DE LAVAL line of dairy and creamery supplies for milk dealers, creamerymen, cheese makers, and dairy farmers is by far the largest and most complete in Canada. We handle nothing but high grade goods, and successful dairymen know that this is the only kind they can afford to buy.

Our Service Department insures proper installation of all machines and supplies and is always ready to cooperate with our customers.

We issue catalogues of each line Any of these mailed upon request

**DE LAVAL DAIRY SUPPLY CO., Ltd.**

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA  
Exclusive Canadian distributors of the "World Standard" De Laval Cream Separators  
MONTREAL PETERBORO WINNIPEG VANCOUVER

**BRANTFORD BINDER TWINE**

Brands: "Gilt Edge," "Gold Leaf," "Silver Leaf" and "Maple Leaf."

"The Twine That Makes the Tie That Holds."

Brantford Cordage Co., Limited, Brantford, Ont.

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"IT THROWS AND BLOWS"

**Papec Ensilage Cutters**

Cut silage perfectly, and at a very low cost of operation. Papec knives cut smoothly and swiftly. They make a fine, uniform silage that is very palatable and nutritious. The combined throwing and blowing force that lifts the silage is generated from one fifth less power than is required by any other blower doing the same work. Mechanical perfection and high quality of material mean long life, no loss of power and low cost of operation.

Our new illustrated catalog gives facts showing how "The Wonderful Papec" will save time and money at cutting time. Send for copy today.  
**GILSON MFG. CO., Ltd.** 1709 York Street Guelph, Ontario

**Farm Planning**

THE farm is a combination of a business establishment and a home. Economy of labor is necessary to one and pleasant surroundings to the other. A haphazard arrangement of buildings, a poor location of entrances and drives, an inadequate water supply, or inefficient drainage are constantly reducing the income and making the home life a burden to all the family.

There is no greater influence toward keeping the young people interested than in well-developed grounds, where the business part presents an appearance of system and around the house are graceful trees, pretty flowering shrubs and well-located walks and drives.

Our Landscape Architect is a graduate of a leading agricultural college, where he has made a thorough study of farm planning, which, combined with broad experience, enables him to handle your problems intelligently and accurately.

Let us take up your problems now, and you may act this spring.

Write us at once for further information.

**E. D. Smith & Son Limited**  
Landscape Architects  
WINONA, ONT.

**A FARMER'S GARDEN**

Helps his wife to plan her table in busy times. Saves work and worry, saves buying so much more, gives better satisfaction to the help. A good garden will be almost impossible in your busy life without proper tools. They cost little and save much hard work.

**IRON AGE WHEEL HOES AND DRILLS**

will sow, cultivate, ridge, furrow, etc., better than you can with old-fashioned tools and ten times quicker. A woman, boy or girl can do it. Can plant clover and work these hard tools while the horses rest. 38 combinations from which to choose at \$2.50 to \$12. One combined tool will do all of the work. Write us for booklet "Gardening With Modern Tools" and "Iron Age Farm and Garden News" both free.

**The Babcock-Wilkinson Co. Limited**  
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# The Farmer's Advocate and Home Magazine

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Vol. XLIX.

LONDON, ONTARIO, FEBRUARY 26, 1914.

No. 1118

## EDITORIAL

Again we say save the good calves.

Everlastingly preparing for war is a likely way to bring one about.

After the cold spell recently experienced there should be no "short crop" of ice.

Can you tell the age of a horse by his teeth? If not, an article in this number should prove of unusual interest.

The last month of winter, as is often the case, exploded all the prognostications of the man who prophesied a mild winter.

War is the method of wild animals and savages lacking the intelligence to settle differences in a humane and rational way.

Canada is not the only country whose educational system has led the young of the land cityward. Scotland is now grappling with the same problem.

Prepare to shoot or pay the shot is the alternative flung in the face of peace-loving Canadians. The design seems to be to make them do both.

"Scotland Yet," in his letter in this week's issue, hits the nail on the head when he talks of the educational system making clerks and typists instead of ploughmen and dairymaids.

If the war lords who are so zealous to lead the campaign against imaginary enemies would tackle some of the real ones that prey upon the country it would better serve the interests of the people.

A few illustrations of dairy Shorthorn cattle and the record of a certain Canadian herd published elsewhere in this paper should remove the doubts from the minds of the skeptics and prove conclusively that there is such a thing as a dual-purpose cow.

The Ontario Government was ushered into session on February 18th, 1914, with great form, dignity and grandeur. If the business of the country were conducted with the same practical exactness that a dairy herd must be managed, there might be a Record of Performance established once in a while.

A well-known American writer has said apropos of the rapid increase in urban population, as compared with rural dwellers, that "life in the city destroys the nerve of a man to take his chances with just nature. He would rather risk pauperism to get a 'job' than to endure with fortitude the chances of the seasons in the country. He has lost his plowhand muscles, and his capacity to hope for a harvest just from the earth. He wants wages 'by the day' or month. He lacks the courage to believe in the soil, to endure the hardships of cold in the winter, and of heat in the summer." For these and other reasons he does not care to return to the farm.

### Dear Beef, The Embargo and The Feeder.

A few days ago the daily papers contained a report of certain proceedings at a meeting in the Old Country where the high cost of living came up for discussion. It seems that this condition of society is beginning to be keenly felt on the other side of the Atlantic, notwithstanding the fact that increases in this respect have not been anywhere in comparison as high as they have been in America. It is not the statement that living is getting higher in England that we wonder at, but rather at the cause given. Some of our friends over there made bold to state that Canada was responsible, because her export trade, especially in beef cattle, which formerly was carried on almost exclusively with the Mother Country, is now largely diverted to our neighbors to the south.

Years ago Great Britain placed an embargo on cattle entering that country as a safeguard against the pleuro-pneumonia scourge, and made it imperative that all animals so imported should be slaughtered within ten days at the port of entry. Once on, the embargo remained. Of course, this shut out Canadian feeding cattle, which, while we do not believe in trade restriction, was not, in our opinion, a very hard blow to the Canadian feeder, notwithstanding the acrimonious statements made largely for political purposes at the time. We never did believe that it paid farmers in the long run to sell an unfinished product, and this applies with all possible force to cattle feeding. While embargoes are not generally in the best interests of trade in any particular line to which they may apply, this particular impediment did little harm. The opening of the United States market has developed a new state of affairs in cattle breeding and feeding in this country. There are those who now rise up and with ready persiflage blame Great Britain for the present trend of the trade, hinging this blame on the embargo which she placed on Canadian feeding cattle. Such is uncalled for and unwarranted.

The new market has drained many sections of Canada almost completely of young stock and thousands of head have been sold in the raw, feeder or stocker state to be finished off the green hills of Vermont and Pennsylvania, which would have in the end paid the farmers of Ontario for the feed and labor of finishing. We would not care to see an embargo placed on Canadian feeder cattle by the United States. Such would not be in the interests of trade and whether or not an embargo is held against our feeder cattle by Great Britain or any other country should not matter to our feeders as long as the finished product is allowed to enter these countries duty free. Every cattle feeder who has land to grow winter feed, cannot afford to sell his stock in the young, thin and unfinished state. Finish every good animal; whether it is accomplished at ten months, eighteen months, two years or two and one-half years matters little. The earlier the finish the better, but the point is "FINISH."

England has no right to blame Canada for the high cost of living over there, basing the blame on the meat supply alone. Our cattle feeders will sell in the highest markets and do not feel so charitably inclined as to lower the season's returns in dollars and cents to decrease the price of meat in the Old Land. They do not get too

much. The Canadian farmer has very little cause to lament that an embargo exists on his cattle entering England in so far as it applies to feeder cattle, and if they blame us let them remove the embargo. Let our finished animals have access to the world's markets and, of course, it remains with the breeder and feeder as to whether or not he finishes his stock. Legislation cannot successfully govern this branch of the farming business. The feeder should have free hand and free choice in the matter, but we look to the feeders to see the importance of finishing as it applies to farming in the long run and not have their eyes blinded by large immediate returns from selling unfinished cattle.

The farms of our country need all the fertilizer to maintain and increase fertility that the stables of the cattlemen can turn out. Regardless of the high cost of living, embargoes, legislation and the opinions of consumers far and near, let the feeder settle down to the sure and safe policy of feeding as much as possible of his crops on the farm and selling the finished product, whether it be steers, milk or butter or what not.

### The Calf to Kill and The Calf to Keep.

One of our valued subscribers recently suggested that "The Farmer's Advocate" inaugurate some sort of campaign against the slaughter of female calves. He was a man interested in the milk business and one who has the future of Canada's live-stock trade and the welfare of farmers interested therein at heart. He complains that drovers are cleaning out the young dairy cattle and that farmers are not realizing what is happening. Very soon they will have to buy and prices are sure to be exorbitant. This applies forcibly, not only to the dairy business, but also, and perhaps more strongly, to the beef-cattle trade. The good and the poor calves go at an early age, no discrimination being used in selecting them. All the young things have been sold from many herds and this practice continued year after year cannot help but have a detrimental influence on the cattle-breeding industry, whether it is dairy cattle or beef cattle.

Radical means have been suggested to stem this tide of live-stock depletion. Some have gone so far as to state that legislation should be brought down by our Governments, setting an age to which all female cattle should live before being slaughtered. Good cattlemen have opposed such a scheme, and rightly so. Too much legislation is not a good thing for the live-stock business. It is up to the men who own the cattle to see to it that the best female calves in their herds are retained for future use in these herds. If they will persist in selling promiscuously simply because high prices are paid for the youngsters upon them will be the burden in a few years when it becomes necessary to replace some of the old worn-out matrons.

No one regrets more than we do the over-selling of veal calves, very often almost too young to be called veal. We have always held that the safest, surest and quickest way to build up a high-class herd, either of beef cattle or dairy cattle, is to retain in that herd females from the very best cows on the place, and, of course, from a high-class sire. The breeders have the matter in their own hands and they must be the judges. It is to be hoped they will be far-seeing enough to keep the best heifer calves. If they choose to

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THE DOMINION.

PUBLISHED WEEKLY BY  
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

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

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sell them they must in the end be the losers, but no live-stock man cares to have a government step in and say, "You must not sell until a certain age." If this were law, think of all the scrubs which would have to be kept at a loss. Too many nondescripts are raised as it is.

The writer has in mind ten calves which he saw purchased in the fall of the year, the calves being anywhere from nine months to a year old, at the ridiculously small price of \$5 each, but these calves were wintered, pastured another summer and fed off the following winter and very little money was made on them; in fact, if all feed and labor had been carefully recorded, they would have shown a loss. They were the pronounced scrub variety, and to get rid of a lot of rough feed the purchaser took a chance on them. Such calves, at the money, were raised at a loss to the producer, and fed at a loss by the feeder. They would have been much more profitable sold as veal, even though they would not have brought the highest price. Imagine such scrubs, among which were several heifers, put into a breeding herd. On the other hand, the writer knows of two animals, and these are only two of many, which were fed off at an earlier age than the calves previously mentioned, and which sold for upwards of \$100 each, finished under two years of age, high-class baby heaves. This latter class of animal might have been a profitable breeder. Herein lies the difficulty—we firmly believe that it would be more profitable to discard inferior animals as calves than to raise them, but it is a deplorable fact that hundreds and thousands of heifer calves, which, if properly cared for, would go on to maturity and add to the value of the breeding herds in which they are dropped, are monthly going to the butcher. The breeder should know best and the successful breeder does know and is following the system of keeping his good heifer calves.

All that can be asked is, that the breeder weigh the matter carefully before disposing of the good calves. Remember that the cows are getting older and soon must go and that calves

must take their place. He must be the sole judge. If in the long run he sees more to be gained by selling the calves let him follow the system. If, however, as must be the case if he goes into the matter fully, he sees more profit in keeping the choicest of his heifer calves, let him start at once to improve the herd and raise the value of the breeding cattle of the country. Inferior heifer calves should not live and the good ones should not die.

### Spending Money not Sufficient.

The notion is current that about all governments need do to put farming in its proper place is to spend money for its furtherance. For the machine politician, official agriculture is cheap, easy and popular, but it is liable to be overdone. It is not his own funds that he distributes, but the people's, contributed chiefly through devices of indirect taxation, like customs duties, excise, postal charges, or from Dominion lands. When business is buoyant, money flows in like a well-fed stream, and what so easy as to dispense it with unctious for "the good of the farmer?" "We are the people," moralizes our temporary political providence, "let us help you out of the rut."

Though the farmer has little to do with it, the cost of living, brought about mainly through too many people living in towns, has at last awakened the public and focussed attention on the farm. For thirty or forty years governments, schools, churches, newspapers and heads of families have been campaigning people into the cities. Now, with little regard to whether it pays him or not,

but they must not be regarded as any excuse or offset for needless burdens put upon the industries of the farm, hindrances in the way of fair returns to the farmer or wasteful and needless military and naval outlays. Patronage and pap are not what farmers need. They had to fight for independent telephone service and largely developed it themselves. About the only utility of specific convenience handed out the farming community by the Government of Canada was rural mail delivery, and it was a long time coming. Parcel post ought to help round out the service. Peter McArthur has been talking about satisfying the farmer with "indirect benefits." He will do well to keep his eye on the educational aid programs, a large share of which may be absorbed long before his portion of the direct returns arrive. The movement is commendable, but there is more serious work ahead for governments. It is not so easy to re-adjust one-sided school systems, to choke off those who would loot the public chest or use the transport and taxation systems of the country for their own enrichment regardless of the people who provided the domain or whose pockets supply the cash.

### Nature's Diary.

By A. B. Klugh, M.A.

Emerson Hough, in the Saturday Post, had an article dealing with the breeding grounds of wild-fowl, which is of such importance to all Canadians interested in the study of nature, or in hunting, that I cannot refrain from quoting those portions of it which concern us most vitally. Speaking of the Weeks-McLean Bill, which recently passed Congress,

and which hands over to the Biological Survey of the United States the right to make laws regulating the shooting of migratory birds, he says:

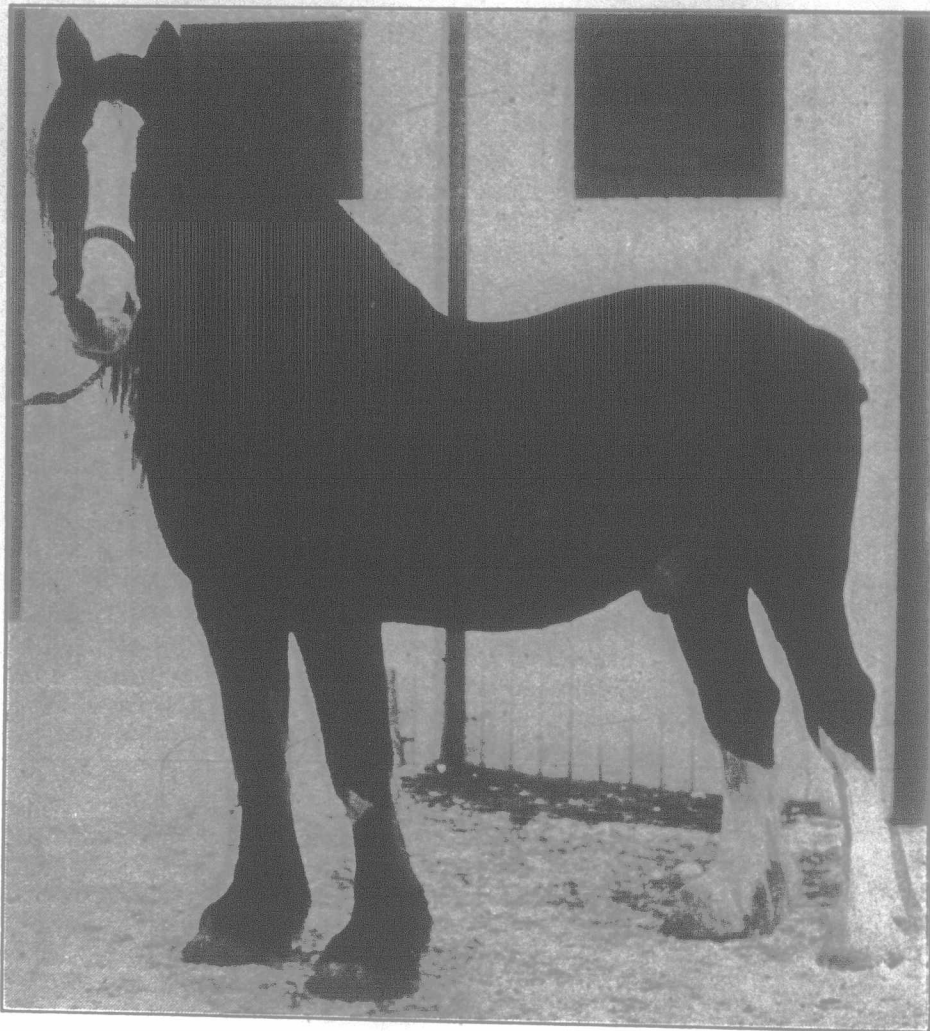
"Canada raises most of the wild fowl we kill to-day, and in return we give Canada no reciprocity, but on the other hand, for generations have done all we could to lessen the supply. The Weeks-McLean Bill is the first American game law that has ever given Canada a square deal. Only the narrowest of selfishness can fail to see that in giving Canada this square deal we help not only Canada, but both Canada and ourselves, since we are giving up our old foolish doctrine that you can continually reap and never sow. The greatest sowing grounds to-day lie in Canada."

There has been for some years and is to-day an entirely erroneous opinion among sportsmen that there are immense areas of excellent breeding ground in the far North, which will take the place of the breeding grounds which have been destroyed by civilization just south and north of the boundary between the United

States and Western Canada. In regard to this supposition Mr. Hough says:

"Now, it is not true that we shall ever again have in the far North, or anywhere else, as good breeding grounds as those that have largely been wiped out just south and just north of the dividing line between this country and Canada—that was the best nesting ground on this continent, and we have nothing to take its place. I say this after a journey from the American border to the Arctic Ocean, along the natural flyway of our wildfowl, which follows the Mississippi Valley in this country in large part, and in large part the Athabasca-Mackenzie River Valley in the Dominion of Canada. By the valley I mean the waterway of the Athabasca, Slave and Mackenzie Rivers, with their adjacent lakes and streams.

"Very happily for all of us there are breeding grounds in the far northern country where the railroad will never go; but even this statement



Royal Ronald (14824).

This imported Clydesdale stallion weighs 1,970 pounds. He stands 17 hands high, is six years old, and will be sold cheap, by T. J. Berry, Hensall, Ontario.

or how extra hard he must toil, the farmer is to be educated or coaxed or cajoled into growing more to feed the masses and incidentally keep the bank coffers full, the railroads humming and the Big Interests growing bigger. Every other man in town knows what ails the farmer, but only about one in a hundred thousand thinks seriously of putting his hand to the plow to help him grow more corn or potatoes.

As never before governments, federal and provincial, have awakened to the gravity of the situation, and it is well that they have, but if the efforts cease with a campaign of education it will not meet the case. That is only one-half the program. This ought they to do, but not leave the other undone. Wisely administered, these expenditures will be enlightening and help-

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should be made carefully. One of the greatest wildfowl regions of that northern country is in the Peace River delta and Lake Athabasca. But when we reflect that within two or three years there may be a railroad built to MacMurray, which will bring the traveller within less than two hundred miles of steamboat transport to Lake Athabasca, we begin to see that we ought not to prophesy too sweepingly regarding the eternal isolation of this breeding ground.

"Again, the southern and western shores of Hudson Bay proper have been fine nesting grounds for numbers of geese and different species of duck that come into our country in the fall. You would not think there is much danger from the sportsman tourist, did you not stop to think that they are building a railroad to the western shore of Hudson Bay.

"There remain the big breeding grounds more or less vaguely supposed to exist toward the mouth of the Mackenzie River. Here, to be sure, latitude and geography conspire against the sportsman tourist. If he remained in that country long enough to get good shooting in the late summer, he might not get out that winter. But that breeding ground is far more restricted and less prolific than it is generally supposed to be.

"Another great northern breeding ground we have been accustomed to locate vaguely on the Yukon River. Towards the mouth of that river, just as in the delta of the Mackenzie River, there are good wildfowl nesting grounds; but neither of these rivers is a continuous nesting ground for wildfowl. The greater portion of the thousand miles of these waterways is, on the contrary, entirely unsuited as breeding grounds for wildfowl. These birds must have low and marshy country, and not rock shores or vast flats covered with interminable growths of spruce, cottonwood and willows.

"The truth is—or the truth as I conceive it to be after a journey to the mouth of the Mackenzie, thence west to the Yukon and south to the Pacific Ocean—that only a relatively very small portion of that great wilderness country is suitable for raising wildfowl. I do not believe the percentage of such acreage is anywhere near so large—perhaps it is not one-fifth or one-tenth as large—as the percentage of acreage naturally found in the Dakotas, Saskatchewan and Alberta.

"Certainly—though the season was at that time better advanced, so that the young birds began to show—I saw more ducks in the ponds along the Canadian Pacific Railroad in three days in August than I had seen in three months in all that far northern country."

Mr. Hough obtained as much information as he could relative to the abundance of wildfowl in the Athabasca-Mackenzie region from white men, and Indians, and all agreed that the birds were not now as numerous as they were some years ago. Speaking of the general impression which exists that the Indians kill immense numbers of birds and gather quantities of their eggs, he says: "An Indian is very lazy. If he can get anything to eat around the post, or if his nets are bringing him in fish, he is not going to bother to tramp around a marsh hunting ducks' eggs; and ducks do not there, any more than with us, make their nests in the dooryard.

"The high cost of ammunition—ten cents, twelve and a half cents and fifteen cents for a loaded shotgun shell, and a proportionately high cost for loose ammunition for muzzle-loaders, is the best reason why the Indian does not kill more ducks.

"It is the white man who is to be dreaded. In old times, when the natives of this continent lived altogether on wild game, they never wiped out a single species. They had no cold storage and no endless market; and they were lazy and lived from hand to mouth; they did not waste and did not kill for the sake of killing.

"For twenty-five years the writer has been more or less of a student—for fifteen years more or less of a student in a professional way—of the game supply of America. The decrease of every species in every locality is, when one stops to consider it, an accurate and studious cause for actual consternation. Without the slightest wish to be sensational the definite conclusion of one man who, for a good part of his life, has been paid to know about this sort of thing is that we did not get this Weeks-McLean law one minute too soon.

"Let us hope that the American people have learned their lesson. And let us hope that they simply will conclude that it is time to do a little sowing if we are going to reap this crop any longer. The Weeks-McLean law does not abolish shooting; it simply sets a national harvest-time for a valuable crop.

"Now is the time when Canada ought to swing into line in game protection, forgetting all sorts of jealousy and rivalry. Both Saskatchewan and Alberta ought to join us in abolishing spring shooting and market hunting."

## THE HORSE.

### The Age of a Horse as Evidenced by the Teeth.

All pure-bred registered stock is, of course, recorded under its proper and correct age, but there are many transactions where the birth of the animal is associated with some event in the family history, and that is as authentic a statement as an interested party may obtain. A judge



Fig. 1.—Incisors of a colt at one year old.

in the show-ring often finds it useful to be able to ascertain a horse's age by some means or other, and the teeth usually furnish this information. There is a limit, however, to the evidence furnished by the teeth. Some wise horsemen can tell the age of a horse up to 25 or 30 years, but our leading veterinary practitioners taboo the idea of any accuracy being connected with a statement based on the appearance of the teeth after the animal is ten years old. In addition to this the teeth are modified by the conditions of the country in which they are being produced, and the character of the soil or pasturage upon which they graze. The period of the falling out of the milk teeth, the appearance of the permanent ones, their levelling and the successive forms which the tables present as they wear away, vary slightly, but furnish a basis upon which to form a judgment.

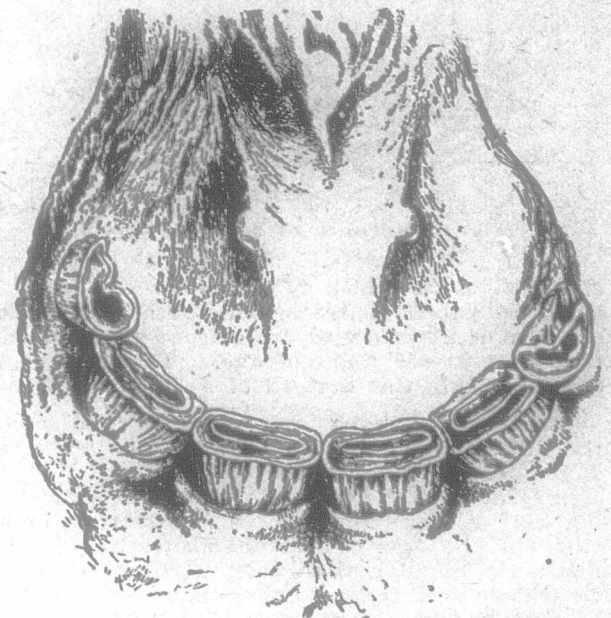


Fig. 2.—Incisors of a horse at two years old.

Ordinarily the horse has 40 teeth and the mare 36. This number does not allow for the first pre-molar which is sometimes present making the molars or back teeth, seven in number, above and below, on each side. When the first pre-molar appears it is known as the wolf tooth, and is the subject of much complaint among the horsemen. It generally disappears at the shedding of the molars, and it appears as a testimonial of evolutionary stages in equine dentition. The canines or tusks are present, as a rule, only in males, and fully developed in the stallion. The incisors or front teeth are the same in both male and female, numbering six above and six below. Taking one side of both jaws in the male and not allowing for the occasional appearance of a first pre-molar, the horse's dental formula is: incisors, 3-3; canines, 1-1; molars, 6-6.

The development of the teeth, the displacement of the temporary or milk teeth by the permanent ones, and the subsequent changes in size, shape and appearance are the clues to the horse's age, which furnish proof to a very marked and reliable extent. In youth the tooth is widest from side

to side, at advanced age it is widest from back to front and quite angular in shape; as age advances the groove formed by the root of the tooth appears and about half way down is well marked, but age then becomes an opinion and not a matter of fact.

At birth the foal has four temporary incisors, two top and two at the bottom, not quite through the gums, but the sharp edges are discernible under the mucous membrane. The three temporary molars are usually under the gum at the time of birth. By the end of the second week the central incisors will be fairly in the mouth, and at about one month he has four teeth top and bottom. In six or eight weeks, the lateral teeth and also the temporary molars are well up. The corner teeth are through and constantly grow for the next eight months, when the colt is ready to be weaned from its mother.

At nine months old the colt will have the corner incisors in the mouth, with their extreme edges in wear. At this period the fourth molar, which is a permanent tooth from the first, appears through the gum, and at the completion of the first year it is level with the temporary molars but its surface is not worn. This recent appearance of the tooth is important as evidence of the age of one year. Figure 1 shows the shell-like character of the corner tooth, and the state of the tables of the other incisors in the one-year-old colt. The resemblance is marked between the one and five-year-old, but in the lat-



Fig. 3.—Incisors of a horse at three years old.

ter the teeth are yellow and discolored, while the teeth of the year-old colt are pearly white. Some readers may smile at the idea of mistaking animals of these two ages, but the amateur should look twice before expressing his opinion too confidently regarding the ages of animals where one and five or two and six-year-old females are concerned, as the tusks are not present in the females to indicate that the animal is over four years of age. Shortly after eighteen months the fifth molar begins to appear through the gum, and at the expiration of two years it is level with its neighbors. At this stage it will be noticed in figure 2 that all the incisors are worn and the crowns are level, with the exception of a small portion of the inner side of the corner tooth, which shows the effect of wear, but only to a slight extent. Between two and three years of age the central temporary incisors of the horse are changed for permanent teeth, and are sufficiently different from the tem-

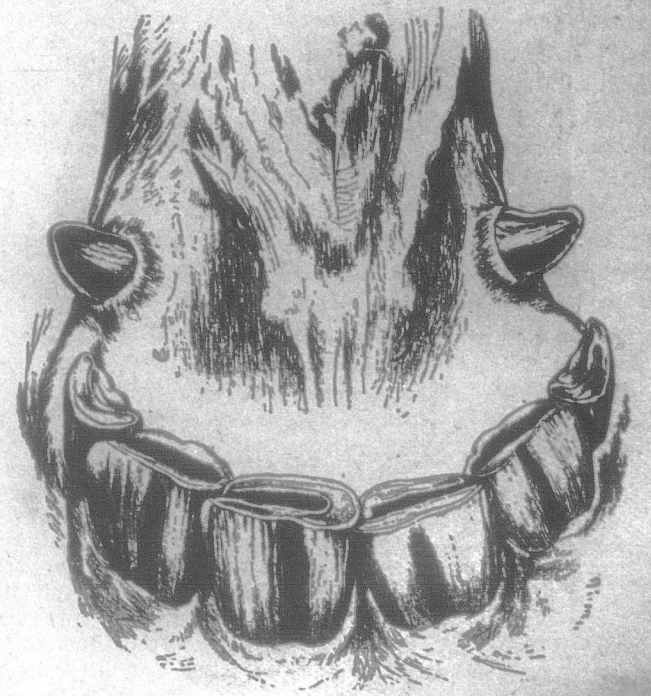


Fig. 4.—Incisors of a horse at four years old.

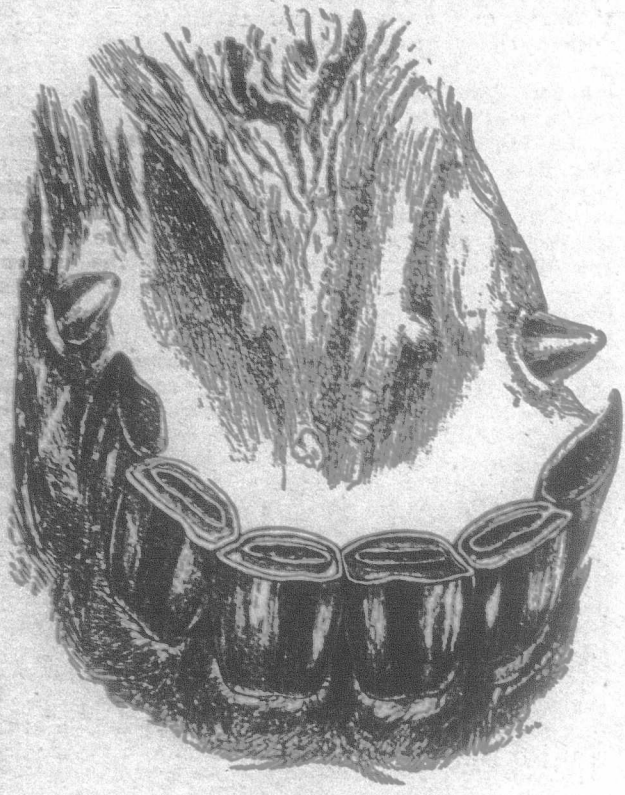


Fig. 5.—Five-year-old incisors.

porary incisors remaining to allow the examiner to distinguish them easily. By separating the lips the four permanent central incisors are seen to be about half grown with deep cavities or infundibula extending across each tooth, presenting a striking contrast to the worn temporary teeth on each side of them. At the age of two years and nine months the new permanent incisors will be in actual contact when the mouth is closed, but no wear will have taken place until they are about three years of age. At this period the fifth molar, which was up at two years, is fully developed, and the first and second permanent molars are well up, but have the appearance of freshness as they have only recently come through. They are distinguishable, however, as they do not possess that worn appearance characteristic of the ones beside them. Six months later or at three and one-half years the permanent incisors next to the central pair, above and below, will make their appearance, and at the same time or shortly after the third and sixth permanent molars are cut. Figures 3 and 4 show the difference in the incisors of a three and four-year-old mouth. In the latter only the corner incisors remain and the tusks have appeared in the male, but have not yet reached their full development.

Between four and five years old the corner teeth are removed, and the permanent incisors occupy their place. They do not attain their true position until the animal is five years old, when the corner teeth have a shell-like appearance indicating that age and approach of maturity. They now have what is called a full mouth.

These periods are based on regular dentition, but variations will occur which the examiner must take into consideration and make allowances to correspond. By referring more closely to these dental changes the critical periods of the animal's development will be noticed at a glance. Between two and one-half and three years or a little more the mouth has undergone considerable change. Four permanent incisors



Fig. 6. Six-year-old mouth.

have been cut, the first and second molars on both sides above and below have been replaced, and the fifth molar has come in. Thus twelve temporary teeth are replaced, and four additional molars produced, making in all sixteen new teeth. This is considered by many horsemen the most critical period in the young horse's life, for at that time he is usually put to work on a ration of hard grain and expected to stand up under trying circumstances. The irritation at this time often gives rise to nervous disorders through reflex nervous action, particularly where there is any hereditary predisposition. Strangles often manifest themselves at this time or pus may gather in the sinuses, especially in the upper jaw, ending in softening or degeneration of the bone. When four years old he casts eight temporary teeth and receives in their place twelve permanent, but horses do not generally suffer as much at this period of their dentition as they do at an earlier age, although trainers of race horses sometimes claim that a four-year-old cannot stand as much work as a three-year-old.

All animals exhibit distinct signs of wear in their teeth as age advances, but, owing to the composite arrangement of the structures of which the teeth are formed, the horse alone gives definite evidence which can be interpreted by a careful observer up to an advanced period of the animal's life. After five years, evidence of age is to be obtained by the inspection of the tables of the incisor teeth. At six years old the tables of the lower central incisors have lost their mark, the cavity or infundibulum is worn out and they are becoming elliptical or oval in form. The corner teeth have lost their shell-like character, and the corners are rounder as depicted in figure 6. At seven years of age the tables of the corner teeth are perfectly formed, and the cavity in each tooth is very shallow. The central enamel is well defined and forms an

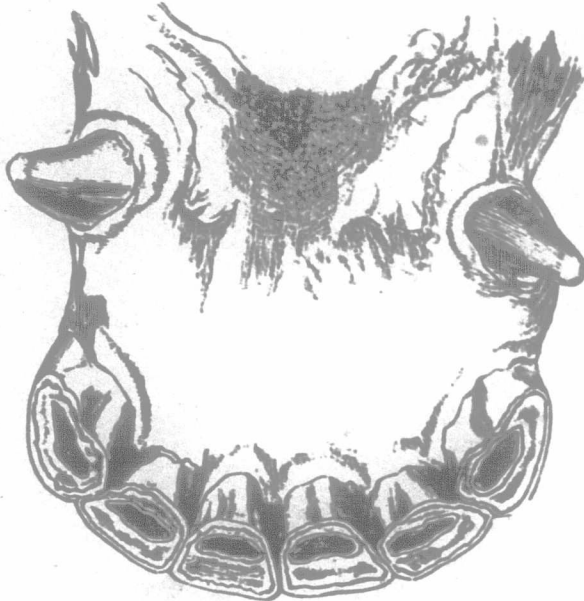


Fig. 7.—Incisors of a seven-year-old.

elliptical figure which is nearer to the posterior than the anterior edge of the tooth; these teeth are also a little deeper from front to back than they were at six years of age. The mark is becoming a thin line instead of a broad cavity.

Between the seven and eight-year-old mouth the difference is not very marked, and some care is required to be accurate at this stage. In the eight-year-old the shape of the central enamel being only a small dot affords satisfactory indications of the age. The central teeth are more distinctly angular than they were at seven, the central enamel is also triangular, and the tables of the incisors are worn as level as the different degrees of density will allow. The cavities are very nearly obliterated, and the tusks are quite blunted as shown in figure 8.

From eight to ten years old the changes occasioned by the wear to which the teeth have been subjected are not sufficiently regular to enable anyone to speak positively as to the exact age, but during this period the cavity in each lower central incisor and the center circle of enamel remain to indicate its position, and a groove on the outside appears, which is the mark of the fang or root of the tooth. After this the age of any animal becomes a matter of opinion, and the evidence of the teeth is not definite enough to warrant a positive opinion as to the animal's age.

Figure No. 9 indicates the appearance of an animal's mouth at nineteen years of age. The teeth form an acute angle, but so many differ that no accurate signs can be pointed out. There are those who profess to be able to accurately judge the age up to twenty and even more by the grooves and numerous other indications. The experience of a lifetime is necessary to make one's judgment authentic in this regard, but the length, shape and character of the teeth might lead one to estimate within a few years of the correct age of an animal advanced in years.



Fig. 8.—An eight-year-old mouth.

### Experience in Raising Colts.

Editor "The Farmer's Advocate":

Having followed mixed farming on a one-hundred-acre farm for the last twenty-five years, my experience along the line of colt raising may be of interest to some. During that time I have had foaled thirty-one colts, losing but one, and that from joint-ill. I attribute my success to several things, which I will mention. In the first place, I consider poverty chief among these—I had to work the mares. I always make a practice of working my mares right up to the time of foaling. I believe lack of exercise accounts for more colts dying than all other causes put together. Then as to feed, I am never afraid of feeding mares too much as long as they are kept at work. I would rather feed a little light on hay, with plenty of good bran and oats. Of course, after foaling, if I could afford it, I would never put a collar on them, as a good pasture field is certainly the best place for mare and foal. However, as stated above, I always work mine. I try to give them a week or two after foaling, then start them gently, being careful not to overheat them. If, however, they do become overheated, I never allow the colt to get the heated milk, and always milk a little out first.

The next essential thing, I think, is watching the mares at foaling time, and I might say right here that if you want to watch a mare the way she should be watched you should stay right with her. This getting up once or twice in the night to look at a mare is too much of a risk. I am sure the life of many a mare and colt might be saved if the attendant were right on the spot, therefore I would say to my fellow farmers, "Sacrifice a few nights' sleep, if for nothing else than to have a clear conscience afterwards."

I used to be rather skeptical about treatment prescribed in "The Farmer's Advocate" for prevention of joint-ill; namely, dressing the navel with carbolic acid diluted with water. Sometimes I used it and sometimes I did not until I lost a foal; now I always use it, of course—just another evidence of how slow we farmers are, as



Fig. 9.—Character of the teeth at nineteen.



a rule, in profiting by the experience of men who have spent time and money experimenting.

Another critical period in a colt's life is weaning time. I always wean at about five months old, doing it gradually, and taking care never to let the colt have too much milk at a time. As to feed, good clover hay with bran and oats and a carrot or two daily is the best. When calves were less valuable than they are now, I used a little cow's milk twice a day.

I always break the colts when they are rising two years, doing a little work with them the following summer, which, of course, must not be too heavy or fatiguing. On no account should the colt be left without exercise during the winter season. I turn them out every day for an hour or two. In extremely stormy weather, when they cannot be left out, I turn them all out together in a field, and take the dog to put them around and around. Now when I mention dog, I do not mean one which will bite or even frighten them. I have a dog which seems to be on to the job, and he will chase them around slowly while I watch him.

Another thing which I think counts for success or failure is the kind of mare you have. I have in mind a neighbor who had a nice kind of a mare. The first foal she had, she had no milk; the next time she seemed to have plenty of milk, but would not own the colt; he tried her the third time, however, and this time the colt was weak and deformed. He lost the first two, and would certainly have been money in pocket if he had killed the last one as soon as he had seen it. Now, if I had a mare like the above mentioned, I would never give her the third chance. I would sell her to someone who thinks there is no money in raising colts, and let him put her to work. Then I would get a mare that had been tried and had proven herself to be a good milker, and a sure breeder, and keep her right at it. These, with many other little things which an interested person can learn from experience, go a great way towards making the business a success.

Bruce Co., Ont.

FARMER.

### Breaking Minor Habits of Horses.

Editor "The Farmer's Advocate":

In curing a horse of any vice there is a point which claims special attention, because, though it is general rather than specific, as far as the treatment of vice in concerned, success depends to a great degree upon it. The driver should bear in mind that the horse is by nature a timid animal, and that he is naturally gregarious in his habits. It will, therefore, be seen that when we drive him alone, and also among objects that would naturally terrify him, we are going contrary to these two things in his nature. Why are we able to do this? Simply because the horse, timid as he naturally is, has a certain amount of confidence in his driver. When he was being broken he underwent many strange experiences and met many terrifying objects; but through it all he suffered no harm. Remembering this experience, he does not now expect his driver to take him into trouble and this feeling is stronger than is usually supposed in most horses, even though the driver be a poor horseman.

Tail-switching is usually classed as a minor vice, and yet in the constant annoyance and sometimes the danger that it occasions, it is really as objectionable as some habits that are considered much more serious. The cure must be wrought in two ways: First, by making it impossible for the horse to switch his tail, and second, by removing the causes. For the first, proceed as follows: Take a few strands of hair on the under side of the tail and braid them, finishing the braid in such a way that it will not come undone. Run a shoestring through this braid and tie securely to the breeching. This device will at once put a stop to the tail-switching. The horse will, of course, try a few times to switch his tail in his accustomed impudent way, but it is astonishing how soon he discovers that he cannot do it and how promptly he gives it up. The device should be kept in use for some time to make sure of permanent results.

Halter-pulling is a common habit, and it is caused in the first place by a weak halter rope. When the colt is first halter-broken he should be tied by a rope that he cannot break. When his lesson is thoroughly learned he will not attempt to break it. Every horse is restive at times and some day, usually quite unexpectedly to himself, he breaks his halter rope. He has learned a new thing—that a halter rope can sometimes be broken after all. Thereafter he will not only try the strength of every new halter, but will from time to time try the strength of the halter with which he is habitually tied, even though he cannot break it at first.

To effect a cure, first of all have a good, strong halter, then instead of tying the horse in the usual way, have a ring in the ceiling of the stable a few feet forward of where he stands and tie him to that. This is usually all that is necessary to be done, and the horse after a few attempts will give up all efforts to pull back.

Occasionally, however, more severe measures are necessary, and in such a case proceed as follows: Have the ring to which the horse is tied in the middle of the stall, not at one side, and as high up as the edge of the manger or, if the stall will admit, a little higher. Have a new, strong rope about the size of your little finger, run this through the ring, back between the horse's forelegs, and tie it securely around his body, being careful to have the knot exactly in the middle underneath. Be careful also to tie the knot in such a way that it will not slip. He will not pull back when tied in this way, for the act of pulling lifts his forefoot from the ground and not only robs him of much of his power, but mystifies and subdues him. For permanent use, however, this device is not as satisfactory as that of tying him to a ring in the ceiling, for if it is carelessly adjusted the horse may become entangled in it. The best way is to leave the rigging on him only until the lesson is well learned, and then tie him to a ring in the ceiling.

The vices of biting and striking are exceedingly bad ones, especially the latter. Some horses are born with peevish, irritable dispositions just as others are born with pleasant ones. If such horses are treated kindly but firmly and never allowed to indulge in acts of insubordination, such vices will not be formed by them. But the ill-tempered horse is, of all horses, the one that receives the most inconsiderate treatment, and he as often falls into the hands of those who are afraid of him as of those who have no patience with his unfortunate disposition. Under the circumstances he naturally shows insubordination, resentment and defiance as often and as much as he dares. There are other horses of naturally good dispositions that from being treated in such a way as to keep them constantly irritated get into the same habits, and having once formed them display them in just as great a degree as those who are ill-tempered by nature. In either case the cure is the same. This can be effected only by general subjection. The animal must be shown that his driver is his master, but that he is not an unkind one.

The horse's confidence should be cultivated until it becomes implicit. To do this is not only possible but is in a certain sense easy. When such a bond of confidence and mutual understanding is once established, the horse will not take fright or feel a disposition to do wrong. Most serious habits are the outcome of that mismanagement which first kindles in the horse feelings of insubordination, and later results in his learning that he can successfully defy his master.

Johnson Co., Ill.

W. H. UNDERWOOD.

## LIVE STOCK.

### Our Scottish Letter.

Writing in the first days of February one is naturally led to offer a remark upon the character of the weather experienced during winter. Theoretically, spring has begun,—but judging by the blast it is only a theory,—and many weeks may pass before we have balmy weather. Still, if there be any truth in ancient weather "saws," this is Candlemas Day, and it has been anything but fair; indeed, it has been blowing something akin to a hurricane, and consequently the severe weather is past. In so far as that term is applicable to frost and snow, there has been little of it this winter, and a better season for hill farmers has not been known for many years. It has also been a most favorable winter for all kinds of farmers. Arable land has seldom been in such a forward state of preparedness to receive the crop, ploughing having been prosecuted with little or no cessation. Stock owners of every class have had a splendid time. Both straw and roots have held out well, and sheep on turnips have been giving specially good returns. In every respect the agricultural outlook is better than it has been for many a long year, and farmers have leisure to interest themselves in questions on the borderland between social conditions and political claims. While there has been comparatively little frost and snow, there has been sufficient hard weather to enable the courts to be cleaned out and dung to be put on to the fields. Ploughing matches have been held at many centres, and at the International, held near to Dumfries, for the first time on record, champion honors went to what is called a "digger," as distinguished from one of the old-fashioned Scots swing ploughs. While the various Transatlantic forms of digger ploughs have led the way, the best results in this country have usually been got with ploughs of that kind made at home.

Several important debates have taken place at meetings of farmers. The question of the best methods of keeping farm accounts has been raised, and along with it, the wider and more intricate problem of the cost of production in milk. So far, no one has grappled with the problem of the cost of production of meat, but preparations are being made for an exhaustive line of enquiry to elucidate these questions. On the subject of

milk production one set of inquirers have arrived at the conclusion that the cost of producing a gallon of milk is from 5.2 pence to 7.9 pence. This is from about 11 cents to 14 or 15 cents. A gallon is, as nearly as may be, about 10 lbs. avoirdupois. But very much milk must be produced at a far less cost than this, or dairy farming could never be made to pay. The question of farm bookkeeping has given rise to an interesting discussion as to whether food produced on the farm, when fed to stock on the farm, should be charged against the stock at the cost of production or at its value in the open market. The answer depends on the object aimed at in the farm bookkeeping. It is to be presumed that that object is to know whether the farmer's operations are profitable or the reverse. If the object were to discover the cheapest rate at which meat or milk could be produced, then the lowest price at which food could be purchased should be put down. But when a farmer is dealing with his own operations as they are, and not with theoretical propositions as to what under the most economical conditions they should be, it scarcely admits of doubt that he must charge the food produced on the farm at the cost of production. He may produce hay at a cost of £6 per ton, but its market value, on account of commercial conditions, may be only £4 per ton. If he sells the hay he has grown, it is at a loss of £2 per ton, and if he feeds it to his stock, he only deceives himself when he charges it against the stock at its market value.

Political parties here are warring with one another about the interests of those obtaining a livelihood on the land. The party in power are making a bid for the rural vote by promising a minimum wage to the laborer, better cottages, shorter hours of labor and more holidays. To the occupier of the soil—the tenant farmer—they are offering security of tenure and a Land Court to determine what is a fair rent as against a competitive rent fixed in open market. On the whole, there is a striking measure of agreement between parties. The Opposition, through their spokesmen, admit that wages in rural districts in England are abnormally low, that housing conditions leave very much to be desired, and that the agricultural laborer has not much of a prospect in life. They do not so readily admit that much can be done for the occupier of the soil, and they are stubbornly opposed to the idea of fixing rents by an outside authority, regarding the farmer as quite able to make his own bargains. They also advocate a scheme of Land Purchase, making it easy for the occupying tenant to become an occupying owner by affording facilities through the National Exchequer of obtaining money on loan to purchase his holding. The remarkable thing is that wages of agricultural laborers have always been much higher in Scotland than in England, and wages in the north of England are much higher than wages in the south of England. The lowest wages are paid in Oxfordshire; the highest in Durham and Northumberland. Further, it is easier, although it is not easy, for a Scots farm servant in some counties to become a tenant farmer than it is for an English farm laborer in any county to do likewise. There are in some parts of Scotland quite a number of smaller farms which a thrifty, well-doing ploughman, say by the time he has worked at full wages for twenty years, can enter upon the tenancy of, with a fair measure of hope of success. But opportunities for doing this are far too limited in number, and in Scotland there is a movement towards increasing the number of such opportunities. All classes and parties in Scotland are agreed that such farms are desirable. They can be farmed on a sound economical basis, and their presence in a community has always been to the advantage of the commonwealth. The trend of opinion in Scotland is in favor of increasing such facilities, and sooner or later the provisions of the Small Landholders Act, which are restricted to holdings not exceeding 50 acres in extent, or valued at more than £50 of annual rental, will be extended, if not to all holdings irrespective of size and rental, at least to holdings of the type to which reference has been made. The opinion is universal that the exodus from the soil must be stopped—otherwise the commonwealth will take damage.

The rural situation in Scotland is at present full of interest. The exodus to Canada has seriously depleted the human resources of many a parish, and village life is in rather a perilous state. The causes of the exodus have been eagerly scanned, and the scarcity of labor has opened men's eyes to facts which otherwise would have been overlooked. One of these facts is the type and character of the education given in rural schools during the past forty years. The old Scots ideal in education, the ideal which held sway for almost 300 years, with the beneficent result of making Scotland the best educated country in the world, had as its goal the building up of character. The aim of the founder of the system, John Knox, the Reformer, was avow-

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edly the godly upbringing of the "youth of this realm." Little change took place in the methods of education during these three centuries. The teachers were frequently men of university training themselves, destined for the ministry, but from various causes prevented from exercising themselves in that calling. They had a love of learning for its own sake, and it was their pride when they found among their scholars "a lad o' pairts" to bestow extra pains upon him, to give him a good sound education in what is elementary, and in classical and mathematical studies, so that hundreds of such lads were sent annually from the parish schools direct into the universities. Those who were not so promising received a full grounding in Bible knowledge, and in elementary arithmetic, as well as in writing. Hence many a village carpenter in Scotland, and many a farmer, was found whose calligraphy was a work of art. The New Testament was the junior lesson book, after the alphabet had been mastered, and the whole Bible the senior, while the intellect and the moral faculties were trained and exercised through the splendid medium of the Shorter Catechism, a manual of religious instruction compiled by Puritans, which still holds an honored place in many a public day school in Scotland. This scheme of things began to come to an end in 1872. Parliament then interfered. An Education Act was passed, which left the control of religious education in the hands of the ratepayers in each parish or borough (the electoral areas), and appointed the control to be in the hands of local Boards, working alongside of a Department of Education, whose head in Parliament was to begin with the Lord Advocate and now is the Secretary of State for Scotland. Fol-

lowing this change came a gradual development of education in accordance with a stereotyped code, the aim of which was to equip children for service in commercial and industrial pursuits, while little or nothing was done to awaken in their minds an interest in rural affairs or a love for country life. The issue has been that we have been training clerks and typists and neglecting almost altogether to train ploughmen and dairymaids. The young people have for years trokked from the rural districts into the towns, with the result that the less exacting departments of commercial life are overcrowded, while there is a scarcity of youth of both sexes to carry on agricultural work. It is a good feature of our time that this is being recognized, and with its recognition there is some hope of improvement and amendment. In rural schools now attention is bestowed on garden work, an attempt is being made to show the children how to identify grasses, and scope is being afforded for developing an acquaintance with the live stock of the farm. But there is much leeway to make up, and the new pathway will not be built in a year, or even in a decade.

The census returns of 1911 came as a revelation to many. The facts concerning the depletion of rural districts were in a general way suspected or recognized, but when the relative details were set forth in cold type the impression created by them was deeper. Many who had treated lightly the problems of the country now became wide-awake, and the necessity for encouraging people to remain on the land was recognized as imperative. The panaceas now suggested, and, indeed, claimed by farmers, are more cottages for their workmen, so that young men may

be encouraged to marry and settle down in the country, a re-casting of the lines of education in rural schools, the provision of great attractions socially in village life, and some modification of the hours of labor for farm workers. Whether most of these changes cannot be secured without resort to legislation is the present problem. It will be unfortunate if they cannot. But in any case change is necessary, and something must be done. The exodus to Canada is undoubtedly an element in the case, and the inducements hitherto offered there have been sufficient to make restive the young life at home. But the present slackening of the "boom" in emigration is regarded as an opportune moment for endeavoring to modify home conditions.

We are on the eve of the Spring Stallion Show at Glasgow, and men are taking account of the Clydesdale situation. Nineteen hundred and thirteen was another year of prosperity for all interested in Clydesdale horses. At date no fewer than 108 stallions are under line for 1914; 18 are under line for 1915, and one is under line for 1916. These figures point to great buoyancy in the horse trade. Good draft horses have never been in greater demand; they have never been more difficult to procure than at the present time. City contractors are willing to pay any reasonable price for matured geldings fit for hard work on the streets. Such horses can be sold for anything up to £100, a common figure being £75 or £80 for big six-year-old horses, weighing about 1,800 lbs. or over. Interest in heavy-horse breeding is at fever heat, and trade may be expected to be brisk for such animals for a while to come.

SCOTLAND YET.

## The Dairy Shorthorn Situation and a Report of the Work at Macdonald College.

Three years ago the dairy Shorthorn in the United States and Canada was a myth, discussion of the subject ridiculed, and men working with such cows generally despised. To-day one need not emphasize the change in attitude, it is apparent to every one, not only has the noise of mythology ceased but many of the noise-makers are now proclaiming the reality and virtues of these cattle, even some of our most prominent dairy papers have been most flattering in their treatment of them, devoting column after column to their discussion, and everybody who in the past twenty-five years has had a Shorthorn that gave a pailful of milk at any one time is now advertising the fact. What is the explanation? To answer the question briefly the economic situation in many districts where beef cattle have been carried to the extreme has demanded something else, dairying as a speciality does not appeal to everyone, and will not fit all conditions equally well. People have been compelled to give the matter serious consideration, and have come to know more about it. Some of those who talked loudly about milking Shorthorns had little or no knowledge of them, others may have had an axe to grind. Be that as it may, a better understanding of these cattle is now being obtained. Many of our best-informed men believe they can fill a place in the farm practice of our country, and consequently they are being accorded the present appreciation.

In the greater appreciation and consequent demand, however, I think there is a pitfall. The tide has been turned, and it would seem that many people are apt to drift with it. There is an element of danger in demand for any breed. Breeders are apt to turn to extremes in their ambition, and little discrimination is made when

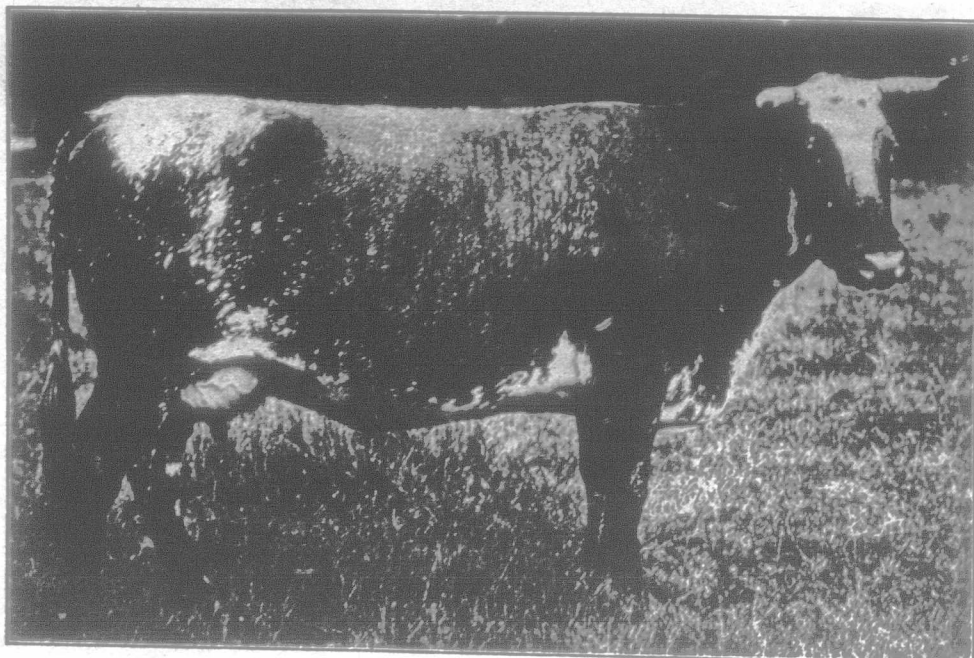
everything sells. Dairy Shorthorns afford concrete illustration at the present time.

The supply and demand of this class of cattle are farther apart than in the case of any other, and the fact that there has been so much misconception in regard to them adds to the danger. Even in England to-day we have illustration of the breeders' extremes. Blood and performance in milk are being sought at the expense of everything else. Utility and beauty of form are too often entirely forgotten. And yet if dairy Shorthorns are to mean anything at all and merit a place, important as their milk-paying power and breeding may be, their conformation and fleshing ability must be the great asset. If these cannot be supplied to better advantage than in the case of the dairy breeds, dairy Shorthorns have no place in this country. The race for records and the craze for blood may spell some advantage to every breed with them, but if conformation and general utility are left behind they spell ultimate disaster for any breed, and in the case of the dairy Shorthorn a much shorter time will be necessary for the consummation. Herein lies the misunderstanding as to what purpose they may serve. The dairy Shorthorn should not be expected to compete with the dairy breeds in milk production, and in my opinion has no place in a section where dairying is the established practice with dairy blood predominating and a market for dairy products to justify it. On the other hand we have sections, in many cases large areas, in this country to-day where beef blood predominates, and where milking propensities have practically disappeared, large areas of land are available for grazing and mixed farming, the established practice has been beef making, originally some milk production included, the best market for dairy products is not easy of access and labor is

scarce and dear. Viewing such a situation from the various angles mentioned, the dairy Shorthorn would seem the most reasonable proposition. From a breeding standpoint results can be more easily and more quickly obtained through maintaining the predominating blood. The condition of labor and land can be met to good advantage in a combination practice; no violent change in the established practice need be necessary and this is worth while, because the dairy business is quite a different story to that of beef making, and many a man may find it out to his disgust when it is too late. When made a speciality it entails knowledge, time, labor and application to an extent which would be new to the average beef man. To mention a concrete case which has recently come within my observation, a certain farmer in a district in the Province of Quebec has dropped the beef practice and launched into dairying. He introduced dairy-bred bulls in his herd, now has a lot of very ordinary cows and not being within close radius of Montreal, in order to obtain this the most attractive market is compelled to deliver his milk a distance of three miles to the station at four a. m. throughout the winter. I have reason to believe this man has a number of associates throughout Quebec and Ontario. Attractive as dairying is, at best it means a lot of steady hard work on the average farm, and under adverse conditions such as above is bound to run a losing race.

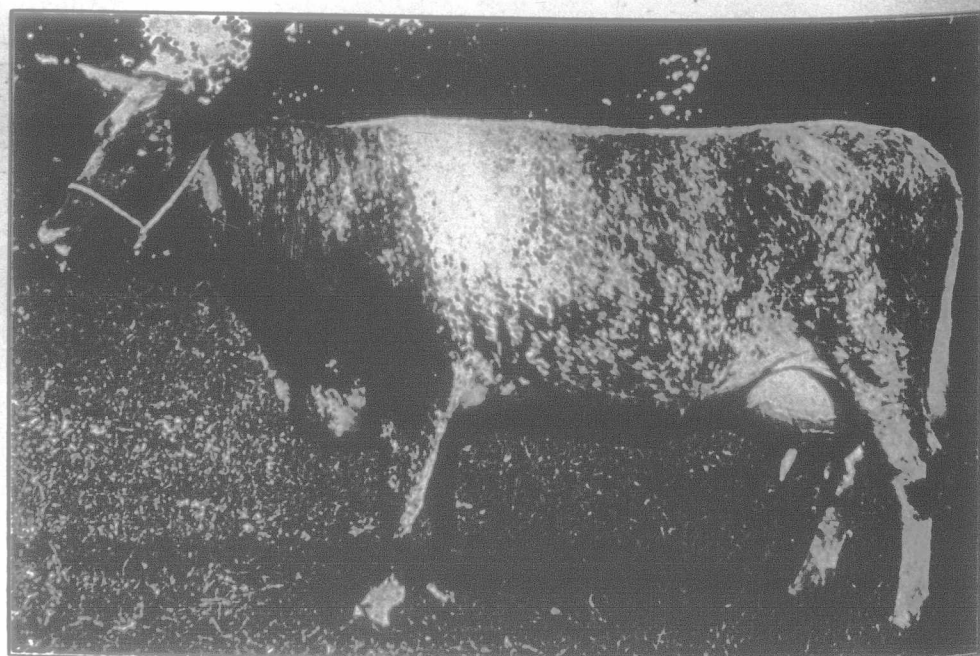
### MISCONCEPTION RE TYPE.

A Shorthorn in order to give milk does not need to be a weed when judged even from a beef standpoint. Here is something upon which considerable trading is being done, and in such event the great purpose which this class of cattle is expected to serve is being ignored. It is a fact



Milking Shorthorn.

A representative of the Waterloo tribe, popular in England at present.



A Darlington Cranford.

This Shorthorn cow was bred for milk, yet carries an abundance of flesh.

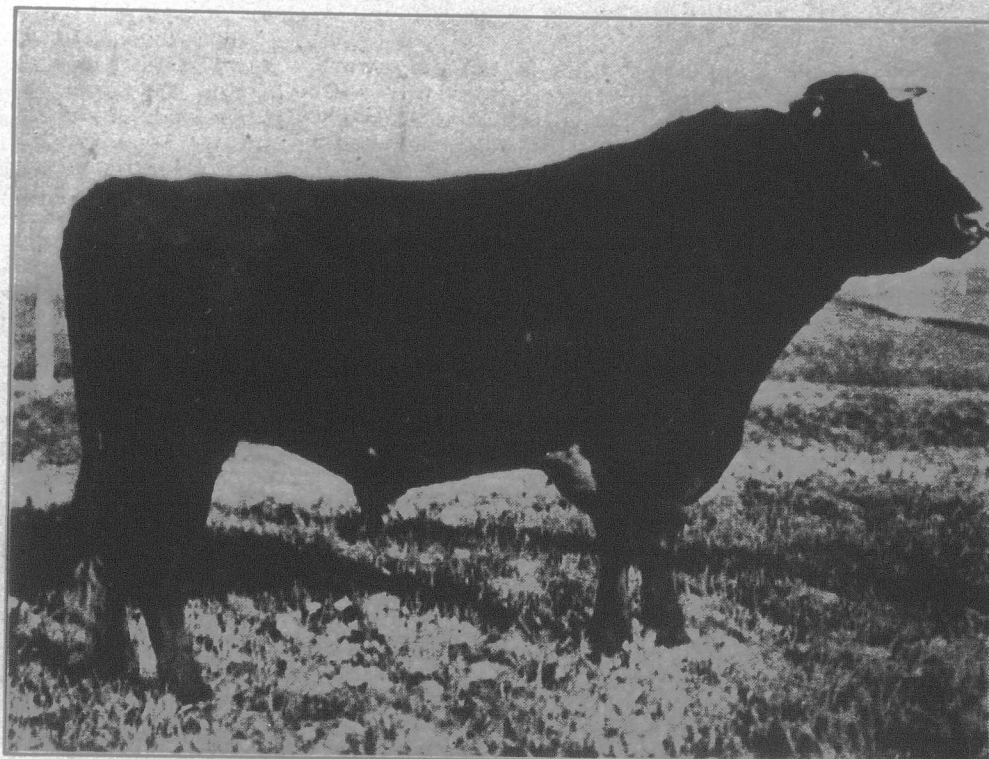
down in the of education in at attractions modification of ers. Whether secured without problem. It But in any thing must be undoubtedly an ments hitherto o make restive present slack- is regarded as ing to modify

Stallion Show account of the dred and thir- y for all inter- ate no fewer for 1914; 18 under line for at buoyancy in nes have never ve never been e present time. y any reason- for hard work e sold for any- being £75 or es, weighing est in heavy- d trade may be als for a while LAND YET.



Shorthorn Steer, College Roan.

At 2½ years of age this steer weighed 1,490 pounds. His dam has a record of over 8,000 pounds of milk, and his sire is a "bred-for-milk" bull. Steer bred and fed at Macdonald College.



Barrington Duke of St. Annes.

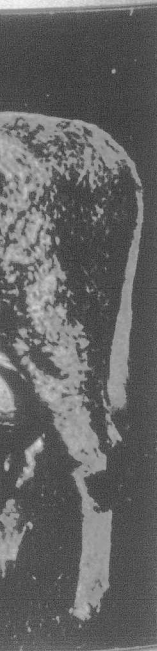
Out of Barrington Duchess, a straight Bates cow, with a record of 9,768 pounds of milk at Macdonald College. Photo taken when the bull was in low flesh.

College.

situation from e dairy Short- ole proposition. s can be more through main- The condition ood advantage lent change in necessary and dairy business of beef making, to his disgust a speciality it application to o the average case which has ion, a certain nce of Quebec launched into ed bulls in his ary cows and Montreal, in ractive market a distance of a. m. through- believe this man hghout Quebec ing is, at best k on the aver- tions such as ce.

TYPE.

milk does not en from a beef on which con- l in such event s of cattle is It is a fact



of flesh.

that buyers have been visiting herd after herd and buying everything that was thin or mean looking in the herd, "weeds" and turning them over at a good figure as dairy Shorthorns.

A man's chances of making something even for milk would probably be better did he take a creditable specimen that had been bred for beef in the extreme for generations. Unquestionably generally speaking there is some difference in type between extreme beef animals and those with an inclination to milk, but a long head, long legs and a lean, shallow body do not constitute the type of a milking Shorthorn. True, we must expect a little more length and openness of conformation, and a little different spring of rib but with it all we still have a well-coupled cow with an abundance of width above and below, and a good strong quarter with width due to frame and not to flesh. I would emphasize particularly handling qualities, refinement and milk indications in udder, veins and wells, in addition to the robust, fairly full yet roomy body as described above. I think the accompanying illustrations will help to make the idea of type somewhat clear. The cow Rosaline 5th has an abundance of milk indication, refinement, strength, and capacity, and yet she has the substance, rib and quarter that will insure thickness and make possible aptitude for fleshing. The same can be said of the other cows and heifers shown in the illustrations.

While these animals shown in the illustrations are the outcome of special effort in the direction of milk and in type somewhat distinct from the type of the beef Shorthorn, it must not be forgotten that even among Scotch Shorthorns there are strains with good milking possibilities. One need only witness the use of a Scotch-bred bull "Beau Sabreur" in the herd of the late Geo. Taylor. Mr. Taylor's name in connection with modern dairy Shorthorns has almost equal significance with that of Bates in the history of the breed, and the fact that he saw fit to work on this line is valuable evidence. Nevertheless with the true beef cattle one must expect the greatest amount of uncertainty in so far as milk is concerned within the breed.

DAIRY SHORTHORNS AS BEEF MAKERS.

In regard to distinction for beef making there is as yet little evidence actually recorded. However, some is now accumulating, and an inspection of any extent cannot fail to impress one with the fact that representative cows of this class have no difficulty in making a creditable record of milk, and producing a calf that will grow into a steer or a heifer far above the average to be found on our markets to-day. True, one cannot hope for the same number of approaches to our present ideals in beef cattle, but after all it sometimes seems a question in my mind if some of our so-called ideals are not just a little overdrawn and overdone. Take the

steer in the illustration, not an ideal show steer by any means, but an attractive steer with quality and a good record, and a steer, had he gone onto the market in Montreal or Toronto either alone or with enough others to make up a car-load, would undoubtedly have commanded the top price and probably merited special mention in the market report. In our work at Macdonald College we have hesitated to castrate many calves owing to the demand for young bulls of this class. All the steers and heifers raised at the college are the product of skim milk feeding. In no case has the calf been allowed to nurse or has he been given whole milk for a period longer than a few weeks.

The steer "College Roan" was bred from a Shorthorn cow with a record of eight thousand pounds of milk, and a dairy-bred Shorthorn bull selected from the herd of R. W. Hobbs & Sons, Gloucestershire, England.

His record was as follows:—  
Steer No. 1, "College Roan."  
Birth, weight ..... 85 lbs.



Rosaline 5th.

Almost an ideal milking Shorthorn. Record, 7,500 pounds milk, testing 3.6-per-cent. fat. Owned at Macdonald College.

Six months ..... 372 lbs.  
Daily gain ..... 1.6 lbs.  
Total cost ..... \$10.65  
Cost of one lb. gain throughout ..... 3.7c.  
Receiving, per day, 10 lbs. silage.  
20 lbs. skim milk.  
1½ lbs. bran and oats.  
1 lb. linseed meal.  
2 lbs. clover hay.  
12 months, weight, ..... 850 lbs.  
Gain per day ..... 2.1 lbs.  
Cost of gain per pound ..... 3.1c.  
Total Cost ..... \$28.81

Total cost ..... \$55.09) Pasture  
Gain per day, 2nd year ..... 1 lb. ) during  
Two years old, weight, 1,220 lbs. ) summer.  
Cost of 1 lb. gain throughout, 4.8c.  
Condition, fit for butcher market.  
2½ years old, weight ..... 1,490 lbs.  
Gain per day ..... 1½ lbs.  
Total cost ..... \$79.09  
Cost of one lb. gain throughout ..... 5.6c.  
Condition, prime butcher.

This steer was later carried on the C. P. R. demonstration train after which he was given a run on pasture and refitted, finally weighing at three and a half years old, 1,910 lbs., and when slaughtered, dressed, 1,232 lbs. of beef, or 64.5%. All feeds were charged at market prices.

The second steer was dropped by a heifer, the extreme in dairy indication, and very faulty from a beef conformation standpoint. His sire was the above mentioned "bred-for-milk" bull. The calf individually was somewhat thin and lanky when dropped, but when tried out for beef making responded most surprisingly, particularly as a calf. His record was as follows:—

Birth, weight ..... 82 lbs.  
Six months, weight ..... 460 lbs.  
Daily gain ..... 2.1 lbs.  
Cost ..... \$15.11  
Difference in cost as compared with No. 1 due to 400 lbs. of whole milk supplied during the first six weeks.  
Cost of one lb. gain through- out ..... 3.9c.  
12 months, weight ..... 750 lbs.  
Daily gain ..... 1.8 lbs.  
Total cost ..... \$29.14  
Cost of one lb. gain through- out ..... 4.3c.  
Two years old, weight ..... 1,200 lbs.  
Daily gain ..... 1.5 lbs.  
Total cost ..... \$55.06  
Cost of one lb. gain through- out ..... 4.9c.  
Condition, fit for butcher market.

When this steer was two years four and one-half months old he was slaughtered, being then in prime butcher condition. He weighed 1,350 lbs., dressed 837 lbs., or 62.0%.

In the case of steer No. 3 a complete feed record was not taken. He was slaughtered at 23 months old, when he weighed 1,250 lbs., dressed 691 lbs. beef or 55.2%, and made a first-class carcass of beef. The mother of this steer is a Shorthorn cow with a maximum record of 11,821 lbs. of milk in 18 months.

Steer No. 4 is now in process of development. His mother is a Bates-bred cow without a yearly record yet, but a cow that has given 50 lbs. of milk per day, and the sire of the calf was a beef-bred Shorthorn bull. At six months of age he weighed 550 lbs., and cost \$15.02 to produce. At the age of one year, which was December 28th, 1913, he weighed 955 lbs., and cost \$34.84. An average gain of 2.2 lbs. per day at an average cost of 4.2 cents per pound. This steer is now gaining about two lbs. per day, and would make choice baby beef. He has cost more

totally than the others, but he made corresponding gains.

As far as I am aware this is the only work that has been done in an experimental way with steers bred from Shorthorns specially intended for both milk and beef. No attempt was made to actually force the steers. They were given a liberal supply of feed and the idea of making the fullest use of the cheaper feeds such as skim milk, silage and roots was always kept in mind, so that any results obtained are certainly no exaggeration of the possibilities of the cattle.

**WORK IN MILK PRODUCTION.**

It would seem that the merits of Shorthorns for beef were so well known that men working the cattle for combination purposes directed their efforts only to milk. In my opinion, as above intimated, very frequently the attitude has been one of extreme. Be that as it may, there is an abundance of information available to show the possibilities of the Shorthorns for both phenomenal and consistent profitable work. The following herds referred to are a few of the successful ones which will serve to substantiate the above statement.

R. W. Hobbs & Sons, Kelmscott, Gloucestershire, England, 200 cows in herd. Careful milk records taken for years. Rose 26th, maximum record in one year, 13,908 lbs. Blossom 5th, average annual yield for 10 years, 8,049 lbs. 15 cows in 1912 yielded over 10,000 lbs. Total herd average is over 6,000 lbs. per year.

The milk is shipped to London and is the main source of profit to Mr. Hobbs. The herd has been kept for milk since 1878, and almost without an exception every animal has been bred on the place. In general type the cows are extremely uniform. They are thick, attractive and capable of carrying an abundance of flesh in the right places.

Lord Rothschild, Tring Park, England.

	Lbs. milk.
Dorothy in herd eight years, average.....	9,722½
Furbelov Countess 2nd, in herd seven years, average.....	8,675
Happy Gem 5th, in herd 11 years, average.....	7,124
In 1911, 74 cows in herd, average.....	6,068

Glenside dairy Shorthorns, May & Otis—Graiville Centre, Pa. & Willoughby, Ohio.—

Rose of Glenside—18,075 lbs. in one year. ... average for 7 years, 9,417 lbs.

Belle Clare—15,215 lbs. in one year.

Mamie Clay 2nd, 13,232 lbs. in one year.

Nearly 100 cows, milk records over 8,000 lbs. per year.

**MACDONALD COLLEGE DAIRY SHORTHORN MILK RECORDS.**

To date 33 consecutive records under normal conditions and in regular milking periods have been made.

The total milk produced is 214,901 lbs. or an average record of 6,512 lbs.

	Lbs. milk.
Greenleaf 23rd, average for 4 years.....	7,836
Barrington Duchess, average for 4 years...	8,624
Furbelov Countess, average for 5 years...	7,071
Blossom 9th, average for 4 years.....	6,691

The following maximum records have been made in single regular milking periods by four mature cows: 11,821 lbs., 9,756 lbs., 9,768 lbs., and 9,535 lbs. milk. The average test in butterfat for the herd is 3.7 per cent.

The cows, as in the case of steers, have been treated liberally, but no special attempt has been made for records. They have been milked twice each day, and treated exactly as the rest of the herd. The charge has been frequently made that Shorthorns are not persistent milkers. We have seen evidence of this, but our experience with the cattle goes to show that it is by no means a characteristic but very often the result of the handling of the cow. Shorthorns in this country have not been milked long periods, they have an aptitude for fleshing, consequently they tend to dry off quickly.

In regard to feeding we have made no material difference for the breed. Our rations are based on the size of the cow, her condition and the amount of milk she is giving. The Shorthorns are large and require more roughage, which we always supply in cheap form. We have noticed as well that even the best milking cows flesh and increase in weight quickly when dry or nearly so.

As compared with the Ayrshires and Holsteins they, of course, are behind in milk, and when it comes to a matter of production cost, quantity is always an important factor. However, in actual profit over and above the cost of feed alone, and with Montreal prices for milk our mature Shorthorn cows have made an average of \$65.00 per year.

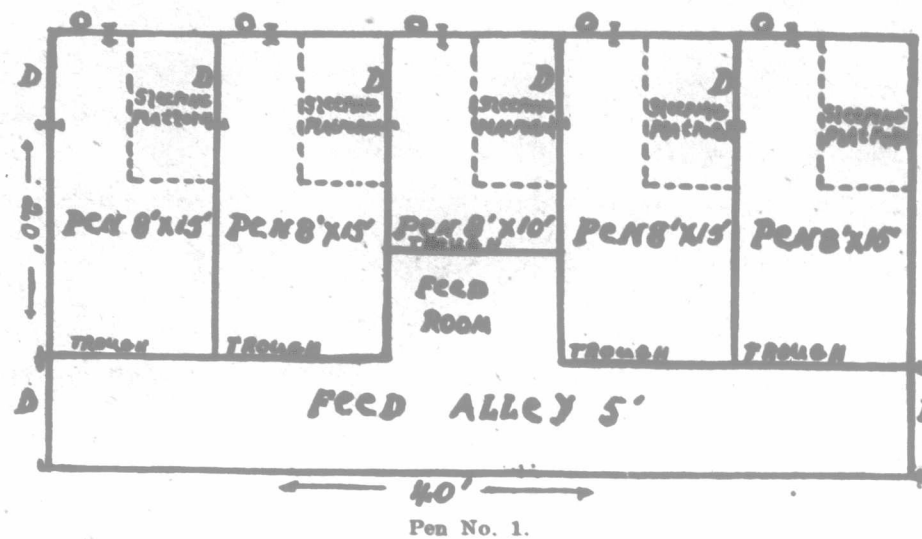
Macdonald College.

H. BARTON.

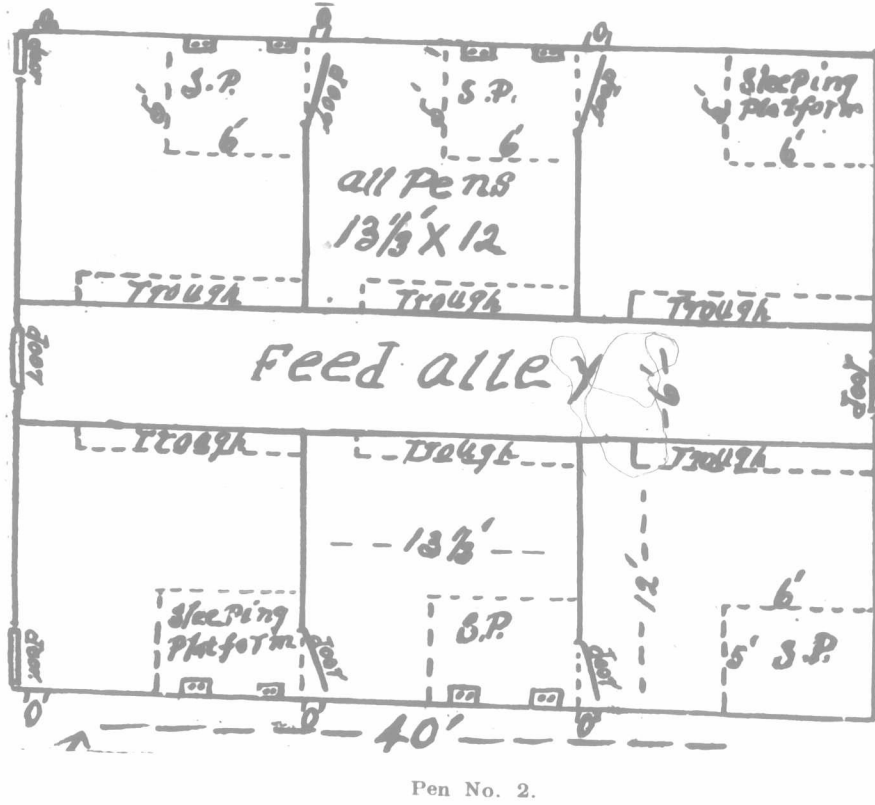
**Two Pig Pen Plans.**

In response to several requests from readers of "The Farmer's Advocate," we are publishing in this issue two pig-pen plans. Either of these plans lends itself to modification and extension, and we hope that our readers may get a few ideas from them which they can put in practice on their farms at home. Neither pen is too elaborate for the average farmer and the size may be made to suit the size of the farm and the number of hogs kept.

Figure 1 is a plan quite suitable for a small or average farm where only a limited number of pigs are kept. Readers will notice that the feed alley is along one side and all the pens along the other. This has one advantage, that the outside yards are all together. We believe that it



is always advisable when erecting a pig pen to choose a location where sunny, dry outside yards may be available. This pen is 40 feet long by 20 feet wide and is divided into four pens, 8 feet by 15 feet, with a smaller pen in the centre, 8 feet by 10 feet, where a breeding sow or a small young litter may be kept. In the centre of the building and off from the feed alley is a small feed room, 5 feet by 8 feet, which is large enough to put in a bin or two for chopped feed. At the back of the pen, doors lead from pen to pen through to the end of the building. If the builder sees fit he may, through this passage, place a litter-carrier track to carry out the manure, or if he does not wish to go to the expense of fitting the pen with track and carriers, these doors, being 4 feet wide, will permit of running a wheelbarrow right through from pen to pen and piling the manure in a yard at the end of the pen, or if it is preferred to do so, the openings at the back of the pens leading to the yards may be used as clean-out openings, the litter being thrown out of these and piled up. Those openings are 30 inches wide.



In the right hand rear corner of each pen is placed a sleeping platform. These platforms are 4 feet by 7 1/2 feet. Of course, this size could be varied to suit conditions. If it is thought advisable to make a larger sleeping platform, there would be plenty of room, or if this was thought to be too large, it would be an easy matter to cut down the size. If the wheelbarrow is to be used to clean out, it would be well to have these platforms, which would be of plank, raised only a few inches off the floor, hinged to the back of the pen, so that during the process of cleaning out they might be raised back against the rear of

the pen and hooked up in place to allow the wheelbarrow running through without bumping over them. In view of this fact, it would be necessary not to get the sleeping platform too long, so that they would not open up on account of coming in contact with the roof. Of course, if litter carriers were used, it would not be necessary to have them hinged at all.

In some modern pens the sleeping portion is partitioned off and arranged so that the door opening from pen to pen when open to permit of cleaning out, closes the entrance to the sleeping apartment, shutting the pigs in out of the way. If this plan were followed, the doors would necessarily require to be through the centre of the pens in place of at the back.

We think this is a very handy little pen for a small farm, and as it may be modified in small particulars, it lends itself very well to the needs of the general pig-raising farmer. If the pens are thought too narrow, it is an easy matter to lay the pens out allowing for an extra foot or two in the width of each.

Pen No. 2 does not possess any distinct advantages over No. 1, with the exception that it is larger and contains more pens. The building is 30 by 40 and the pens are 13 1/2 feet by 12 feet. The doors and openings are of the same size and arranged in the same manner, as well as the sleeping platforms, which are hinged in order that they may be lifted up and attached to the wall at time of cleaning out the pens. The feed alley in this case is 6 feet wide, and, if it is thought essential, doors may lead from the alley to the pens at the ends of the troughs. A commendable floor would be of cement, mixed in the proportion of one to eight for a base and dressed with a surface layer of one to two and a half or three. The pens should have a slope to the back of about 1 1/2 inches and there should also be a perceptible slope to the end of the building where the cleanings are to be removed.

One of the centre pens can easily be converted into a feed room at any time, when not required for pigs, and make a convenient addition to the accommodations.

**Pigs for New Countries.**

**BRITISH TYPES OF PIGS TO CHOOSE FROM.**

There is no foundation stock for successful pig raising like the well-defined breeds of Great Britain which, in their own way, are built to suit both the taste of any neighborhood and the pocket of the farmer who is stepping out of the rut of the grade breeder to a full-fledged pedigree stock-keeper. Told tersely, the varieties of British pigs can be counted upon one hand, but their values are unrealizable. A particular pet of the North of England farmer is the Large White which, originally bred in Yorkshire, is the largest British white breed. It has rather a long white coat on a white skin, which occasionally shows a few blue spots. The head is moderately long, snout broad, face slightly dished and wide between the ears, and jowl not too heavy. The tail is set high, hanging perpendicularly, long, and stout, with a tassel of fine hair. Its chief characteristics are a strong constitution, immense size, quickness of growth, and a greater proportion of lean flesh to fat. Pigs twelve months old weigh 6 cwt., and when full grown as much as 11 cwt.

The Middle White was originally evolved through mating the large and small Yorkshire breeds. It very much resembles the Large White in size. Its head is shorter, ears more erect, a full jowl, and broad, turned-up snout, and dished face. It is not so prolific as the Large White, but fattens quickly after the age of six months.

It has also a tendency to lay on a larger proportion of fat to lean flesh.

The Lincoln Curly Coated breed vies with the Large White in being the largest breed in size. It is one of the oldest breeds in the country. The skin, with the exception of blue spots, is white, and covered with long, abundant curly hair, also white. The face is short, and the ears fall right over it. The snout is long and straight. The breed is strong boned, robust in constitution, very prolific, and claimed to be unequalled for early maturity and development. It is equally good as a "sucker" or a bacon pig, weighing anything up to 40 stones at eighteen months.

Viewed from the side a good Lincoln pig has well-rounded quarters, with large hams, well furnished down to the hocks, a straight back gradually curving from above the shoulder to the forehead, embracing a fairly long neck. The bacon curer requires long sides which are thick on the belly, in which the meat is well streaked with lean, and never too fat, two inches being about the outside. The loin should be lean and tender, and the neck or fore-end light, inasmuch as this is the cheapest part of the carcass. Thus a pig with broad back and loins, deep sides, full belly, and large hams, produces a maximum quantity of meat at the best parts and a minimum at the worst. The Lincoln pig is adapted, and by continuous care in breeding it will become still better adapted, to the production of young meat, which is all that the consumer desires.

The Large Black has two main types, viz., the West Country pig from Devon and Cornwall, and the East Country pig from Suffolk and Essex. The former are more refined, but it is claimed for the latter that they are hardier and more prolific. The skin is mealy-colored and easily cleaned. The head is medium in length and not very wide, the ears long and thin, set wide apart and lying forward over the face, with the points inwardly inclined generally. The jaw is not very large. The body is long, skin fine and soft, with a moderate amount of hair, straight and silky. The tail is large and set high. The sows are prolific and good milkers. The average weight at one year old varies from 10 to 14 stones.

Berkshire in color is black, and has smooth, fine hair. The face is short and dished with short, erect, pointed ears. All the lines of the body are straight and firm, smooth and trim. It has a strong tendency to early maturity, both in pure and cross-breeds, but the former are delicate in constitution. The Berkshire has been the favorite breed in the dairy districts of Berks, Oxfordshire, Buckinghamshire, and Wilts, and the breed is widely scattered in other counties.

With time given, Berkshires attain to great weight; when carefully bred they possess hardy constitutions, and are prolific breeders. The average weight they attain at 12 months old is 12 to 14 scores, or say 300 lbs. In addition to perfect form, a pure Berkshire should have a coat of thick, long, silky hair, four white feet, some white on the forehead and face; a white tip to the tail, and a little white on the ears, it is esteemed.

The Tamworth is an ideal bacon pig, very light in the calf, with a long, trim body, very smoothly covered with firm flesh, indicating a desirable mixture of fat and lean. In color it is cherry-red or dark chestnut, with long, fine, straight, abundant hair. Lighter shades of color show too much Yorkshire blood, originally introduced to effect quicker maturity. The head is slim, snout fine, ears intermediate in size, rigid, pointed, set high, and fringed with hair. The neck is light between the ears, but swelling towards the trunk, and merging into deep, well-covered shoulders smoothly. A long ham or gammon, fleshed firmly between the hocks, without folds of fat, is a special feature of the breed. When crossed it produces a handy commercial breed, well able to withstand the cold and having the necessary good points of the bacon pig.

AN EXPERT'S DEDUCTIONS.

James Howard, a one time leading English pig breeder, bred many crosses, and the result of his experience was that none grow so rapidly or realize so much money in a given time as pure-bred pigs of the Large White breed. On the art of breeding, James Howard has left some cardinal points for the consideration of future generations. His own observations have proved:

- 1. That from the male parent is mainly derived the external structure, configuration, and outward characteristics—the locomotive peculiarities inclusive.
2. From the female parent are derived the internal structure, the vital organs, and, in a much greater proportion than from the male, the constitution, temper, and habits.
3. That the purer the race of the parent the more certainty there is of its transmitting its qualities to the offspring. Say two animals are mated; if one is of purer descent than the other, he or she will exercise the most influence in

stamping the character of the progeny, particularly if the greater purity is on the side of the male.

4. That, apart from certain disturbing influences or causes, the male, if of a pure race, and descended from a stock of uniform color, stamps the color of the offspring.

5. That the influence of the first male is not unfrequently protracted beyond the birth of the offspring of which he is the parent, and his mark is left upon subsequent progeny.

6. That the transmission of diseases of the vital organs is more certain if on the side of the female; and diseases of the joints if on the side of the male parent.

of lean flesh. A sow should be a good milker and not have fewer than twelve teats; for milk to the young during the first few weeks is all-important; hence in selecting young sows for breeding it is highly desirable that they should be the produce of dams with good milch qualities. Brood sows should be selected from spring or early summer litters, inasmuch as they are generally better developed than those of winter litters. It will be obvious that the former have not only better wealth for growth, but the advantage of field exercise and an abundance of green food, which all tends to promote the milch qualities. G. T. BURROWS.

London, Eng.

THE FARM.

Farm Engineering.

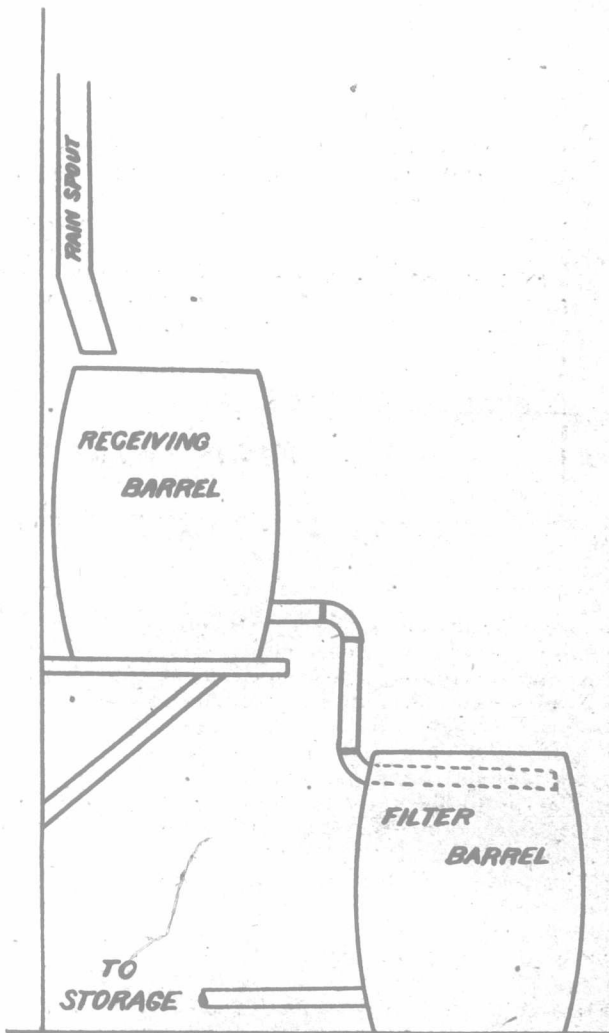
A SAND FILTER FOR RAIN OR BROOK WATER.

The use of screens, whether of wire or cloth, for straining the water supply obtained from brooks, springs and falling rain or snow is extremely unsatisfactory, because of the ease and frequency with which they become clogged. Moreover, silt and fine particles are not removed from the water. The sand filter not only strains out the finest particles of suspended matter, but also, it has been found by careful investigations, the water is purified bacteriologically. To a certain extent, the filter allows thorough contact of the water particles with the air as the former trickles over the surface of the sand grains.

Usually the water is led to the top of the filter and allowed to seep down through the layers of sand and gravel to the lower part of the container, from which a pipe leads to a storage basin or reservoir. The house supply is pumped from the latter. If rain water is the source of supply, it is usual, when no filter is used, to allow the first few minutes' fall to run to waste in order that the impurities washed from the atmosphere and from the collecting roof area may not enter the storage basin. If a sand filter be used, this need not be done, although it is very advisable, for there is no advantage in having the filter do more service than is necessary. An automatic device may be used with safety, however, to divert the first fall. Such a device will be described in this column before long.

One acceptable form of filter is shown in the diagram. There is a receiving barrel, a filter barrel and a storage receptacle. The receiving barrel is in such a position as to receive the water directly from the roof and pass it out through a smaller pipe to the top of the filter barrel. In this way no more water is fed to the filter than can percolate through the sand, even if the flow from the roof is very plentiful. If brook water is used, this receiving reservoir can be omitted and a pipe laid from the brook to the filter or the filter may be made in a water-tight container which is buried in the brook to such a level that the surface of the brook water is always slightly above the top of the container. In this way water is being freshly supplied to the filter at all times. A pipe from the bottom of the filter leads to the main storage basin. As many receiving barrels as desired may be joined together and more than one filter barrel may be used if it is desired to filter the water fast.

At the bottom of the filter barrel put a four-inch layer of coarse gravel and on top of that a second layer of fine. Follow this with three layers of sand each ten inches thick, the first layer coarse, the next finer and the top layer quite fine. Level each layer off well before putting in the next. Both sand and gravel should



A Filter System.

SOW SELECTION.

With respect to the selection of sows for breeding, she should possess size, this being a more important point than with the boar. The legs should be straight and short, the shoulders well outside, the chest thick and deep; the body should be of good length, with the back slightly convex, so as to carry weight without drooping; there should be good width throughout, the ribs well sprung, giving rotundity, the loins and flank well filled up, the hams reaching as near down to the hock as possible; the tail should be long, but not coarse, set on nearly in a line with the back, and should have a good tassel of hair at the end. There should be a good width between the eyes as well as the ears; the latter should be erect or only slightly pointing forwards, and of good length and fine. The collar or neck should be wide and well filled up; the skin should be fine and clear, denoting thinness; the hair should be abundant, long, and silky, a proof of good constitution and quality; it is also an indication



Three Good Young Oxen.

These are the kind J. A. Carswell, of Bond Head, Ont., breeds in his flock.

be clean and free from dirt or loam. It may be necessary to wash them before using. The flow of water to the top of the sand should be arranged so as not to disturb the layer. About three times a year (not often) the top four or five inches of sand should be scraped off and replaced by a similar amount of clean, fresh sand. Even this top layer must not be of the extremely fine sand sometimes found, although it is desirable to grade the layers.

W. S. CLARKSON.

**Equal Rights to All.**

Editor "The Farmer's Advocate":  
I was much amused at the experience of Peter McArthur in Toronto last week, especially as his experience was somewhat similar to my own when it was my privilege to visit Canada's great National Exhibition last year. My neighbor at the dinner table that day happened to be a business man of Toronto and he undertook to show me with pencil and paper the immense fortune that was to be made from the farm. He had almost convinced me that it was indeed a failure as a farmer, but as we conversed together I found out that he had a farm, but was not a farmer. I tried to persuade him to give up city life and to take up farming, but it was no use; he could do better in the city. I was very sorry, as we need a few men like this gentleman scattered throughout our farming districts as high and shining lights for the rest of us.

I quite agree with my friend Mr. McArthur that we need to follow the example of our business friends of the city and look a little more to the direct benefits, and yet if we followed his advice, would we not be bringing ourselves down to the level of the city man? We of the country perhaps cannot hold a candle to our city friends in public speaking, journalism, lobbying, or wire-pulling, but I do honestly believe that for broad-minded, true, honest patriotism, and for considering the welfare of the country at large, instead of our own selfish interests, the city man never has been, nor never will be, the equal of the country man, and although we do not get ahead in dollars and cents as much as some of our city brothers, yet after all we are the heaven, the true foundation of our national greatness, and we would be very foolish to barter the one for the other.

I also agree with my brother farmer in the idea he throws out about how to get people back to the land, and it strikes me as somewhat "funny" for our Government to appoint a commission to investigate the causes of the high cost of living when any man with an ordinary amount of intelligence can easily understand why the cost of living is high, and still I am somewhat skeptical about the high cost of living, but believe it is rather "the cost of living high." Jack must be just as good as his master, and he is usually a little better when you see him in the street, and so long as people are foolish enough to live higher than their means will allow, just so long there is bound to be hard times.

Still I believe these hard times are going to kill themselves if we just let them alone. High living in the city, of course, makes high living in the country, but it also makes better prices for farm produce, and just as soon as these are high enough to pay a good rate of interest on money invested (without watered stock) and good wages for the man who does the work, then we will find the men coming back to the farm. Mankind always has gone and always will go where he can get the most gold, and it seems to me it does not make much difference whether it is at the north pole or the equator, on the plains or in the bush, in the city or on the farm. All we want as farmers is, "Equal rights to all, with no favored or privileged class."  
Middlesex Co., Ont. FARMER.

**Carriers for Cutting Box.**  
Editor "The Farmer's Advocate":  
Having read in your issue of the 12th G. B. B.'s inquiry re carriers and power for silo filling I might say that we have used carriers for two seasons with splendid success. We use a No. 50 box, with 12 1/2 inch mouth, with revolving feeder, and have filled 2000 lbs. in a silo two feet in diameter in about seven hours, the corn cut fine (1/4 inch). We used a six-horse power gasoline engine which handles it very satisfactorily.  
Huron Co., Ont. E. HOMUTH.

Vancouver is to be treated with 20,026 boxes of butter, 1,371 quarters of wool and 2,877 carcasses of mutton, lamb and goat from New Zealand. Some of the unemployed in that city probably be supplied with soup made from this imported beef, others in financial embarrassments may use this butter and other products from a foreign country. If anyone in this city ever entertained ideas of going back to the land, this manifestation of the shortage in farm products in Canada should be encouraging to them.

**The Tile Makers.**

The brick and tile manufacturers of the counties of Essex, Kent and Lambton, in Southwestern Ontario, have had an important share in the agricultural development of that fine district. That section of the Province, where now, owing to mildness of climate and great strength and richness of soil, the price of land has risen away above what prevails farther east, would still have been largely swamp had it not been for ditches and underdrains. Tiles, unexcelled in quality, are manufactured at many places throughout that region. American farmers in great numbers have been coming into Essex County in particular lately. Largely owing to their influx and the estimate they place upon underdraining, the output of tile in that country has trebled in the last few years. Old established tile factories have been enlarged and many new ones started. In many cases the whole product of the season is contracted for before work begins.

Under the name of the "Western Ontario Clay Workers," these brick and tile men hold a convention yearly, meeting at the same time and place as the Corn Show. Our illustration shows the number who assembled at Chatham on the 4th and 5th inst. They do not resemble in the least overfed capitalists, but just what they are, hard-working, useful men in intimate touch with farmers.



The Men Who Make Tile and Brick in Western Ontario.

**Seed Selection.**

Editor "The Farmer's Advocate":  
Now that the spring season will soon be upon us again, it is for us to consider the problems incident to that time, and to be prepared for our work before the rush season begins. Now is the time to secure and clean seed for this season's crop, and further, now is the time to plan to have better seed a year hence.

In the production of good crops, three things which are under the control of the farmer are necessary—good land, good cultivation, and good seed. To this we may add good weather. Of these conditions good seed is not the least important, and is most easily obtained.

First let us consider some of the essentials which contribute to the making of good seed:—  
Purity and variety—Usually better results are secured from a pure strain than from mixed varieties. Purity is, of course, necessary if seed is to be sold. Uniformity of growth and maturity are also assured.

Freedom from weed seeds—Seed containing weed seeds should not be sown under any condition, as weeds are all too plentiful without deliberately sowing their seeds. One of the most common seeds found in oats and barley is wild oats. It is better to hand-pick seed than sow these.

Plumpness—It has been proved several times by experiment that large, plump seeds yield larger crops than smaller seeds.

Uniformity of size and type of seed insures uniformity of growth and maturity in crop.

Color is not so important, except as it is an indication of germinating quality. Bright seed is always preferred.

The question often arises as to whether it is better to continue sowing one's own seed, or, every few years, to secure seed from some other source. In other words, does seed run out? It has been found that where careful selection of seed is practiced from year to year, seed does not necessarily deteriorate. However, a change sometimes does good, and seed from another locality, grown on a different type of soil, may

give larger yields than one's own seed, if such be lacking in vitality.

In seed selection the practice followed by practically all farmers is grading by the fanning mill. This method secures the largest, plumpest seeds and eliminates the small and shrunken immature kernels. This is of greatest importance, for as expressed before, large, plump seeds produce stronger plants, ensuring heavier yields. In this connection it has been found that by a continuous selection of large seeds, a strain producing seeds of larger size has been produced. Similarly small seeds tend to produce small seeds. This is found to work out so in practice, notwithstanding the fact that large and small seed of a given strain equally inherit the power to transmit the characteristics of that strain, the difference between the two being caused by nutrition. Plant only large seeds, and an extra run through the fanning mill is not waste of effort.

Granted, that for this year's crop we have secured the best seed available, home grown or otherwise, carefully cleaned and graded, the question now arises: How may I produce better seed for sowing next year? New strains and varieties of seeds are produced in two ways, viz., mutation and hybridization. By mutation is meant the occurrence in a strain of an individual plant differing more or less widely from the other plants. The difference may be in length or strength of straw, character of head, yield of grain, etc. At times

these differences may be due to more favorable conditions of soil and food supply, and in such cases these plants are not mutants, and are not able to transmit their new characteristics. Mutations always breed true, and thus form the nucleus of a new strain. Mutations can be more easily sought, and in fact induced by planting a large number of selected individual seeds in a plot, that each may be watched and differences noted. Such has been the origin of O. A. C. No. 21 barley—a selection from the Mandescheuri, and O. A. C. 72 oats a selection from the Siberian. Dawson's Golden Chaff wheat, originated as a single

plant found in a field, of a much different variety. Hybridization or cross fertilization refers to the crossing (usually artificially) of two varieties. Seeds are produced which when sown grow into plants of endless variety. For instance, by a certain law (Mendel's Law) if two varieties be crossed, each possessing twelve distinct characteristics, as in wheat strong straw vs. weak straw, red grain vs. white grain, red chaff vs. white chaff, hard grain vs. soft grain, etc., there is possibility of producing sixteen million individuals, no two of which are alike. Needless to say this work must be left to those places which are equipped for it, such as the agricultural colleges. However, it is practicable for farmers to develop new strains from exceptional individual plants, if such are found.

There is a popular method of seed selection, such as is practiced by the Canadian Seed Growers' Association, that of "mass selection." This consists not of developing a strain from an individual plant, but from seed produced from a number of heads of grain, of similar type selected from plants in the field. This seed is grown "in mass," representing the characteristics of a picked type, not a single plant. This system of selection is of great value, as the greatest benefit is derived in the first two or three years. In one case, as the result of one year's selection, an increase of twenty bushels per acre has been noted. The method of procedure is very simple. When the crop is mature, and just before cutting, select a number of heads of uniform type from desirable plants, say fifty pounds or more. Thresh these heads by hand and sow the best of the seed in a seed plot next year. In another year one will have enough seed to sow the main crop. Selections are again made from the seed plot to be sown another season. Results secured from this system of selection are truly surprising. One would very quickly possess a very superior strain of seed, and there would be no talk of seed "running out."

"Like produces like," and in no way can improvement in crop production be effected as quickly as in sowing only selected seed.  
Perth Co., Ont. H. B. WEBSTER.

POOR COPY

The Toothpick Trust.

By Peter McArthur.

Wasn't it dreadful the way Rev. Dr. Rainsford talked to the people of Toronto—to good people who have always been thankful that they are not as other people—even as those wicked Yankees? He said, and please notice how emphatically he said it:

"I came here, so help me God, to speak the truth; you are twenty years behind United States in dealing with bribery and corruption."

Pretty strong language that, and from a very responsible man who is known for his love of Canada. And he said something more of a more general character which furnishes excellent food for thought.

"The men who buy votes to get into Parliament will sell their votes when they get there."

That is perfectly logical, isn't it? The men who are without honor in getting what they want will be without honor in using it after they get it. I particularly wish to commend that remark to the consideration of the respectable leading citizens of both parties who act on campaign committees during election time. They know whether money is used or not in getting the votes of irresponsible people in their wards. That is, they ought to know, but it is quite possible that they do not. In spite of their activities they are often respectable figure-heads who think they are doing everything, while the riding is being bought under their noses by more secret and skilful workers. A straight party candidate, who can always be depended on to vote with his party, may have his riding bought for him without his knowing anything about it. But the result is the same, and because of his loyalty to his party his vote will be trafficked in just as if he sold it himself. Let us illustrate this by dealing with a hypothetical case of Big Business politics, that is hypothetical only in regard to the names used.

But before we take up the case of the Toothpick Trust—I have chosen that because I think it is about the only kind of manufacturing left in which there is not a Merger or Trust—let us consider for a moment the question of Special Privileges and Indirect Benefits. I don't know when anything got on my nerves quite so much as that Indirect Benefit slush that I heard talked when I was in the city a few weeks ago. The only way I can get rid of it is to talk it all out, and I hope you will hear with me while I relieve my mind of a little more of it. I will try to do it as amusingly as the facts warrant. Special Privileges have been granted to favored people since the dawn of history, and the great work of democratic forms of government, such as we enjoy, is to do away with this form of injustice. But the method has changed. Let us take a notable instance with which we are all more or less familiar. When the "Merchant Adventurers" who organized the Hudson's Bay Company went to Charles II. to get their charter there was probably a conversation that in effect ran as follows. Prince Rupert, acting as spokesman, probably addressed the Merry Monarch somewhat in these terms:

"Trusting that your most gracious Majesty will pardon our presumption, we beg to submit for your consideration a plan for greatly increasing the trade of your kingdom. By putting the fur trade in Canada on a business basis we will so stimulate trade that all citizens of your kingdom will be Indirectly Benefited to an unparalleled degree. All we ask is the title to some hundreds of millions of square miles of rocks and forests and snowdrifts, and the right to the exclusive trade with the Indians."

"Umph humph!" said his benign Majesty, meditatively. "It listens good to me, but what will there be in it for Charlie?"

Then Prince Rupert explained the basis on which they proposed to divide the proceeds of the monopoly with the private purse, and the charter was granted. All the king was interested in was the Direct Benefits that would come to him if he granted a monopoly. At the present time the granting of monopolies has passed from the sovereign to the sovereign voter, and the method of securing the necessary charter has changed. Instead of the Direct Benefits the sovereign voter gets the Indirect variety. Now let us pass on to a consideration of the case of the Toothpick Trust.

When the magnates of the Toothpick industry had organized a Merger, that put an end to destructive competition, they began to look for a larger market for their output. To this end they started an advertising campaign to educate the people to the value of Patent Sanitary Basswood Toothpicks. They told clamorously, in a full page ad, that the care of the teeth was the most important thing in the world. If people did not care for their teeth their molars and bicuspsids would decay; they would not masticate their food properly; they would develop indigestion, and then they would get so grouchy that they would go back on the political faith of their fathers; join the Grange and do other

absurd things. But if they used Patent Sanitary Basswood Toothpicks they would enjoy good health and, besides, they would be Indirectly Benefited to a marvellous degree. The manufacture of toothpicks would make a great home market for basswood, the manufacturers would employ all the surplus labor of the country at high prices, there would be an unlimited market for farm products to feed the workmen and everybody would prosper, Whoop! Hooray! But though this sounded fine people still continued to pick their teeth with hemlock splinters, and the Grange increased its membership. The magnates had to get a better scheme, but that was easy. A representative of the Trust called on the campaign manager, or Wise Guy, of the political party that was at that time in power—by the grace of the Bankers, Railroad Magnates and Manufacturers. He told him all the above written guff about health and happiness and Indirect Benefits. But the Wise Guy looked at him coldly and observed:

"Go tell that to the Danes! They believed Doctor Cook. But if you want to do business with me, just say how much there is in it for the campaign fund."

Realizing that he had to do with a practical man he hastened to reply:

"If you put through a bill making it compulsory for all hotels, restaurants, eating houses, quick-lunch joints, cafeterias and such, to supply their guests with toothpicks, and also specify a kind of sanitary toothpick that can be supplied only by our firm because we hold the patents, I'll hand over a wad of 'long green' that would choke a cow."

"Done," said the Wise Guy. "You keep up your campaign for the public health, and we will introduce such a bill as you require."

Shortly afterwards the bill was introduced and it was whispered to the back benchers that it must be put through "for the good of the party," and it went through and from that day all hotels, restaurants, etc., were compelled to lay in a stock of Patent Sanitary Toothpicks, and all harmony banquets that were not supplied with these toothpicks were bogus, counterfeit and void. And the Trust prospered as never before, and issued watered stock and "made a killing."

Now let us gather a few of the lessons to be learned from this. In the first place you will observe that the loyal members voted blindly for a bill that professed to be in the interests of public health, because it was said that it would be "For the good of the party." They did not sell their votes but the Wise Guy sold them. But perhaps you think your party does not get its necessary funds for printing campaign literature, hiring halls, paying expenses of speakers and similar legitimate—not to mention illegitimate—expenses in this way. Then how does it get the money that is always so plentiful? Did you ever contribute any of it? I have yet to meet a farmer who has contributed to the campaign funds of his party. The money is contributed by the rich men of the party. But why? The answer is easy. They expect favors that will give them special privileges such as were enjoyed by the Toothpick Trust.

But, of course, the sovereign voters got the Indirect Benefits—basswood went up in price, and there was a demand for labor and farm products and all that. I am sorry to disappoint you, but the Trust found that it could get basswood practically for nothing in Cuba, that foreign labor was cheaper than the home-grown article, and then these foreigners lived chiefly on sweet chestnuts from the slopes of Sorrento and garlic from the market gardens of the Campagna—or some similar place. So the Indirect Benefits all went to Cuba and Italy, and other countries instead of Canada. And when the sovereign voter began to grumble about it, he was told to get busy and produce more and help to reduce the cost of living. Say, if anyone talks that Indirect Benefits nonsense to you and you don't feel like doing anything about it, please oh please double up your fist and hit him once for my sake.

Opportunities in Quebec.

Editor "The Farmer's Advocate": The article on page 218 of February 5th issue of your valuable paper I consider has struck the right note.

I should imagine that very few know that in the Province of Quebec there are opportunities second to none in the Dominion, nevertheless the fact remains.

Conditions to-day, in many parts of the Province, are similar to those that existed in Aroostook County, Maine, U.S.A., 30 years ago, just at the commencement of the potato-starch industry in that section, when abandoned farms were sold for next to nothing. Some five years ago, when the writer was travelling through Northern Maine, a farm of 200 acres near Presque Isle was pointed out as having just been sold for \$30,000 which had been bought 25 years previously for

\$350, and the owners had made a small fortune during their occupancy, besides putting up splendid new buildings.

Combining potato growing with dairying would be even more profitable here than growing potatoes exclusively, as dairying is still done in Aroostook County, and here dairying can be very profitably carried on, as both corn and clover grow to perfection for feeding purposes, alfalfa and sweet clover also give excellent crops. For potatoes we have within 65 miles of this locality, the best market in the Dominion, viz. Montreal, where 75 per cent. of the potatoes used for domestic purposes are hauled from 600 to 1,000 miles. All kinds of vegetables grow well, even Montreal melons can be successfully raised, and the land, in many cases, can be had for nothing, as invariably the buildings (if any) are worth considerably more than the price asked, and if there are no buildings, the wood on the uncleared portion is fully worth the price paid. For instance, 60 acres sold four years ago for \$40, 30 acres cleared. The wood to-day is worth from \$150 to \$200 as it stands. Last week 60 acres, about 80 cleared, balance in good hardwood, principally hard maple, sold for \$300. There was no building on the first mentioned, but a good barn about 40 by 20, of the latter 15 acres at the bottom of the slope is acknowledged to be the best land in the neighborhood. Quebec has disadvantages, I don't think they are greater than those in the West, then it has many compensations, and for the farmer with small capital who knows how and has ability to put his knowledge to a practical use, Quebec Province is good ground for exploitation.

L. J. HOUGHTON, Joliette Co., Que.

More on Good Seed.

The majority of farmers do not take the interest they should in the changing of their seed grains, nor in the selection of seed, nor the trouble to secure new and improved varieties. The loss to themselves and the country at large is enormous. There are a large number of farmers whose whole aim and ambition is to get in a big acreage of grain, not paying any attention to securing a high yield per acre through thorough cultivation and the purchase of new seed. If these would sow one-third less and devote their surplus energy towards an increase in the yield per acre, they would be far better satisfied at the end of five years. Good and systematic cultivation must be carried on in connection with new and improved varieties of seed grain. There is no use expanding money on the purchasing of new seeds and sowing them on a worn-out piece of land, or a poorly cultivated field, any more than placing a high-bred animal in the hands of a poor feeder who does not understand the art of handling high-class stock. Both would soon be of no use under such treatment. This is to a large extent the cause of the failure of many who try both new seeds and high-bred stock. Each have been improved and brought up to what they are by selection, hybridizing or breeding and feeding, and high cultivation, or feeding and handling. A large class of farmers begrudge the money for expensive seed, forgetting what it cost to bring out such new varieties or strains. A good seed is one that will produce a healthy, typical plant, and to do this must have been produced by just such a plant. Good seeds cannot be sold cheaply, as the grower has to give patient and expensive labor, and probably years of valuable time. The cost of these seeds may be high, but they may be good. Some would like to try the new and expensive seeds, but wait until some enterprising neighbor has more than he needs for his own use, and then they are ready to try the new sort. They allow the neighbor to get the cream and are content with the skim milk. Many are too slow in this matter. The change of seed and new variety with strong vitality and vigorous growth will increase the yield, we may suppose seven to ten bushels per acre. This increase per acre will pay for the bushel of seed, and 25 per cent. of the investment, to say nothing of the extra value of the product of this bushel. The changing and selection of seed grains is sadly neglected by a very large number. It ought not to be necessary to say anything to the readers of this paper of the benefits to be derived from changing and selection of seeds. Try this spring the effect of changing seed from one kind of soil to another. Selection, if carefully followed up, along with hand picking would give some pleasing and surprising results to anyone who will take the trouble. Whatever you sow let it be clean and free from wild seeds. If a man sows wheat he will reap it twenty-fold. If he sows wild seeds he will reap them one hundred, or a thousand-fold.

The following plan has been practiced on our farm, of about 500 acres, for years, and while not perfect, it is proving very satisfactory. We select the best fields of grain for seed, and during the winter or early spring clean the seed

twice over, using a mill with a screen on the hopper and a second on the bottom. Plenty of wind is used on the mill, and anything small or useful that goes over is either kept for fowl or ground up for feed. All the whole oats that are fed, amounting to hundreds of bushels, are double screened also, and the small grain and seeds taken to mills and ground up like flour. We recommend this plan, as the yield of wild seeds is practically nothing. We might also say that very little manure is applied until it is thoroughly rotted.

Ontario Co., Ont.

G. H. N.

[Note.—It is not necessary to change seed if extra good seed of the variety is still on hand, but it is advisable to sow the best seed, and if it is not available in your bins it is good practice to buy.—Editor.]

### More Interest in Birds.

Editor "The Farmer's Advocate":

Being a constant reader of "The Farmer's Advocate" I always find very valuable and enjoyable reading in the columns entitled "Nature's Diary." Anyone who has read these columns in your issue of February 12th, cannot but see the value of our so-much-hated hawks and owls. What a terrible misfortune if parts of this country should be visited by plagues of mice, and yet like the people of France, Scotland, and other such countries, the people of Canada through ignorance are in a great many sections working out a sure way for the ruination of their own farms and homes.

Indeed, take almost any of our Canadian birds. With a very few exceptions, can we not point out that these birds do exceedingly more good than harm to our communities? Those that do not eat such pests as field mice, etc., live on injurious insects and weed seeds. How is it that in many parts of the country weeds are increasing so rapidly, and weed inspectors have to be appointed in an endeavor to stop the increase and spread thereof? I feel certain that if the weed-seed-eating birds were encouraged to stay around and build their nests in the trees and orchards, the people would be commencing in the right place to eradicate and stamp out many an unnecessary farm weed.

In some parts of the United States the value of birds is being considered carefully, and in many localities organizations are being formed for bird protection. The people interested erect bird houses, baths, and feeding places for winter birds especially, thus encouraging them around their homes. Would it not be a good New Year's resolution to be made by every farmer and his children to care for the welfare of the birds? It is not necessary to spend time erecting bird houses, but we can do a great deal by keeping cats away from the nests in nesting time, and educating children to care for birds. How many valuable and beautiful birds are killed by thoughtless children carrying rifles about with them, or throwing stones at those which seem to be less afraid and heedless of their presence? Why not place good bird books on the shelves of our school libraries, and encourage children and parents to read and study them rather than useless novels and stories? Bird study by book and field glass cannot help but be good for anyone, and it will be a wonderful step in the advancement of our country and its welfare.

Elgin Co., Ont.

VOICE OF NATURE.

### For Those Intending to Build a House.

Editor "The Farmer's Advocate":

The first requisite in building a house is to have it convenient to the barn—100 feet from the barn is a good distance. A farmer makes at least over 1,100 journeys to the barn in the course of one year, and if the house is placed 200 feet from the barn in place of 100 feet, he will do a little over 20 miles of unnecessary walking every year. Farmers usually get plenty of exercise at their work, so they don't require to take walks like city folks.

Of what material are you going to build? We built a stone house. It looks remarkably well. It is very cool in hot weather, and, as it is strapped and lathed, it is dry, but when the frost gets into the walls, it takes quite a few days to come out. A stone house is very expensive—costs a good deal more than a brick or frame house, even if one has all the stones on the farm. A veneered brick is a very good house, if the outside of the studding is lined with matched lumber and every brick flushed with mortar right through. A solid brick house is a desirable building, if it is strapped and lathed and plenty of mortar used in the brick laying, and then a good heavy coat of plaster put on the inside before the strapping is put on. A cement-block house is not expensive and looks well if properly put up and strapped and lathed. A stucco or cement house is satisfactory if steel lath is used outside and the work properly done, and a frame house is dry and warm if the

studding is lined on both sides with matched lumber and then two-ply of building paper is put on the outside and finished with rybatted clapboard siding free from sap wood, large knots or shakes. Of course, owing to the increased cost of paint and oil, it costs something to re-paint a house of this kind every ten years, but then one can have a change of color each time and the house looks like new.

A great many farmers have built houses much too large. Capital thus used is unproductive. If the farmer builds a large barn, there is, or should be, an increased return from the stock, which will do better in comfortable quarters, with plenty of room, but when he builds a needlessly large, expensive house, there is considerable unproductive capital and a great increase of cost in heating the house in winter and much needless work for the ladies in keeping unused rooms clean and in order. A good farmhouse for a 100-acre farm should be built for from \$2,000 to \$3,000. It should have a dining-room, parlor, kitchen, pantry and bathroom and four or five bedrooms. The first three should not be too large. Our diningroom is 16 feet 6 inches by 18 feet 6 inches, and is too large—takes too much to heat it. There should be folding doors between the diningroom and parlor, so that they can be thrown into one for special occasions. The ceilings should not be too high. There is a house on the road on which I live with 12-foot ceilings. This is a mistake, as nine feet is quite sufficient. The cellar should be the full size of the house, and should have a milk room, a room for apples, another for potatoes, and a laundry room with a soft-water cistern and a drain with 6-inch glazed tile, with good fall, to take the dirty water away. All the washing of clothes, harness, etc., can be done in this room with comfort. I would not shingle a good house, but would put on either slate or galvanized roofing. The chimneys should have nine-inch tile built in for flues.

People's tastes differ very much, and the plan that would suit one will not suit another, but every house ought to be arranged so that it will be handy and save as many steps as possible. Speaking of steps, I have seen some good houses have several steps between the kitchen and diningroom. Now, this is a dreadful mistake—all the rooms on one floor should be on one level. Oxford Co., Ont. D. L.

(Note.—One hundred feet seems close enough to the house.—Editor.)

### To Remedy Root Pulper and Lantern Troubles.

Editor "The Farmer's Advocate":

As this is the season when root pulpers and lanterns are in daily use, I would like to score them down a little in your excellent journal. To my mind the perfect pulper or shredder has yet to be put on the market. Shredders probably do the work faster than pulpers, but the chop cannot be mixed as readily nor as uniformly with shredded as with pulped roots, neither does the chop stick as well to the former, thus possibly occasioning some waste. But the great fault with all pulpers and shredders we have seen is that the roots will not feed without assistance by hand; the operator thus losing much valuable time and being in danger of losing a still more valuable finger. I wish to suggest a simple device for feeding roots to a cylinder pulper or shredder, which all pulper manufacturers may simultaneously adopt, thus barring individuals from obtaining patent monopolies. The feed consists of a second cylinder in the pulper or shredder, as the case may be, similar to the first, but turning in the opposite direction and at about half the speed. The difference in speed would keep it from choking; the two cylinders being placed on a level side by side.

Farm stock and buildings representing thousands of dollars are daily at the mercy of a 75-cent lantern, which is made of a few scraps of tin soldered together in the most flimsy manner, reminding one of Christmas toys which are not supposed to last more than a few days. The tubes crack with the first breeze to which they are exposed. We have tried boiling them all day with some success. Why do the manufacturers not put a "boiled lantern tube" on the market? By the way, a manager of some lantern concern stated some two years ago that we were to have unbreakable lantern tubes. As we have not seen them advertised in "The Farmer's Advocate" we may fairly assume they have never materialized. The in-take is far too small. The hole should be at least one inch clear. There are many devices for allowing the lantern to be lit. We have yet to see the perfect one. The handle should be so put on as to always remain in an upright position, so that the lantern may be quickly and safely hung up in a high, conspicuous place in the stable. Yet in many lanterns the handle is liable to pull out at any moment, allowing the light to fall in the straw or chaff, endangering a general conflagration. Victoria Co., Ont. J. F. TRUMAN.

### Laying Large Tile Through Quicksand.

Editor "The Farmer's Advocate":

This main ditch was dug during the month of October, 1913, at the Ontario Agricultural College, Guelph.

Beginning at the outlet as we always do, we cemented the first twenty or thirty tile together. We practically enclosed them in two inches of cement. We put about two inches of cement in the ditch before laying down the tile, then we covered them with cement, after which we put a face around the first tile, bringing the face up a little more than level with the surface of the ground. In this way the spring floods will not wash away the tile at the outlet.

No cracked tile were used and no bad looking tile were placed in the ditch. We deemed it advisable to use nothing but the best, because we were particularly anxious to make a permanent job. We knew that intermittently for over a period of thirty years or more, someone had attempted to drain this particular piece of land. We also knew that they had failed in every case. Consequently, we looked after every little detail just so far as we knew. For instance, most tile layers fit the tile so that the tile appears well laid when looking down from the top, but if we could only see the lower side, turned up, we would almost invariably find large cracks or openings. In short, most tile layers fit the tile from the top almost entirely regardless of the bottom.

We fitted the tile all around in just so far as we possibly could, but if we found there must be an opening, we turned that opening upwards and made a mark on the edge of the ditch. Then after we had laid a hundred rods or more of these fourteen-inch tile, we would come along with a horse and rig and cement shut all the open cracks. Wherever we had a mark we put cement on the joint.

Each tile was separately put in position with a crowbar. The bar would be jabbed down into the bottom of the ditch right near the tile, then repeatedly jolted squarely against the end of the tile. The bar would be used in this way until every tile seemed perfectly firm for at least about ten feet back. Now, with all the tile laid in this way, and with all bad joints turned upwards and cemented, we felt sure that we were putting in a permanent drain.

But that was not all; we were told that sand would get in the joints even so, for we were laying these tile four or five feet deep, in what had always been known to be the very worst of pure quicksand. However, quicksand is only quicksand when it is wet. It is not called quicksand when it is dry. Fortunately for us our sand was dry. The bottom of our ditch was made up of almost two feet of extremely fine, dry white sand. Thus we might expect some sand to get in the tile, even though they were well laid. In order to overcome this difficulty, we thought it wise to take some precaution and just so we suggested sand traps.

These traps or silt basins, as they are sometimes called, were put in about 800 feet apart. We tried to have these traps placed where they would (not) interfere with seeding and harvesting operations. Each sand trap was made of cement.

In making the trap we first dug a hole about four feet square and about two or more feet below the bottom of the tile. This made our excavation over six feet deep and four feet square. Then we made a collapsible inside frame, which could be taken out and used in making different traps. This frame was three feet square and when set in the hole it just came up even with the surface of the ground. Thus we had an open space between our frame and the ground of about six inches.

In mixing cement we used very fine gravel or coarse sand. This was mixed with the cement at the ratio of five to one. Now, we fitted the tile securely up against the frame and poured in the cement until it came up even with the surface of the ground. Before the cement became hardened we placed several irons (harrow teeth with bolts upward) into the cement. The trap is covered with boiler plate about one-quarter inch thick. The plate is held in position by the projecting bolts. In this way the cover can be securely fastened and at the same time it can be lifted in order to inspect the trap. If sand or sediment collects, it can easily be cleaned out with a spoon shovel and thus save the drains from becoming clogged.

Two weeks after this main was put in, the sand trap contained over 10 cubic feet of sand. This sand was sand that had gotten in while laying the tile and would probably have remained somewhere in the tile had it not been for the trap. However, it was noticed that after the



first two weeks very little sediment, if any, was gathering in the trap.

In examining the sand traps at the College last summer, when no water was running in the tile, we discovered one trap which had sand piled up in it almost three feet deep.

Waterloo Co., Ont. R. H. CLEMENS.

### THE DAIRY.

#### Grant in Aid of Silo-Bulding Wanted.

Editor "The Farmer's Advocate":

A great deal has been said and much written in the last year or so about the downward trend of dairies and consequently the farms in the dairying sections of Eastern Ontario and of Quebec, and from personal observance, I think this is correct. Although a few farmers in this section are experimenting and benefitting by the use of improved methods and by following the systems of cultivation and rotation of crops and the feeding of grain rations advised by our Institutes and Colleges, yet the majority are content to go along in the same old ruts, forgetful of the fact that cows which could be bought for thirty-five and forty dollars apiece ten years ago are worth seventy to eighty dollars apiece nowadays, and therefore deserve extra care.

We cannot make them eat double the feed, but we can give them better feed, and that would be by growing corn and putting it into the silo. This has been the "text" of "The Farmer's Advocate" for a good many years, but there are a great many readers of it who have not taken heed to that "text" as yet.

I would like to make SILO the watchword and war cry of all who are interested in the improvement of the farm dairy for the next five years. There are a great many in this section who would have silos if it were not for the initial cost of silo and filling machinery. "The silo does not cost so much," they say, "but if we build one, how shall we fill it?" If there is a cutting box and engine in the district, everyone wants it about the same time, and the one outfit cannot do more than five or six in a season, and have the corn put in at about the right time.

Now, how is the money granted by the Dominion Government going to be expended for the bettering of the dairy industry this year?

There are, I believe, \$220,000 for Ontario and \$189,000 for Quebec. Could not some of this money be loaned to a certain number of farmers in the same community, say 40 per cent. of the necessary outlay to put up the silos and buy the filling machinery if they in turn would make an agreement to grow corn enough to fill each silo for five years. I'm sure that after five years' experience with silage, very few, if any, would want to be without it. The great advantage of corn is that it is never a failure if it is taken care of, and what I call care is a mellow seed bed with a little manure and twice through with the scuffer when the corn is up high enough. Of course, a good heavy coat of manure is better and three times through with the scuffer and once with the hoe at proper intervals is better still, but the crop would not be a failure with the former treatment alone. I say if we are going to have more and better cows in this part of the country, we must have silos, and the cost of the outfit is what is keeping so many from having them to-day. Is it not reasonable that we should expect some aid from the Government grants in this respect?

Brome Co., P.Q. A. T. WOODLEY.

#### The Dairy Industry in Nova Scotia, Past and Future.

Editor "The Farmer's Advocate":

Lately I had a pleasant visit to the Agricultural College at Truro. When I first drove up on "Bible Hill," in 1901, there was but the Farm Superintendent's house and one fair-sized barn. The agitation for an Agricultural College was brooding in the political air and there was a much stiffer breeze against such a project than for it. Gradually the prophetic ideas of the more wise and optimistic men began to shape themselves in realities and despite all the throwing of cold water, the result has been a founding of a needed, useful institution on a firm and steadily enlarging foundation.

Coming well equipped and in the vigor of his young manhood to this new-born college in his native land, Principal Cumming has been a very tower of strength and to him is due largely the splendid success of the college. This year the students enrolled number—regular course, 102; short course, 351.

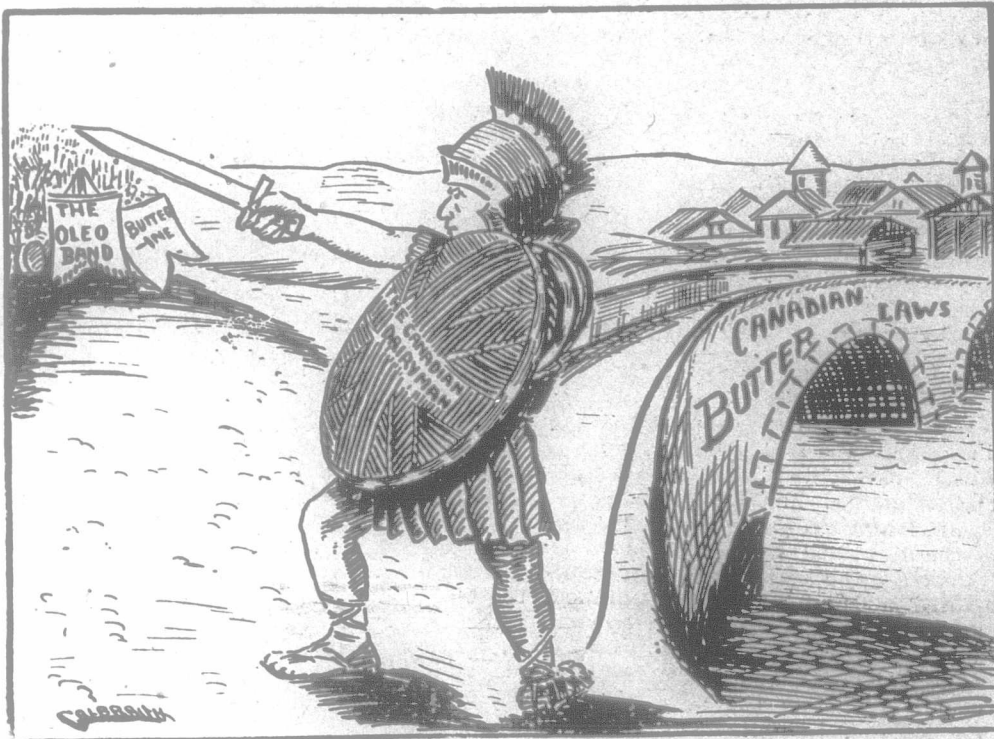
At the Women's Institute Convention, held in January, a memorial to Parliament was drafted setting forth the needs of a building for House-

hold Science students. One feels that the East has roused herself and is marching forward and keeping pace with those in the front ranks.

Nowhere is the progress of Nova Scotia more marked than in the field of dairying. Prior to ten years ago, a number of whole-milk creameries had been established, but owing to the country not being thickly populated, the condition of the roads bad in many parts for hauling milk, and prices low, these creameries were miserable failures in every case.

If dairying was to be remunerative a change had to be made. Farmers realized that their country was admirably adapted to the keeping of cows, but they weren't going to do it for nothing. Scotsburn was the first to strike out and adopt the cream-gathering system. On the old plan, 20,000 pounds of butter a year were thought good; now that creamery will turn out 40,000 pounds in a single month. It used to be closed all through the long winter; now it runs the year round. Cream is delivered by wagon three times a week and on alternate days comes in from many points by rail. With Scotsburn as an example to show what could be done under right methods, new heart was given the old creameries, and a number of new ones started under Government supervision and aid, and almost entirely under the direction of W. A. McKay, the Dairy Superintendent, supported by the staff of the college and the Secretary for Agriculture; also the Dairy Commissioners Branch at Ottawa as represented by Harvey Mitchell.

W. A. McKay, Dairy Superintendent, and a practical, capable man, is pushing the development of the industry wherever he sees a good opening. I met him in company with another man on the way to the depot the morning I left Truro. The other man stood aside a moment, and then said, holding out his hand, "You used to be Miss Laura Rose; I am Mr. McDonald, from Margaree, Cape Breton. You'll be glad to know we are to have a creamery in our section. We have progressed a little along dairy lines since your first visit to the Island."



Ho for the Fray!

"Now, who will stand on either hand and keep the bridge with me?" Let every agricultural interest support the dairyman in the struggle to exclude from Canada the imitation butter trade.

Yes, they have truly, for in the whole of Cape Breton there were then but two cream separators and seeing one operated was as much of a curiosity to the people as a flying machine is now to us. Hand separators are as common on the farms now as they were rare in those days, and more and better cows are kept. It will not be long before Nova Scotia becomes as noted for the excellence of quality and largeness of output of her butter as she now is for her apples.

As an instance of the success achieved under the cream-gathering system, Yarmouth might be cited, and speaking of Yarmouth brings to mind my last travelling Dairy School meeting held a little distance outside that town. The large hall was filled and the meeting lasted from 7.30 to 11.30 p.m., and I remember I tested 56 samples of milk, besides lecturing. That was a great meeting. People drove ten miles to it. I would expect a creamery to do well in such a section.

Two years ago two young men from the Truro College, Fred. E. Porter and Don. Chipman, established a cream-gathering creamery there. Many of the older men reminded them, and warned them of what had happened to the whole-milk creamery established 12 or 14 years ago, which had proved a complete failure. Despite these warnings, these enthusiastic boys persisted, and the first year the creamery made 57,000 pounds

of butter, and the past year has made 170,000 pounds.

At Beddeck, the Government last summer erected a creamery, for that district is such a scattered one it is not possible to get the capital subscribed. The people will in time take it over.

The only thing that has made dairying on a consolidated scale practicable throughout Nova Scotia is the cream-gathering system. Progressive work has doubled the output of last year, and the industry is only yet in its infancy.

LAURA ROSE STEPHEN, Huntingdon Co., Que.

#### The Ice Harvest for Dairymen.

Editor "The Farmer's Advocate":

The recent cold snap (Feb. 8-16) should be a reminder to the dairyman that while weather conditions are not favorable for a large flow of milk, and cause a great deal of discomfort to man and beast, besides considerable annoyance in frozen pipes, frozen pumps, frozen milk and cream—in fact of nearly everything freezable, there is one phase of the dairy business which is greatly favored by a temperature of 20 below zero, namely, the ice harvest, which is an essential one for good results next summer.

Creamerymen and cheese factory owners with ice-houses attached to their curing-rooms, city milkmen, and all those engaged in the manufacturing and selling of dairy products, know full well the value of ice in their business, hence these need no urging to put up a supply for use when the thermometer will range from 80 to 90 degrees in the shade. But the man on the farm who is producing milk for the cheese factory or cream for the creamery, is inclined to be indifferent about the ice question. Sufficient for the day is the evil thereof, and there is no use worrying about the hot weather of next summer, is too frequently the attitude of cow owners in the winter time, and especially that of the man with just a few cows, hardly worth bothering with. He is often the one whose milk or cream

is likely to lower the quality of the general lot, if it does not spoil it altogether. The cheese and creamery business in Ontario has reached a critical stage, when something must be done to improve the quality of the finished product or we may as well close some of our factories. We are not alarmists but the signs of the times point very markedly towards the need of improvement, if we would maintain our position even in our Home Markets, to say nothing of the Export Trade, for dairy goods. Producers and manufacturers on the other side of the Globe can apparently come on Canadian territory and win the trade rightly belonging to Canadian dairymen. What are we going to do about it? We shall

not attempt at this time to answer this question, as it is a very broad one, but one thing every man who owns cows and expects to milk them next summer, can do, and that is put up a supply of ice right now. If this were done we should see a marked improvement in the quality of the raw material delivered to our creameries, cheseries, and condenseries during the season of 1914. Ice is so cheap in most parts of Canada this winter of 1914, that no one should neglect to provide a liberal supply—not less than one ton of ice per cow—two or three tons would be better. If there is more than is needed for cooling milk and cream, the women on the farm will appreciate a refrigerator filled with ice daily to preserve eatables for the table, and to save many steps going to the cellar for food to feed hungry men. Then, too, if the men will put up ice, the women will see that the men are provided with cool drinks, such as iced tea, lemonade, sherbets, ice-cream, etc. Who does not appreciate these on a hot day?

In addition, if a man desires to be popular, he will find a large number of people quite willing to borrow a chunk of ice, or even pay for it if necessary. Prospective candidates for school trustees, councillors, members of the legislature or parliament, will find a supply of ice a means to win favor with the public.

Nearly every neighborhood has a pond, creek

or river where a supply of ice can be got quite conveniently, but in case there is nothing of this kind in the vicinity then steps should be taken to provide a pond next summer, where ice can be cut for the locality. There is hardly a section of country where such a pond could not be made at small cost.

The following are the requirements for storing it—

1. The ice should be as clear as possible and free from snow or shell ice. The snow should be kept cleaned from the surface of the ice so that it will freeze to a greater depth and furnish pure ice.

2. The blocks should be cut as squarely as possible so that they will pack closely in the ice-house to exclude air and thus prevent melting. An ordinary cross-cut saw, with one handle removed, does very well for cutting ice, to be used on the farm.

3. The house should preferably be filled on a cold, frosty day.

4. The ice-house should provide drainage under the ice, ventilation above the ice, and protection from sun and rain. So long as these requisites are found in the ice-house there will not be much waste, provided the ice is covered on bottom, sides and top with good insulating material—say one foot of dry sawdust.

The women folk of the farm should "keep at the men" until they put up a supply of ice. If necessary they should threaten to cut off their meals. Nothing will bring a man to his senses so quickly as the fear of losing his rations.

O. A. C.

H. H. DEAN.

### Milking Machine Tests.

Milking machines are gradually yet effectually forcing themselves upon the dairymen in Canada as they are in the United States. Something is necessary to decrease the amount of labor necessary about the dairy stable and the milking machine must do it sooner or later. At the Central Experimental Farm, Ottawa, several machines are being tested for efficiency and effect upon the cows, and E. S. Archibald, Dominion Animal Husbandman, has communicated the results of their research work up to December, 1913. In these experiments the endeavors have been directed towards ascertaining the purity of the milk produced, the influence of the machine upon the cows and the importance of the milking machine in reducing the cost of production.

**Purity of Milk.**—During the first six months of the test [the machine-produced milk contained from three to ten times as many bacteria as that of scrupulously careful hand milking, and ranged from 5,000 to 7,000 bacteria per cubic centimetre (cc.)] The milk produced by hand, however, was extremely low, containing on an average only 1,590 bacteria per cc. No precautions were neglected in the production of the milk drawn by hand, as it was being sold as certified milk, which is far above the ordinary standard in cleanliness and purity. During the next three months of the test, by the aid of colder weather and improved methods of washing, sterilizing and manipulating the machine, splendid results were obtained from the milking machine, but even here the hand-drawn milk contained only one-third as many bacteria as that drawn with the machine. While the machine was new and the rubber tubing smooth and clean, the machine-produced milk ranked very well with the hand-drawn milk, but, as the machine began to wear; its efficiency, in delivering pure milk, decreased.

A higher grade man is required to operate the machine than draw correspondingly clean milk by hand, but this argument is offset by the fact that the proprietor of a dairy herd would operate the machine himself, whereas capable men to milk by hand are very hard to procure.

**Effect on Cows.**—To date the cows have responded well to the machines, taking to them with indifference. Only with a few exceptions, do they object to them at all, and then only for a short time.

It would be unfair to draw comparisons between the production of milk obtained by these two different methods during one period of lactation, as the cows are only becoming accustomed to the machine. It has been the practice to strip by hand after the machine has operated for a sufficient length of time and only a very slight falling off has been observed other than would obtain under normal hand milking. As yet none of the machines have produced any perceptible injury to the teats or udders of the cows.

**Economy.**—In twelve months, one machine has economized the labor of milking fully 50 per cent., but on the other hand, has largely increased the labor in washing and sterilizing dairy utensils. Absolute and thorough washing and sterilizing twice per day of the milking machine is imperative if one is to produce clean milk. Barring accidents, a farmer might instal a two-unit outfit and milk 15 cows alone, with 50 per cent. less labor than by hand milking. Figuring 300 milking days in a year for 15 cows

and valuing labor at 15 cents per hour, he would save \$180.00 per annum in milking, but this would be offset by \$40.00 more labor in washing, which would leave him a possible profit of \$140.00. A two-unit outfit would be installed for approximately \$400.00, and the upkeep should not exceed \$20.00 per annum. This saving in labor should return a handsome profit over and above the interest on the investment, but, as yet, the Experimental Farm has not substantiated these calculations by research work, and we must wait through another period of lactation of the Farm herd before getting definite figures relative to the actual cash advantages of the milking machine.

## HORTICULTURE.

"Health's Best Way, Eat Apples Every Day." This is a slogan now being used in the United States by the growers, who are stimulating an increased consumption of apples. It would not be well to undermine the medical profession completely, but Canadian growers might shout more than they do.

Begin to make up your mind not to spray next spring when the trees are in full bloom. You are sure to kill a great number of bees, which are indispensable in an orchard. They carry the pollen from flower to flower and fertilize the bloom. Bees are the best friends of the fruit grower and he should not willfully destroy them. The beekeeper doesn't like to have his bees killed either.

At the Western New York Horticultural Convention a vote was taken to ascertain if the growers thought the cutting out of pear blight a practicable treatment and remedy. The answer was: "Yes." If our neighbors to the south find time to treat their pear trees in this way, we may as well cut away at them too, especially as there is no other treatment known.

### Some Points About Cabbage.

The members of the London Vegetable Growers' Association listened with considerable interest, on February 14th, to an address delivered by A. H. MacLennan, of the O. A. C. on the production of cabbage. The important feature brought out in the address was the transplanting. When the young cabbages are produced in flats and taken out to be transplanted, the small root hairs which are a principal feature of the plant are destroyed in considerable numbers and thus weaken the feeding capacity of the plant, and destroys to some extent its possibility of getting a firm grip on the land. Mr. MacLennan recommended using what is commonly known as dirt bands. For these a special paper is necessary, but one that can be procured at any printing office. It is somewhat thicker than the paper used in groceries or general stores in tying up packages. The dirt band when completed is about two and one-half inches high and the same breadth across or a little less. They can be pinned together, but a more modern way of fastening the two ends after the paper is cut the right size, is to make a slit half way down one end, about one-half inch from the end and a similar cut on the other end, only from the bottom up, than the two ends can be joined together by simply drawing these two slits together. There is no bottom to the band, but they can be conveniently stood in an ordinary finnan haddie box, which will hold from fifty to fifty-six bands. The dirt is then put into them and the seed or the small plants can be transplanted into the dirt bands. When they are taken out to be planted, every particle of root system, which has ever developed, will be left on the plant.

Most growers make use of the small disk in preventing root maggot, and the six-sided disk will cut with the least waste of paper. Tar-felt paper is desirable, as the ordinary tar paper will lift up before it has been out very long. Wood ashes have been used to some extent and with some success in the prevention of the maggots, but other growers report no advantage, whatever, from the use of wood ashes.

200 pounds of nitrate of soda per acre will force the plants ahead, and give satisfactory returns if the other conditions are right. This might be sown broadcast or put in proximity to the plant if precautions be taken not to allow the small crystals to come in contact with the small plants.

For varieties, the growers were partial to the Danish Ball Head, short and long stem, in the late varieties, while in the early kinds the Copenhagen market and the Summer Danish Ball Head were most popular.

A characteristic of plant life which applies to most species of the plant kingdom as well as to animal life, is the productiveness of the first cross of two pure-breds. It has been proven

with poultry as well as with plants that when two pure-breds are crossed the progeny will be more productive than either pure-bred parent. But when this offspring again reproduces the resulting get may be, and usually is, quite disappointing. This experiment might be conducted with tomatoes or cucumbers by bagging a plant after removing the stamens and when the pistel is mature and ready to secure the pollen, take it from the stamens of a flower born on a plant you wish propagated in the offspring, and fertilize the pistel. Bag it till the fruit sets, and the operation is complete. The seed from this fruit should produce plants with exceptionally high power of production.

### The True Spirit.

A young co-operative association in Middlesex County, Ont., has demonstrated what a small amount of mutual and combined effort may accomplish. The whole output of this organization for 1913 would not equal the yearly production of some of our large apple growers, but for No. 1's and 2's they averaged over \$2.95 per barrel. Had they attempted to sell their small offerings individually, they might have been played one against the other in each one's attempt to obtain more than his neighbor, but through burying their petty prejudices and suspicions each one obtained a handsome return for his labor and fruit. In each barrel was placed a card asking for comments on the quality of the contents, and over a dozen replies have been received voicing the buyers' appreciation of the fruit and integrity of the packer. For them a future market is assured.

The motto to be drawn from this is: A large, cumbersome, pretentious organization is not necessary in a community to return the results of co-operative effort. What is most necessary is a friendly, neighborly, unsuspecting and ungrasping group of farmers combined in a little organization for their mutual benefit.

## POULTRY.

### Egg Production in Canada.

Editor "The Farmer's Advocate":

A message to a Montreal paper, dated Toronto, February 5th, runs as follows:

"There are practically no domestic eggs on the local market this week, and as a result the city wholesalers are bringing in eggs from Chicago every day. Receipts from this source average roughly about 5,000 cases per week these days, which means about 150,000 dozens eggs. A duty of \$4,500 per week is being paid on these eggs."

We may be certain this is not all of it, and what did we see during the fiscal year, ending March 31st, 1913? No less than nearly 14,000,000 dozens eggs imported into the Dominion from the United States. We have a peculiar condition prevailing here; some of the middle Western States have produced more eggs than they need for home consumption since mixed farming became general in those States, but some of the Eastern States have not. Such prices can be obtained in this country that these Western States will export to Montreal, Toronto, and more Western Canadian cities, in the face of a duty of three cents per dozen. There is no duty on eggs going into the United States from Canada now, and if we need the States' markets we have a great opportunity, especially as far as the East is concerned.

Now, we find on looking into the figures that ten years ago Canada was exporting large quantities of eggs; to-day she is exporting practically none; she has been doubling her imports yearly and to some extent increasing her production. Here we have three factors which would be expected to militate against an advance in market prices at home, but what do we see? Just this, prices have steadily advanced year by year, and what is the explanation? The explanation is, that there is a tremendous demand for eggs of genuinely good quality put on the markets in such perfect condition as only a sound marketing system can do. This demand is increasing so much more rapidly than our production that we are allowing others to do more and more of our business every year. Supposing that we should some day reach a point where with our production we could supply our home demands, there would be the export trade to exploit again, and at present this looks like a very remote necessity.

What should our farmers do? They should give these questions of egg production and marketing their serious consideration and then they would awaken to the fact that if this problem is properly taken in hand the poultry department on the farm will come near being their most valuable asset. Why not adopt careful and correct methods of breeding as with other live stock,

up-to-date methods of housing, feeding, and general care, which may be simple, time saving, and inexpensive? In this way we could increase the average egg yield of our flocks to almost double, and if we can induce a given number of hens to lay, say even fifty per cent. more eggs than at present, it must be a paying proposition, even supposing we obtained a little smaller price, because with proper feeding and good methods, little more outlay would be needed. Then, again, taking our winter production of eggs, would prices have been lower this winter had we produced one hundred per cent. more eggs? How many consumers have had to do without eggs entirely this winter simply because they could not get them sometimes at any price? Greater production, and better quality, with a more even distribution of production, are our urgent needs to-day. The demand is ready-made and increasing more rapidly than we can hope to increase our production.

Let us remember that the question of at what season a hen will lay is as important as how many eggs she will lay; and bearing this in mind, let us keep the breeds that will give us more even distribution with correct methods. Taking the general-purpose American breeds, such as Barred Plymouth Rocks, White Wyandottes, or Rhode Island Reds, early hatching will mean early winter laying and early broodiness, early hatching again, and so on. Then, if we have a flock of pure-bred Single-comb White Leghorns, these will commence to lay well just when the heavier breeds, which lay well in winter, will become broody. If we can keep two breeds, this is an excellent combination, if each breed is kept pure.

If we can only keep one breed, let us keep one of the general-purpose breeds for ordinary farm purposes, by all means. We can still further increase the profits of the farm flock by adopting a just and sound method of marketing, and this the egg-circle system will give us if the organization is carried out on a basis strictly independent of any dealers, but giving all dealers a fair chance to purchase the eggs on a quality basis.

P.E.I.

T. A. BENSON.

### Eggs and Meat the Standard for Poultrymen.

Interest in poultry raising seems to be advancing at an almost phenomenal rate. A couple of weeks ago an open meeting was held by the Hamilton (Ont.) Poultry Association at which over one thousand people interested in the feathered tribe gathered to listen to an address by Prof. Graham, of the Ontario Agricultural College. About a week later the same speaker addressed a banquet of poultry fanciers of London, Ont., at which between two and three hundred were present. This was the 30th annual meeting of the London Poultry and Pet Stock Association, and perhaps the most successful in the history of this body of men. Prof. Graham spoke upon the commercial side of the business as being the real serious side of poultry keeping in Canada to-day. It was a fact that fifteen or sixteen years ago special poultry lecturers at Farmers' Institutes were obliged to discuss live stock and general farming topics in order to get an audience. At the present time interest has grown in poultry keeping to such an extent that large numbers of people would turn out to hear addresses on poultry alone, and when the farming special, which toured Ontario last season, was doing its good work, more questions and more interest was manifested in the poultry end of the car than in any of the other departments. Twenty years ago people ate eggs in the spring up till about the 24th of May and commenced again in September, not caring to take the chance of getting stale eggs during the hot summer months. To-day a good egg may be had every day in the year, thanks to the cold storage system, without which, Prof. Graham believed, eggs would still sell for six or seven cents in the summer, and likely very high in winter.

Ten years ago Canada was exporting eggs, while last year over five hundred car loads of this product were imported into this country. Ontario in 1913 was kept busy to feed her own people, whereas a few years previously this Province, being the large producing center of the Dominion, shipped eggs to the Old Country and to the Western Provinces. At the present time Prof. Graham stated that the price of eggs on the Chicago Board of Trade rules the price of eggs in Ontario, and the largest percentage of eggs consumed during last week, he stated, were American eggs. In an agricultural country like Canada and particularly Ontario, he said it was nothing more nor less than a national shame that we cannot produce eggs enough for our own people. Taking the country over, the average price in Canada is the highest of any country in the world, not excepting the United States, where, while it is a fact, that eggs are often higher in Boston than they are in Canada, States like Kansas still produce the six-and-seven-cent-per-dozen eggs in summer, so that if the average

of the United States were balanced up against the average for Canada the price here would be higher than over there. This being so, if the poultry breeder cannot make money at the business now it is not likely that he will ever be able to do so, but the biggest trouble with our poultrymen is, according to Prof. Graham, that they try to grow too many chickens to the square inch. He cited Denmark as an instance of successful poultry production, stating that from driving through the country he did not see one commercial poultry plant, the poultry and eggs being produced on the small farms by the general farmers. Too many of the people in this country forget that the sun will hatch eggs and he took the opportunity of scoring the grocers and some of the produce men, as well as the producers. Eggs exposed in show windows to the hot sun, if they are fertile, are sure to commence incubation.

Up to the present he believed that fancy stock had been a good thing for the country. It has been the means of introducing pure-breds into many flocks which would have otherwise remained mongrel, but at the present time, the real value of the poultry is eggs and meat. The men who are producing the eggs and market poultry care little for fancy feathering and combs. Realizing that he was speaking to an audience of fanciers he pointed out some of the mistakes which this class of poultrymen have made, first among which was they had not paid sufficient attention to the constitution of their birds, which he called the main-spring of the whole works. You might just as well have a timepiece without a main-spring as a chicken with a poor constitution. This applied strongly to the male birds, which to use Prof. Graham's own words, "run the whole show." There are three grades of hens, first the hen that will not lay in winter, second the hen that lays anywhere from one to two dozen eggs in winter and third a winter layer, which produces from three to seven dozen eggs during the winter months.

In view of the fact that the male birds are so important in the flock, as far as winter laying is concerned, of course, it is important that pedigreed males be purchased to head the flocks. In this connection Prof. Graham pointed out that no pedigreed bird, if the work had been done accurately, could be sold at less than \$5.00. From their work at Guelph he estimated that it costs from two to three dollars each to work out the pedigree for every chicken raised.

It would, indeed, be a valuable asset to the poultryman if he could tell at a glance when his chickens are five or six weeks old, whether or not when mature, they are going to be good layers. Prof. Graham did not claim to be able to do this, but from his work at Guelph an indicator has suggested itself to him. He did not state this indicator was an established proof but as a warning to poultrymen present he said that from observation he had noticed that the slow-feathering bird was in a predominating percentage of cases a poor layer, and that the bird which feathered up quickly was usually a good winter layer. Winter layers almost invariably mature early and feather early, according to his work as far as it has gone. At Guelph, observations the past winter have shown that no slow-feathering chicken has produced two dozen of eggs since November the first.

The commercial end of the business is the department which needs most attention. A few years ago Toronto was a very easy market, to-day it is one of the most critical markets in the world, demanding eggs strictly new laid and put up in cartons of a dozen eggs each. Times are changing in the poultry business, and the poultryman must be alert and ready to grasp every opportunity to keep abreast of the changing conditions.

It was Prof. Graham's opinion that the hatching power of eggs had decreased, and this particular condition he stated was hereditary. He advised his hearers to set eggs from hens whose eggs hatch well wherever possible, and his experience had shown that the strongest and hardiest chickens almost invariably came from the mating of cockerels with pullets. This would seem contrary to the general rules of stock breeding, but, nevertheless, these findings are as they have worked out at the O. A. C. Of course, it must be remembered that the cockerels and pullets should be well matured when mated. Many poultrymen believe that the hen controls the size of the offspring. This, according to the speaker's experience, had not been the case, the size of the chicken being a blend of character between the male and female birds. The male, however, has more influence on color, especially if he be a Barred Rock.

The poultry business is one which requires some labor. One man would be kept extremely busy looking after seventy flocks of ten birds each, and he could feed and care for twenty flocks of one hundred birds each easier than the seventy flocks of ten birds each. The larger number of flocks the greater the work.

He urged the fanciers to take cognizance of the commercial conditions of the poultry and egg

trade, at the present time, not forgetting the fact that the general public requires a hen that lays and a hen that will produce poultry which may be sold at an early age on the market. The farms of the country must ever be the mainstay of the poultry business, and people keeping poultry under these conditions care very little for the fancy points of the fowl as long as they get plenty of eggs and good, heavy, plump chickens for the market.

## THE APIARY.

### Marketing Honey.

Although Eastern Ontario suffered a famine in the way of honey production during the season of 1913, Western Ontario had an abundant crop, and even at the time of the District Beekeepers' Convention in London on Feb. 12 and 13, some of this crop was even yet unsold. Morley Pettit, Provincial Apiarist, Guelph, went very thoroughly into the problem of marketing honey and declared that 15c. per pound was not too much to pay as a retail price for honey.

Honey is not being used as liberally on the consumer's table as it should be and in order to introduce it more generally to the consuming public Mr. Pettit advised—first, advertising by the producer, even putting out a sign on the gate-post labelled "Honey for Sale." This would draw many to invest in a few pails of this honey, who would not think of doing so had it not been brought to their attention. Going farther from home, Mr. Pettit advised a house to house canvass in order to bring the matter of honey before the people. Many people use only a small quantity and mention was made of some who purchased only one or two five-pound pails, when putting in their winter stock. In opposition to this, many who know and appreciate the value of honey use as much as 300 pounds in the run of a year, but the profits to the retail grocer are so small that he will not boost or encourage his customers to use honey as it is now put up. Jams, marmalades, canned fruits and other products of the factories allow him a larger profit and it is that which he will prefer to sell first.

Perhaps the City of Guelph, owing to some local circumstances, is the largest user of honey per capita of any town or city in Canada, yet the consumption there amounts to only two pounds of honey per capita yearly, and it seems peculiar that if some butter manufacturers could afford to advertise their butter, which is a staple article of food, that producers of honey could well afford to pronounce on their product, which is more of a luxury and a delicacy on the table. It was also advocated that magazines and papers be made use of in the getting of this product before the people.

The West has become a great consuming country for the honey produced in Ontario, but all people do not have the same facilities of placing their produce there. Some have sold it through relatives, while there are others who do not know people in the West. Mr. Pettit advised a co-operative movement in this respect and more co-operation on the part of the members of the Beekeepers' Association in returning reports to the Executive that they might estimate the honey production in time to decide upon a fair price for the marketing season.

Another advantage of a co-operative movement would be that the supply could be more equally divided in order to meet the demand, and the consumers, at the time of a shortage, could be fairly well supplied so that they would not have their attention diverted to other lines of delicacies and thus be weaned from the consumption of honey.

### The Use of Steam in the Workshop.

The paper contributed to the District Beekeepers' Convention at London by Denis Nolan, of Newton Robinson, conveys the extreme advantage of steam in connection with the workshop. There are many operations about the honey workshop that can be facilitated by the use of steam. There is wax to liquify, there are the cappings to be melted, and honey and wax to be separated therefrom. There is sugar syrup to be prepared, and numerous other little operations such as melting combs, in the case of foul brood and clarifying the frames and hives which can be done very effectively with steam. Mr. Nolan makes use of what is ordinarily called a feed cooker by the farmer. It is so installed that the steam can be made use of for all these different operations, and some of those present at the meeting endorsed very heartily the system of using steam in connection with these various operations.

**Queen Rearing.**

Many difficulties in the way of re-queening colonies and vitalizing the old stock could be overcome by a system of queen rearing as advocated by William Elliott, Adelaide, at the recent District Beekeepers' Convention in London. Old queens are like old hens, after the first year their ability to lay eggs and produce is very much impaired, and in order to get a large brood of good workers in the fall of the year it is necessary to have the hives furnished with good, live young queens.

It is practicable even in Ontario to produce the young queens in the yard, provided one is an experienced bee keeper and acquainted with bees and their different functions which they perform in relation to the colony. In queen rearing it is necessary to take into consideration the art of selection and choice. In order to get queens of a satisfactory character, the queen cells and the young queens should be produced in colonies, which are supplied with a queen which has proven herself in the past. They should be selected for their vitality, life and ability to produce good workers of the right kind. Only those colonies should be bred from. The chief advantage in queen rearing at home is to produce queens during the natural honey flow. Where queen rearing is carried on as an exclusive business the young queens are produced throughout the entire season, but in Ontario if this system were more largely adopted the queens could be produced during the greatest honey flow and in that way queens, possessing vigor and longevity, capable of producing workers of more vigorous constitution, could be obtained. Six to eight weeks during the summer could be devoted to this work, and supply ample time to replenish the yard with good, active, productive queens. This is Mr. Elliott's system, but like other lines of breeding, it is necessary to have a thorough understanding of bees and their different characteristics.

**FARM BULLETIN.**

**The Holstein Sale at Tillsonburg.**

The Southern Ontario Consignment Sale Co. held their Third Annual Sale at Tillsonburg on February 10th, 1914. The prices paid for the stock, which is herewith given, emphatically declare the success of this sale of Holstein-Friesian cattle. Out of a consignment of 67 head only one animal sold for less than \$100, and the average for the whole number was \$231.19.

Consigned by M. H. Haley, Springford, Ont.:

Flora Wayne, 2-yr., C. C. Haviland, Wilsonville, Ont.	\$300
Maiden Beauty Heng, 2-yr., Geo. Kilgour, Avon, Ont.	205
May Heng, Lady, 2-yr., J. H. Chalk, Calton, Ont.	180
Corea Fairmount Houwtje, 3-yr., T. S. Escott, London, Ont.	270
Black Beauty Dewdrop, 4-yr., Wm. Gilbert, Minburn, Alta.	245
Black Beauty Pietertje, 2-yr., Wm. Gilbert, Minburn, Alta.	175
Susie Netherland, 1-yr., Thos. Laycock, Calgary, Alta.	200
Average for seven head	225

Consigned by M. L. Haley, Springford, Ont.:

Grace Johanna Fayne, 2-yr., Wm. Gilbert, Minburn, Alta.	\$170
Lady Johanna Dewdrop, 2-yr., Thos. Laycock, Calgary, Alta.	215
Homewood Queen, 6-yr., J. H. Chalk, Calton, Ont.	300
Aaggie Liz De Kol, 3-yr., T. S. Escott, London, Ont.	190
Beldina Abbeckerk, 3-yr., Thos. Laycock	200
Flora Mercena Re Becky, 1-yr., J. H. Chalk	150
Average for six head	204

Consigned by W. C. Prouse, Tillsonburg, Ont.:

Prairie Butter Girl, 8-yr., Wm. Gilbert	\$295
Jossie Calamity Posch, 8-yr., T. S. Escott	200
Magadora of Avondale, 3-yr., G. A. Gilroy, Glen Buell, Ont.	400
Centre View Jennie 2nd, 5-yr., Wm. Gilbert	230
Pontiac Avon Berwonde, 6-yr., Roy Masecar, Wycombe, Ont.	275
Average for five head	280

Consigned by T. W. McQueen, Tillsonburg, Ont.:

Kathleen De Kol's Snow Ball, 3-yr., Wm. Gilbert	\$270
Miss Kent De Kol's Easter Girl, 3-yr., T. B. Escott	305
King Segis De Kol Kent, 1-yr., (male) J. J. Poole, Salford, Ont.	95
Sadie Jewel Teake, 2-yr., Monroe & Lawless, Thorold, Ont.	220
Flossie Abbeckerk Mercena, 3-yr., C. C. Haviland	265
Shirley Bell Segis, 1-yr., R. J. Clifford, Putnam, Ont.	150
Queen Grace Fayne, 1-yr., F. Lowrie, Tillsonburg, Ont.	200
Grace Queen Clothilde, 1-yr., T. B. Escott	180

Lily De Kol Hartog, 2-yr., Walter Botsford, Amherstburg, Ont.	240
Prilly Hartog Clyde, 2-yr., Laidlaw Bros., Aylmer, Ont.	250
Topsy Ormsby, 4-yr., T. B. Escott	300
Lewis Hartog Ladoga, 2-yr., (male) Edward Burgo, Culoden, Ont.	130
Fergy Colantha, 3-yr., G. B. Ryan, Courtland, Ont.	245
Bessie Spink's Princess Clothilde De Kol, 10-yr., H. F. Gaber, Ypsiland, Mich.	300
Bessie Spink Abbeckerk, 8-yr., L. H. Lipsit, Straffordville, Ont.	310
Average for 15 head	231

Consigned by L. H. Lipsit, Straffordville, Ont.:

Baron Fayze De Kol, 1-yr., W. A. Buchner, Courtland, Ont.	\$165
Molly of Bayham Mercedes, 6-yr., Thos. Laycock	295
Molly of Bayham Mercedes 2nd, 4-yr., Thos. Laycock	380
Mary Jane De Kol, 3-yr., H. C. Holtby, Belmont, Ont.	435
Annie Netherland 3rd, 12-yr., Walter Botsford	170
Annie Calamity Albaretta, 2-yr., W. D. Lindsay, Hagersville, Ont.	225
Pietertje Heng, Belle, Monroe & Lawless	270
Heifer calf, W. W. George, Crompton, Ont.	125
Aaggie of Riverside 2nd, 7-yr., T. B. Escott	230
Korndyke Wayne De Kol, 6-yr., Monroe & Lawless	305
Mercedes Duchess, 2-yr., Wm. Gilbert	230
Starlight Canary Burke, 8-yr., F. Hamilton, St. Catharines, Ont.	310
Jenny Abbeckerk Pride, 1-yr., Laidlaw Bros.	185
Jossie Calamity De Kol, 4-yr., Wm. Gilbert	200
Trinton Canary Echo, 1-yr., (male), Arthur Cowan, Norwich, Ont.	175
Floss of Cairgorm, 4-yr., T. B. Escott, London	205
Elmdale Pontiac Lulu, 2-yr., W. W. George	200
Veeman Starlight, 2-yr., P. S. Moote, Dunnville, Ont.	245
Aaggie Pauline Veeman, 2-yr., J. Chalk	245
Johanna Korndyke De Kol, 3-yr., T. Adlington, Stafford, Ont.	190
Angelique, 5-yr., T. B. Escott	225
Aaggie of Cairgorm, 3-yr., T. B. Escott	235
Hillview Maid, 4-yr., T. B. Escott	250
Zellah, 3-yr., Geo. Kilgour	240
Average for 24 head	239

Consigned by Laidlaw Bros., Aylmer, Ont.:

Gano Canary Princess, 2-yr., T. B. Escott	\$250
Jean De Kol 2nd, 4-yr., T. B. Escott	305
Aaggie De Kol Witzzyde, 10-yr., Geo. J. Elliott, Corinth, Ont.	210
Ourvilla Boutsje De Kol, 1-yr., (male) Anton Heplich, Aylmer, Ont.	125
Ourvilla Aaggie Colantha, 2-yr., J. Moote, Canboro, Ont.	280
Homestead Pauline Abbeckerk, 3-yr., Geo. Kilgour	230
Average for six head	233

Consigned by R. J. Kelly, Tillsonburg, Ont.:

Matilde Clothilde, 8-yr., T. B. Escott	\$160
Primrose Dorliska Mercedes, 2-yr., T. B. Escott	145
Cornelia Banks, 7-yr., F. Hamilton, St. Catharines, Ont.	215
Rose Belle of Oxford, 4-yr., Monroe & Lawless	175
Average for four head	174

**Record Prices for Foxes on P. E. I.**

Prince Edward Island is now having winter in earnest. On the ninth of this month a heavy wind set in from the north and the thermometer began to fall. The wind continued to increase till the evening of the 10th, after which it gradually died out. On the following evening the temperature fell to 15 below, and on February 13th it was above zero. The winter steamers made regular trips till February 12th, when they were both frozen in. On the 13th they reported no open water in sight, and it is not likely they will reach port till the tides or the wind smashes up the ice. The roads are in excellent condition, and the farmers are getting their lumber to the mills and their year's supply of wood home. The members of the Banner Oat Club are delivering their grain. It is being graded and inspected and marketed under the name and guarantee of the Club. Preparations are now being made for the remainder of the Seed Fairs, the first of which was held at Murray River on the 25th, and for the horse show which will be held April 1st and 2nd. Black foxes still occupy the general attention. Last week companies were incorporated with a total capitalization of \$3,750,000. Options are now being sold at \$12,500 for September delivery, which is an advance of about \$3,000 over last year's price. F. R.

Many feeders experience more difficulty in keeping their stock up in flesh during the spring months than at any other season. Liberal feeding should be the rule from now until the grass is ready to pasture.

**More Regarding Rural Depopulation.**

Editor "The Farmer's Advocate":

I read an article in "The Farmer's Advocate" of Feb. 19 that gave me a great deal of pleasure. It must be a source of delight when one realizes that an Ontario boy still in his teens is devoting so much study to economic problems, particularly the problems that have to do with rural life. One swallow doesn't make a summer, I know, but this carefully prepared article surely indicates what is going on in a great many homes in the older Provinces of Canada. Abraham Lincoln said in his time: "If people will only think, they will in the main think right." Further, this article illustrates the good "The Farmer's Advocate" is doing in allowing the thoughtful young men of the country to express themselves on public questions.

The regrettable feature of the article is the declaration that "Fair Play" makes when he asserts that another year will not find him on the farm. No one would for the world stand between him and what he regards as his best interests. At the same time he will do well to think twice before he leaves behind him the most ancient as well as the most important of human industries. He is already familiar with the difficulties of farm life and knows some of the handicaps under which the farmer operates. In the very nature of the case he cannot know the difficulties and handicaps of the men engaged in mercantile or manufacturing or professional life. That there are limitations to these walks in life is shown by the fact that ninety-five per cent. of those engaged therein prove failures, while a miserable one per cent. is about all who succeed in a large way. While there are few farmers who make much money, they have a good living as they go along and have the prospect of peace and plenty in old age. Further, they are in a position to take a holiday whenever they feel like it, to sit down to three good meals per day and to lie down on a good bed when the day's work is done. Farming is a man's job every day in the year.

Of course, hours on some farms are long and the hours in some offices and places of business are short. But the man who is going to win must not be afraid of hard work. Plenty of business and professional men are toiling like slaves when the farmer is snug in bed. Office and business hours do not represent the hours of work put in by the men who are on the winning side. The highest tribute that an employer yields his employee is: "I'll work you." Only those who have worn the yoke know how strenuous times are in an office or concern that is making good.

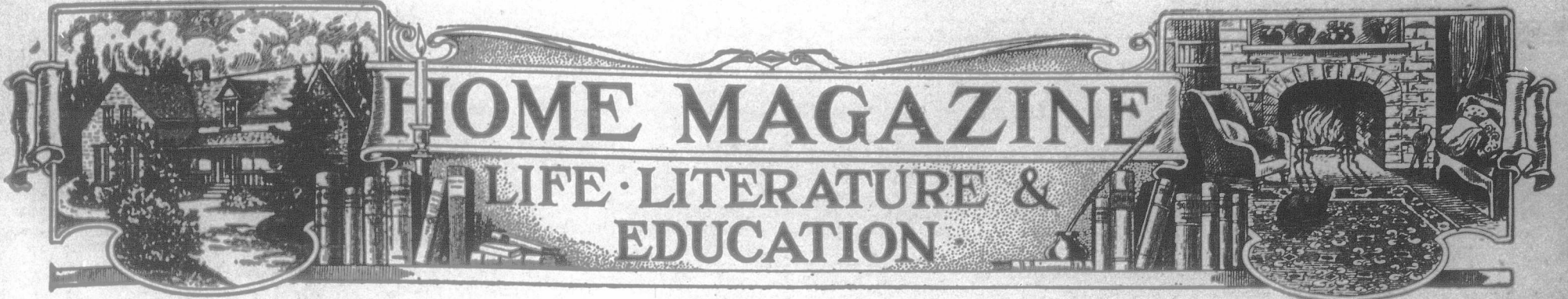
I quite agree with "Fair Play" that the farmer is not getting a square deal economically. But who is? If the farmer is getting the worst of it, whose fault is it? An astute politician once said: "We give the farmers nothing because they ask for nothing." The manufacturers are awake to their economic interests and allow no politics to stand between them and the lining of their pocketbooks. If the laws are not right, the farmers have the remedy in their own hands. If they fail to apply the remedy the fault of their not getting their due rests with themselves. It has been the hope of some of us who have striven as best we could for rural betterment that the day was near at hand when we should have rural leaders who would help the farmers of older Canada to effective corporate action. We looked for these leaders to come from the ranks of the young men, but if all young Canada is like "Fair Play," it seems that we have been looking in vain. Before "Fair Play" runs away from his job it would be interesting to know what he has done on the farm. Has he given dairying or poultry raising, or hog raising or horse breeding a fair chance? Has he taken a turn at market gardening? These are lines along which hundreds of young farmers are making good. The farmer does well to study big problems. But while he is doing this he must have his coat off and his eyes open to chances at his very door. W. D.

York Co., Ont.

The following notice has recently been sent out by the Veterinary Director General: An Order in Council has been passed providing that, after June 1st, 1914, horses, mules, asses, cattle, other ruminants and swine, imported from Great Britain, must be accompanied by an official certificate of the Board of Agriculture and Fisheries of Great Britain instead of the Local Authority, and animals imported from Ireland direct, or transhipped in Great Britain, by an official certificate of the Department of Agriculture and Technical Instruction for Ireland.







**A Canadian Winter Song.**

A simple song of this mighty belt which stretches from sea to sea,  
Her thousands of miles of river and lake, mountain, valley and sea,  
Her workers bold from every clime who gather her bounteous wealth  
With shovel and pick, or saw and axe, or trapper's cunning stealth.

Here's to the Frost King's iron grip, and his bride the Lady in White!  
What if his touch is a stinging burn, her caress a frozen bite!  
They light our swamps with diamonds bright.  
They build us sleigh tracks fine.  
O'er mead and river, lake and stream, and "bush roads" through the pine.

We can laugh at the sting of their frozen kiss, and their mate the nor'east wind,  
As he roars and tears, and fumes and swears, at the wrack that he leaves behind;  
For we fill the shed with "maple hard," the barrel with flour and meat,  
And the cellar with "berries," "roots" and "spuds," the Frozen Earl to greet.)

And here's a health to the Lumberjack as he drives his keen-edged blade  
To the heart of the maple, beech and pine in the depth of the forest glade;  
They groan and creak, then totter and fall, with a crash to his terrible blow,  
Then he trims the branches and rolls their trunks to the brink of the creek below.

And hurrah for the bonny "bob-sleigh" team, as they draw the mighty load,  
Steadily, strong, forging along—o'er the dead-white, iron-bound road,  
The blood which drives each gallant heart is Clydesdale good and true  
Throughout—from the top of each pricking ear to the tip of each iron shoe.

And hurrah for the flying "cutter drive" to the "visit" long deferred  
To the mellow chime of golden bells, as we skim the track like a bird,  
Though we greet our friends with frozen hands and faces pinched and blue,  
Do we care a jot? "Well, I just guess not," with that lovely stove in view.

RUPERT MAR.

**Pioneer Days Along the Bay of Chaleur.**

By Mary MacKenzie.

Is Canada growing? Is she prosperous? Wherein does her promise of future greatness consist? are questions heard on all sides. In order to give an answer let us glance back to the time when our forefathers lived, and make a few comparisons, taking into consideration just a very small portion of the Province of Quebec, namely that part along the Bay de Chaleur, and see what changes have been wrought within the last century.

The whole country a little over one hundred years ago was practically a forest, the only inhabitants scattered here and there being Indians who lived in wigwams and made a living by hunting and fishing. The first settler in a place, now called Fleurant, was a French-Canadian of the same name. Then people came from Scotland, Ireland and England, on sailing vessels which made several trips during

the year, and landed at Dalhousie in the Province of New Brunswick. They, no doubt, heard of Canada as a country where land could be procured very cheap and where they would not merely be tenants but possessors, free to do as they pleased with no lord to over-rule and say, "You shall cultivate this field and you shall not sow grain in this one until next year." They did not seem to take wholly into consideration that there were disadvantages in Canada as well as in their own and every country. Some were disappointed at not finding beautiful fields, and necessary implements to work with. However, they were not easily discouraged because of the situation, and were keen enough to see that in time they could have plenty to eat and wear if they cared to work, and, Scotch-like, they put their hands to the axe and hoe, with no intention of turning back.

The very first thing they had to do was to build a roof over their heads, and as there was no possible way of getting timber sawed, they were simply compelled to build a house of logs and fill the seams with sea-weed or clay. Stoves in that part of the country were unheard of in those days. But stones were plentiful along the shores, and with these they made large fire-places, in which a fire was kept burning night and day during the cold winter months with very little trouble. A huge back-log was first put on, a smaller on top of the dog-irons near the edge of the hearth-stone, and in the centre blocks were piled one on top of the other. A few brought the necessary accessories for cooking from their native land, such as the cranes and hooks on which the pots were hung.

The land along the Bay de Chaleur for twenty-one miles was called Shoolbred after a man who came from England several centuries ago and claimed it by English consent. After this he sold the land to people by the name of Stewart, but for some reason the government had claim, so that it could not be sold at the time, only rented, but later on arrangements were made so that the early settlers had the privilege of buying all the land they wanted. The portion rented was called Seignior land, and as money was scarce a fat sheep or cow was taken to pay the seigneur his dues.

They began at once to clear land in order to raise grain and potatoes. But this was no easy task for they did not have modern implements to work with. In fact all that some of them possessed along that line was an axe and hoe. Farming was not their only occupation; they could weave, spin and knit, there were boat and ship-builders among them, so that they owned boats, herring, and trout nets which they made with their own hands. They used every available means to make a living, and it might well be said that there were few things they could not do. When clearing land the large birch logs were not all burned on the pile, or in the fire-places; but the best were carefully hewed on four sides for ship-building purposes. There were no lumber camps at that time, for each man could cut timbers right near his own door.

No doubt at times they longed to get a glimpse of their native land, especially as they trudged homeward when the day's work was over, and it is said of one dear old patriot that he wept when he saw the Scotch thistle for the first time on this side of the water, little dreaming that the next generation would weep because of the large numbers they would have to pull out.

We may be inclined to think, sometimes that such a life must have been very monotonous, that they merely existed and did not live in the right sense

of the word, but they lived just as much as we do to-day, although in primitive style. The children played together around the door, in winter they coasted down the hills and banks on toboggans made from two barrel staves nailed together with cross-pieces, and in summer enjoyed themselves, boating, swimming, and playing games. In the long winter evenings they sat around the hearth-fires and listened to grandfather or grandmother tell wonderful tales of sea and land, recite poems written by the great poets, or their curiosity was aroused by conundrums and riddles. As the twilight shadows deepened into night the good old book was taken from the shelf, and after the singing of a hymn a chapter was read, then all knelt in prayer. Perhaps an extract from "The Cotter's Saturday Night," will better describe the scene,

"He wales a portion with judicious care,  
And 'let us worship God,' he says,  
with solemn air.  
Then kneeling down to Heaven's Eternal King,  
The saint, the father and the husband prays:  
Hope springs exulting on triumphant wing,  
That thus they all shall meet in future days."

The first Presbyterian minister was Mr. Stephens; his parish extended about twenty-five miles on the Quebec side of the Bay and from Campbellton to Dalhousie in New Brunswick. There being no roads he had to travel from place to place in winter, where services were held, on snowshoes. But in summer if was less of a hardship. When it was possible for him to do so he went in a boat, but very often had to travel on the shore when the tide was low. The first religious service conducted by a minister is said to have been held in Anderson's house in Escuminac, as it was larger and more commodious than the other homes. Mr. Stephens always opened the service by reading the one hundred and third Psalm. The people from far and near attended, for to hear the Gospel expounded was something of a rarity, preaching was not to be heard every day in the newly settled country. Mr. MacMaster, a contemporary Scotch minister, who spoke Gaelic and had a charge at New Mills where many Gaelic people were settled, came up to Pt. a la Nim once in a while and held two services during the day, one in Gaelic the other in English for the benefit of remote settlers, and it is said the people living on the Quebec side of the river took advantage of the opportunity to attend, especially those whose native tongue was Gaelic.

The first Sabbath school also was held in "Anderson's big house," as it was called. The children were always given a lesson in advance to study, including two or six verses from a Psalm or Paraphrase. The Westminster Catechism, of course, was not omitted. Old and young alike attended, and it was customary for different members to take their turn reading a sermon when the lesson was over.

The name of the first schoolmaster in Fleurant was Mr. Hamilton, who taught in Mr. Grey's house for some time. The first school was built about sixty-five years ago and still stands. When it was ready for occupancy, a college-bred Englishman came over in a sailing vessel to see America, but when returning the ship was wrecked not very far from land, consequently those on board were compelled to remain in this country until the next summer, when they expected another vessel to arrive from Scotland. Mr. Francis was asked to teach during the winter and consented,

much to the delight of those who looked upon education as something of great value. The next spring his comrades called one day while he was teaching in the school, and after looking around they said laughingly, "Well, Charles, you are now in a wooden country, with wooden doors and wooden hinges." However, as time went by, the wooden hinges disappeared, and something more modern was substituted.

In Escuminac the children were taught in the homes, Mr. Campbell being the first teacher. He as well as others boarded at the different homes, maybe two weeks in one, and a month in another, but the longest time was spent in the home where dwelt the larger number of children.

Wild animals, especially bears, were plentiful, and a story is told of a housewife who hung a string of fish on the outside of the building. While she was busily engaged inside, a large bear came seized the fish and carried them to a hill near by where it proceeded to eat the stolen food. An effort was made to recover the property, but the bear, conscious of danger, seized the remainder and in a short time disappeared in the thick forest. After that food was put in a more secluded place.

All the wearing apparel was home-made, even the shoes were made by hand. Home-spuns of light and heavy weight were worn summer and winter. If the family was large the weaving, spinning and knitting, was no small task.

In those days there were no lamps; many could not afford to burn candles but had to use pitch pine. This was always available and consisted of a piece of wood taken from an old pine tree; one end was cut in long splints, the other placed in a pitcher and when ignited burned very brightly. Others used a cruse when they had seal oil to burn.

After a number of years, when in a position to build better houses, the settlers constructed kilns and gathered lime stones to burn lime. Two of the kilns are still to be seen, and at the same time, about sixty years ago, the first Presbyterian church was built, and still stands in the centre of the cemetery. Later mills of different kinds were constructed, railroads built, and industries established. As far as it was in their power to do so our forefathers endeavored to advance, and the rising generations have been and are conscious of the fact, that from such scenes as have been described has Canada's greatness grown and will continue to grow as the years go by. The poet Robert Burns realized the worth of honest toil when he wrote the lines:

"From scenes like these old Scotia's grandeur springs  
That makes her loved at home, revered abroad;  
Princes and lords are but the breath of kings  
An honest man's the noblest work of God!"

**Little Trips Among the Eminent.**

LA SALLE.—(Continued.)

Having satisfied himself with exploring the Colbert (Mississippi) and taking possession of all the vast country drained by it in the name of Louis XIV., of France, La Salle now determined to carry out his scheme to found on the banks of the Illinois a colony of French to serve the double purpose of being a bulwark against the Iroquois and a place of storage for the furs of the western tribes. For the protection of this colony, too, he must consolidate the

league of all the surrounding tribes against the Iroquois.

The plan seemed reasonable enough, and in December, 1682, he saw the beginning in a fort which he had erected on "Starved Rock" (the spot is still pointed out) and called Fort St. Louis. The place was near the site of the unfortunate Ft. Crevecoeur, which, it will be remembered, had once had as neighbor the great town of the Illinois, deserted because of the menace of the Iroquois. To this spot the Illinois now returned, about 6,000 in all, forming, with other tribes in the vicinity, a population of about 20,000.

But La Salle had lost a good friend at court. Count Frontenac, through the intrigues of the party adverse to the explorer, had been recalled to France, and M. de la Barre, a man especially jealous of La Salle and his monopolies, installed in his place.

Henceforth everything went wrong. La Salle's messengers sent for help were detained, the Iroquois encroached and no help was sent. "Do not suffer my men who have come down to the settlements to be longer prevented from returning," he wrote to La Barre. "There is great need here of reinforcements. The Iroquois, as I have said, have lately entered the country and a great terror prevails. I have postponed going to Michillimackinac because if the Iroquois strike any blow in my absence the Miamis will think that I am in league with them; whereas, if I and the French stay among them they will regard us as protectors. But, Monsieur, it is in vain that we risk our lives here and that I exhaust my means in order to fulfil the intentions of his Majesty, if all my measures are crossed in the settlements below. . . . I have only 20 men, with scarcely 100 pounds of powder."—But instead of being touched by the pleading La Barre only wrote against La Salle to France. His next move was to send up two men, armed by an order from the Government, to seize Ft. Frontenac. In the meantime the Iroquois were drawing nearer to Fort St. Louis, and, leaving Tonti in charge, La Salle undertook the not less hazardous risk of a journey to Quebec to beg for aid. On the way he met an officer who was on his way to the Illinois to take possession of the fort, but La Salle knew nothing of this, and eventually was compelled to sail for France to plead his cause.

Was ever courage more indomitable than that of this man? So far almost everything, with the exception of his reaching the mouth of the Mississippi, had gone wrong. Prospects were no better now than in 1680 when, in the autumn, he had written: "I have had many misfortunes in the last two years. In the autumn of '78 I lost a vessel by the fault of the pilot; in the next summer the deserters I told you about robbed me of eight or 10,000 livres' worth of goods. In the autumn of '79 I lost a vessel worth more than 10,000 crowns; in the next spring five or six rascals stole the value of five or 6,000 livres in goods and beaver skins at the Illinois when I was absent. Two other men of mine, carrying furs worth four or 5,000 livres, were killed or drowned in the St. Lawrence, and the furs were lost. Another robbed me of 8,000 livres in beaver skins stored at Michillimackinac. This last spring I lost 1,700 livres worth of goods by the upsetting of a canoe. Last winter the fort and buildings at Niagara were burned by the fault of the commander, and, in the spring, the deserters, who passed that way, seized a part of the property that remained and escaped to New York. All this does not discourage me in the least, and will only defer for a year or two the returns of the profit which you ask for this year. These losses are no more my fault than the loss of the ships at St. Joseph was yours. I cannot be everywhere, and cannot help making use of the people of the country." He is, nevertheless, "utterly tired of this business," and will retire after he has put matters in good trim for trade. He even contemplated marrying, we are told, but his brothers and others who considered it to their interest that he should not, put obstacles in his way.

Since the above letter was written, more than two years had passed, and

yet the great western fur-trade upon which he had depended had not materialized, nor was he able better than before to pay dividends to those who were clamoring for returns and calling him mad.

What gall and wormwood to his proud and sensitive spirit! What a terrible ordeal to face these clamorers, when his shy and solitary disposition made even ordinary intercourse with men a trial! Yet he sets off, reserved and anxious yet unflinching, to see if any disposition of the meshes of the deadly web can be made.

#### LA SALLE'S LAST PROJECT.

The tremendousness of the plan which La Salle unfolded to the king and his ministers gives some color to the estimate of him by some historians as a hopeless visionary, but where yet in the world has real progress been made but by the men of vision? His fault was that he was ready to essay more than mortal man in one lifetime could do, ready to consider the task of the future easy, however difficult that of the past had been.

His first proposal, and one not lacking in perspicacity, was that a point be fortified about 60 miles from the mouth of the Mississippi, far enough inland to be in touch with the Indians, far enough from the Gulf of Mexico to be comparatively safe from attack by the Spaniards. "A colony can easily be founded there," he writes to the Marquis de Seignelay, "a port or two would make us masters of the whole continent."

For the carrying out of the initial steps, his demands were modest enough. He asked for two hundred men; fifty more, he said, would join him in the country and four thousand warriors from St. Louis. He pointed out the richness of the mines of the new continent as well as of its fur trade; he pointed out the fertility of the soil and the possibility that all the Indians might become good French subjects and supply troops for all enterprises. He requested finally a vessel of about 30 guns, provisions for six months, and payment of the men for a year. The men, he made clear—and here again comes to the top La Salle's streak of the practical—should be mostly tradesmen, for "it would be the ruin of the settlement to commence it with such idlers as most soldiers are." . . . Finally "there never," he points out, "was an enterprise of such great importance proposed at so little risk and expense." . . . Again comes the visionary. He binds himself to "have this enterprise ripe for success within one year."

As a recommendation of himself he writes (in the third person), "He has made five voyages under extraordinary hardships, extending over more than 5,000 leagues, most commonly on foot, through snow and water, almost without rest, during five years. He has traversed more than 600 leagues of unknown country among many barbarous and cannibal nations against whom he was obliged to fight almost daily, although he was accompanied by only 36 men."

Better than his anticipations was the response. Immediately the King wrote to La Barre to restore to La Salle Fort Frontenac. Moreover he gave order that not one vessel but four be given to the valiant explorer for his projected trip to the Gulf of Mexico.

In high hope La Salle began to collect his men, and the result was a company of 100 soldiers besides laborers and mechanics, 30 volunteers, several families and a number of girls and missionaries, among the latter being La Salle's brother Jean Caveller.

Difficulties, however, almost immediately presented themselves, and not the least, perhaps, was due to La Salle's own unfortunate disability to mingle easily and naturally with men. He had asked for the sole command of the principal vessel, the "Joly," a ship of the royal navy carrying five guns. The ministers, however, deeming him a landsman, gave the command to one Beaujeu, until land should be reached, and from the beginning there was friction—at times collision—between the two.

It had been decided to sail directly to the West Indies then on to the Mississippi, but misfortune seemed to float on black wings above the expedition

from the beginning. When the "Joly" reached St. Domingo there were fifty sick men on board, and La Salle was one of the number. In the meantime a second vessel, the "St. Francis," lagging behind, had been seized by Spanish buccaniers, while, to make matters more difficult, at Petit Goave La Salle became so much worse that he was taken to a house and there was a long delay. Delay is never good for men kept idle because of it, and while La Salle lay tossing with fever his sailors in a tavern next door were roistering so noisily that his malady was aggravated. No dissipation seems to have been too bad for the riotous company, picked up, for the most part, at random, and not of the better class, and so they abused themselves and contracted loathsome diseases, and many deserted.

#### THE VOYAGE THROUGH THE GULF.

On the 25th of November (1684) La Salle had recovered so that the expedition could leave Petit Goave, and the three vessels sped forth upon the Gulf of Mexico without a pilot on board who knew it.

As a consequence the mouth of the river was missed and a marshy inlet (probably Galveston or Matagorda Bay) 400 miles to the westward mistaken for it. It was decided to land, at least, and verify the place, but again misfortune swooped. Almost immediately the "Aimable," the store ship, grounded on a reef, and was slowly battered to pieces. Some of the provisions were landed and there, among casks and barrels, the most of the company sick with nausea and dysentery and some on the point of death, the first wretched landing was made. "Along the shore," we are told, "were quantities of uprooted trees and rotten logs thrown up by the sea and the lagoon. Of these and fragments of the wreck they made a sort of rampart to protect their camp; and here among tents and hovels, bales, boxes, casks, spars, dismantled cannon and pens for fowl and swine, were gathered the dejected men and homesick women who were to seize New Biscay and hold for France a region large as half Europe."

(To be continued.)

#### Of the Heroes.

It does not follow because the daily papers print ten stories of rascality to one of self-sacrifice that such is the ratio in fact. The facts would rather count the other way, ten of virtue to one of vice, if statistics were kept by a census bureau of ethics, but it is only some sensational case of goodness that demands headlines. Crime has to be punished publicly, while goodness calls for no awards by the courts.

The other day a Columbia University student offered and gave a pint of his blood for a sick girl with whom he was no more than acquainted. It got into the papers. It was a noble act. But several others who knew the need made the offer, and a hundred others could have been quickly found to do the same. It was fine, but such generosity is by no means unique; what healthy man would not do as much?

A more sensational case was reported the past week. When William Carr, engineer, was running an express train of seven coaches at fifty miles an hour, the steamchest exploded, and he was instantly blinded by the outrush of scalding steam and boiling water. Did he fall or think of himself? No; he stuck to his post of duty, threw on the emergency brakes, saved the passengers, and when the train was stopped and the passengers hastened to see what was the matter, they found him unconscious and dying. He had done his instant duty; a thousand other engineers would have done the same, nothing less.

He had done his duty—that was all. But that ALL is everything, everything that is worth while for life or death, everything that man honors and God blesses. William Carr, hero, will stand the pattern for the thousands of other potential and willing heroes.—The Independent.

## Hope's Quiet Hour.

### Learning to Fly.

As an eagle stirreth up her nest, uttereth over her young, spreadeth abroad her wings, taketh them, beareth them on her wings: So the LORD alone did lead him.—Deut. xxxii: 11.

They shall mount up with wings as eagles.—Isa. xl: 31.

"For the men of small endeavor let the bed be made of wool, Let flesh and mind and spirit have no traffic with the Night; For such the bed is pleasant, and the fragrant pillow cool, And they hear not in the heavens the trampling steeds of Light.

"For the men of high endeavor the bed is built of fire; They cannot sleep for anguish, so strong their spirit yearns To climb God's topmost stairway in the heat of their desire, And gather from the Tree of Night God's highest star that burns.

"Which were better when the Night ends and there breaks the awful Dawn, To have dreamed in fruitless slumber, to have lain supine and gross, Or to have known the flame-wound, wherefrom the balm is drawn That heals a multitude of men?—The Palace or the Cross?" —From "The Book of Courage."

In our text, God is said to lead His people as an eagle teaches her fledglings to fly. When their wings are strong enough to carry them, she will not allow them to rest quietly in the comfort and safety of the nest, but pushes them over the edge in spite of their terrified cries. She cares too much for their future to leave them in the peace of inaction—though her kindness may seem cruel to their shortsighted wisdom. Whether the parable is founded on fact or not, it is a wonderful picture of God's way of strengthening His dear children. We settle down in comfortable ease, unwilling to venture into the unknown, content to leave our possible powers of flying untried. "This life is so short," we say, "why shouldn't we have a pleasant and easy time while we may?" But God says: "This life is short, but it is the seed-grain of the after life, and too precious to be wasted." We don't really want "to sleep away the few short hours till morning"; but—even if we should be so wanting in high ambition—our Father's love insists that we shall use our wings or fall. Perhaps a fall may rouse us to exert ourselves.

An old writer says, in commenting on this text: "To provoke its young ones to fly, the eagle flutters over them and takes them on its wings, and if they attempt not to fly, it beats them with its bill, and gives them no food." This is not so much the pain of correction as the touch of a spur, intended to drive onward one inclined to loiter on a dangerous road.

This life is so short and so brimful of opportunity that we cannot afford to waste the years in seeking selfish comfort and pleasure. It is a race, and the runners who are eager to win the prize—the glorious reward of their Master's glad "Well done, thou good and faithful servant"—must not complain if He removes hindrances out of their way.

Good gifts—such as health, wealth, leisure, popularity, etc.—may be as heavy weights to clog a man's progress Godward. It is not easy to let them go, cheerfully—in fact, it often tests a man's courage and endurance almost to breaking point—but trust in the Father's love makes heavy trials bearable. It is a proof of love when troubles come, just as certainly as when the sun of prosperity shines. It is a chance to be a hero, and to grow stronger and nobler through quiet, unassuming acceptance of God's appointment.

"Disappointment—His appointment"—Change one letter, then I see That the thwarting of my purpose Is God's better choice for me. His appointment must be blessing, Though it may come in disguise, For the end from the beginning Open to His vision lies."

(Continued on page 386.)



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**CHILD'S ROMPERS 29c**



**74-X12.** Children's Rompers to go at a rush price. Your choice of three styles, White Linette, and Pink and White Checked Gingham, in the bloomer style, and one lot in Checked Gingham with loose knee. All sizes to fit 1 to 4 years, and all grand wearing qualities. Share in the big saving, and don't forget to state age and style wanted in your order. Almost half-price at... **29c**

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**55-584.** A most timely bargain on account of its present usefulness, and the comfort and protection it affords for the little one, is this Three-piece Outfit of Curl Mohair Bearcloth, lined throughout with twill sateen. The coat is in warm double-breasted style, with deep circular collar; the muff has satin cord guard finishing with fancy ends and tassels, while the bonnet is secured with satin ribbon ties. Made in sizes for 2 to 5 years, in lengths 22, 24, or 26 inches. Choice of Cardinal, Navy, or Brown. (Give second choice, as quantity is limited.) Offered at half the regular **1.95** value. Each

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**56-574.** Marked at less than half price - makes a wonderful bargain of this splendid Winter Coat of heavy All-wool Coating Mixtures, in misses' and small women's sizes, 45 inches long. The collar and cuffs are of black like-fur curl fabric, while the warm, comfortable style in which it is designed, with the smart "cut-away" corners, makes it an ideal coat for present use. Made in bust sizes 32, 34, or 36, suitable for misses of 14, 16, or 18 years, or small sized women. Choice of Grey, Navy, or Brown. (Give second choice, as quantity is limited.) While they last, at less than half price. Each **2.95**

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### Why Stars Twinkle.

The twinkling of the stars is chiefly an effect produced in our atmosphere upon the waves of light. It is due to currents and strata of air of different densities intermingling and floating past each other, through which the light passes to the eye.

It is seen much more in warm weather, and near the horizon more than overhead. The same effect may be seen by looking out of a window over a hot radiator, or at a candle held on the

other side of a hot stove, so that one must look through a body of high-heated air at the candle flame. The flame will be seen to waver and quiver. The various layers of air are at different densities, and in motion. Rapid twinkling of the stars is a sign of a change of weather.

Our present industrial organization is responsible for selfishness, suspicion, and hatred, and consequently inefficiency, with its resultant sequel of poverty and discontent.—Earl Grey.

A man and his wife were once staying at a hotel, when in the night they were aroused by the cry that the hotel was afire.

"Now, my dear," said the husband, "I will put into practice what I have preached. Put on all your indispensable apparel, and keep cool."

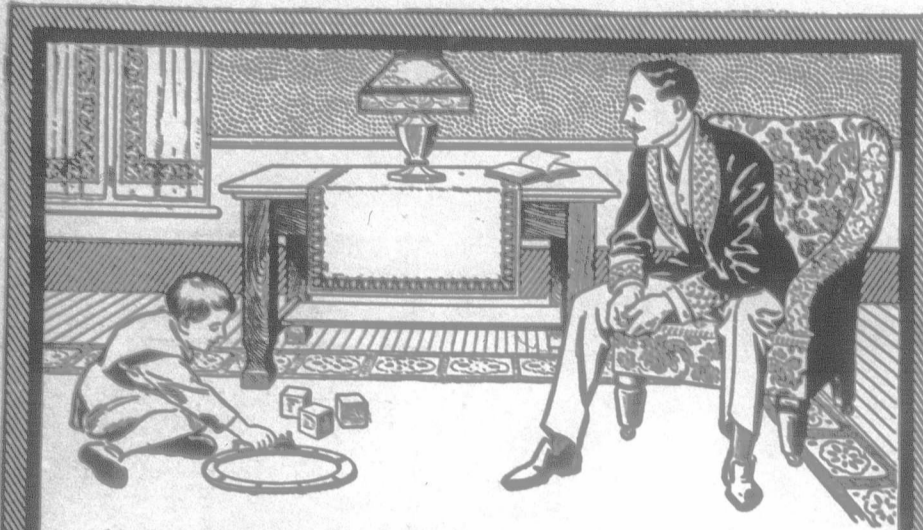
Then he slipped his watch into his vest pocket and walked with his wife out of the hotel. When the danger was past, he said, "Now, you see how necessary it was to keep cool."

The wife for the first time glanced at her husband.

"Yes, William," she said, "it is a grand thing, but if I were you, I would have put on my trousers."

The Washington Star reports the following conversation between two political lights: "Let me write the songs of a nation," said the ready-made philosopher, "and I care not who makes the laws."

"I won't go so far as that," replied Senator Sorghum; "but let me write the amendments, and I care not who draws up the Bills."



### A Father's Soliloquy--No. 1 The Boy's Future

"His future prosperity will demand more knowledge than I had the opportunity of acquiring in my youth.

Competition in his day will be much keener than it is right now, and goodness knows it's keen enough.

I have felt the need of a university training, again and again. His success in life will demand it.

How best insure his future?

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### Hope's Quiet Hour.

Continued from page 384.

It is so easy to preach "Trust," and so hard to live it, soaring above the troubles of earth on the wings of Faith. Two days ago I was introduced to a young Englishman who told me, calmly enough, that the doctors gave no hope of his recovery. A death of lingering pain was awaiting for him, and he made no complaint, but accepted the situation with the quiet courage of a brave man. I began to speak of the richer, fuller life of grand opportunity which awaited him on the other side of death. Then the tears gathered in his eyes as he explained that his wife had to go out to work for the support of their young children. There is a harder thing than trusting one's own future in God's hands, and that is trusting Him for those who are dearer than self. When God sees that one of His sons is spiritually strong, He sometimes forces him to use the wings of faith, leaving him with no other support. Faith grows strong through daily use, and it is a priceless possession when won. This school of earth would be a poor "university of character" if all difficulty and pain "were swept away, and all were satiate-smooth." When life is very easy and comfortable, we are not forced to exercise the wings of faith, and the pleasures of this world distract us from higher ambition. "What we win and hold is through some strife."

When David Garrick showed Dr. Johnson his fine house and the treasures he had collected, the Doctor said: "Ah, Davy, this is the kind of thing which makes dying hard work."

We all must die, and the battle may be a fierce one. We all want to pass through the ordeal bravely, preferring the title of "hero" to that of "coward." Shall we act like the Israelites, who complained bitterly when their deliverer hoped they would prefer hardships to shameful slavery? Do we want to be slaves to comfort and worldly pleasure, or bound by the heavy chain of covetousness like "Marley's ghost"?

When earthly possessions are taken away, the spirit of a brave man is not crushed. He can rise above misfortune, knowing that faith, hope and love are far more priceless treasures than he has lost. When Jeremy Taylor was robbed of position and estates, he said serenely: "They have left me the sun and moon. They have not taken away my merry countenance, and my cheerful spirit, and a good conscience." The cross only lifted him nearer to God, so poverty was changed to lasting prosperity. One who is really seeking "first" closer fellowship with God will not forget to thank Him for past troubles which have lifted his soul higher. Can we not be grateful, even in the midst of trouble, trusting the Love which will not leave us to settle down in inglorious peace? When we sink instead of flying, growing depressed in the weakness of cowardice, instead of facing trouble cheerfully and uncomplainingly, crying out faithfully: "Depart from me, O Lord, and let me rest!" He does not give up the discipline which we need.

"He will not leave thee, He will not depart,  
Nor loose thee, nor forget thee; but will clasp  
Thee closer in the thrilling of His arms,  
No prayer of ours shall ease before their time."

When the Israelites were apparently caught in a trap, with the sea in front and their fierce foes behind, God's stirring message to their leader was: "Wherefore criest thou unto Me? speak unto the children of Israel that they go forward."

It is a weakening thing to complain—even to constantly tell out our troubles to God. Each difficulty and trouble comes with a message from Him: "Go forward!" Are we no stronger in spirit as a result of wholesome discipline? Has He taken trouble with us to no purpose?

Garibaldi promised his soldiers "marches, wounds, hunger, death—and Victory." Their answer was: "We are your men." Christ told His followers that they must suffer many things for His sake—even death itself (S. John xvi: 2)—and a mighty army of undaunt-

ed Christians accepted the situation, knowing that Victory was the prize. They were ready, with St. Paul, not to be bound only, but also to die for the Name of their loved Master. Their Leader endured scorn and agony—could they make it their chief aim to secure an easy place in life's battle?

"Yea, through the Shadow of an Agony  
Cometh Redemption—if we may but pass  
In the same footprints where our Master went,

With Him beside us; and for me, I fear  
No evil, since He has not failed me yet,  
Nor will, for ever."

DORA FARNCOMB

### Gifts From Our Readers.

Again I have had the pleasure of acting as your steward. One of our readers sent three dollars "for the needy," and another asked me to "pass on" a dollar "to the poor working girl who has just gone through an operation." I have gladly fulfilled her request. The father of my young friend is out of work at present, so she started work again less than a fortnight after leaving the hospital, when she was still far from strong.

HOPE

### The Ingle Nook.

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

### A Remarkable Similarity.

Dear Ingle Nook Friends,—I have just been wondering if any of you have been reading during the last few weeks, as I have, Mrs. Macy's (Miss Sullivan's) letters about Helen Keller, and then any of the books about the Montessori method. If so, I am sure you must have been struck by the similarity of the conclusions reached in regard to teaching by these two very thoughtful and far-seeing women.

Dr. Montessori, you will remember, uses some of the kindergarten materials, though in a different way, and discards many of them in favor of others which lead more directly to development of thought through the child's own efforts. Dr. Montessori, too, bases her system on the conclusion that the child is naturally religious, and naturally anxious to learn, and that, therefore, he should be permitted to learn naturally rather than through forced and artificial lines, that he will make more rapid progress and with less strain by this method, and that the teacher should be, therefore, a suggestor rather than a commander. Such a system, she holds, will enable the child to develop, almost spontaneously, his OWN personality, the precious possession that God has given him.

Now, hear Mrs. Macy:—"No," she says, after a few weeks' work with the seven-years-old Helen, "I don't want any more kindergarten materials,—I used my little stock of beads, cards and straws at first because I didn't know what else to do; but the need for them is past, for the present at any rate. I am beginning to suspect all elaborate and special systems of education. They seem to me to be built up on the supposition that every child is a kind of idiot who must be taught to think, whereas if the child is left to himself he will think more and better, if less slowly. Let him go and come freely, let him touch real things, and combine his impressions for himself, instead of sitting indoors at a little round table, while a sweet-voiced teacher suggests that he build a stone wall with his wooden blocks, or make a rainbow out of strips of colored paper. . . . Such teaching fills the mind with artificial associations that must be got rid of before the child can develop independent ideas out of actual experiences." (From one of Miss Sullivan's letters to Mrs. Sophia Hopkins, Matron of the Perkins Institute for the Blind, Boston, added as a supplement to Helen Keller's "Story of My Life.")

Of course, it is only fair to state that

When Writing Advertisers Please Mention "The Advocate."

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FARNCOMB.

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Nook.

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kindergarten materials have vastly improved since Helen Keller was a child. Only the other day I saw some puzzle pictures to be put together, and boxes of colored geometrical forms from which to make patterns to draw, both of which could not but help to develop the child's powers of comparison, color-sense, and manual dexterity.

"Since I have abandoned the idea of regular lessons," Miss Sullivan says in another letter, "I find that Helen learns much faster. I am convinced that the time spent by the teacher in digging out of the child what she has put in him, for the sake of satisfying herself that it has taken root, is so much time thrown away. It's much better, I think, to assume that the child is doing his part, and that the seed you have sown will bear fruit in due time."—Dr. Montessori's idea, you see, of allowing the child to keep as busy as he will, but of never hurrying nor driving him.

Of course, again, it must be recognized that the teacher in the ungraded school must follow system. If she did not, she would never get through with her work. But is there not suggestion here for the "Montessori mother"?—Perhaps even for the teacher in her disposal of the time devoted to what every teacher knows as "busy work"? It goes without saying, that every teacher in an ungraded school is heavily handicapped so far as being able to give individual attention is concerned, although it must also be recognized that she is somewhat spared the danger of "spoon-feeding," which lies in wait for the unwary teacher in the graded school. Perhaps, however, the sweet day will come—but not until it is known that the right education of the child is the greatest thing in the world—when all rural districts will have consolidated schools, and all teachers will be so wise that they will never yield to the temptation to spoon-feed.

.....

You will remember, also, that Dr. Montessori warns people not to be afraid of precocity. The child's play is serious work to him, she says, he may as well play to some purpose, and if he advances very rapidly there is no need for uneasiness; let the concern of his guardians be directed, rather, to seeing that he is kept healthy by healthful surroundings, good food, plenty of sleep, and enough exercise—although he is likely to get enough of this in his play. . . . Miss Sullivan reached practically the same conclusion in regard to Helen Keller, who was, at the time of her letter, suffering from a long period of hot weather. "The doctor says her mind is too active," she wrote, "but how are we to keep her from thinking? She begins to spell the minute she wakes up in the morning, and continues all day long." . . . And again, "They tell us that Helen is 'overdoing,' that her mind is too active (these very people thought she had no mind at all a few months ago!), and suggest many absurd and impossible remedies. But so far nobody seems to have thought of chloroforming her, which is, I think, the only effective way of stopping the natural exercise of her faculties. It's queer how ready people always are with advice in any real or imaginary emergency, and no matter how many times experience has shown them to be wrong, they continue to set forth their opinions, as if they had received them from the Almighty!" . . . Once more, "She has a perfect mania for counting. She has counted everything in the house, and is now busy counting the words in her primer (raised-letter). I hope it will not occur to her to count the hairs of her head. If she could see and hear, I suppose she would get rid of her superfluous energy in ways which would not, perhaps, tax her brain so much, although I suspect that the ordinary child TAKES HIS PLAY PRETTY SERIOUSLY."

.....

Dr. Montessori recognizes that the child learns tremendously through the satisfaction of his inquisitiveness. "I remember how unbearable I used to find the inquisitiveness of my friends' children," says Miss Sullivan, "but I know now that these questions indicated the child's growing interest in the cause of things. The 'Why?' is the door through which he enters the world of reason and reflection. . . . "I have made it a practice to answer Helen's questions to the best of my ability in a way intelligible to her"—

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It makes great big bulging loaves of the lightest, whitest and most wholesome bread. I want folks to know what a splendid flour "Cream of the West" is. That is why I have induced the Campbell Flour Mills Company to make special prices direct to the farmers.



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And in addition there is a big medical department in this wonderful book that should be in every home. It tells in simple language how to deal with almost every common malady. You must get this book—read how simple it is to get it free.

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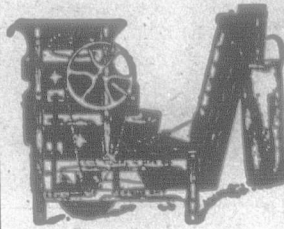
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Thorough preparation of the soil; good seed, and careful seeding pay big dividends on whatever the additional expense may be.

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TO BE SOLD ON  
March 17th and 18th, 1914

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**52 HORSES.**—One Imported Clydesdale Stallion, four years old, Barkinam (Imp.) = (14605) = (16469). 6 matched teams imported and home bred. 4 mares in foal, two 2-year-olds and two colts. 15 Hackneys Imp. and home bred. Imp. Hackney Stallion, Warwick Albert, Imp. (14553). 1 extra fine carriage team, four years old, thoroughly broke, single or double, four 3-year-olds, broken to harness and saddle, two 2-year-olds and two colts, three mares in foal.

**HARNESS.**—6 set heavy team harness, 1 set carriage harness, 3 set single harness. English riding saddle, blankets, robes, carriage sleighs, cutter and a full line of farm implements.

The following to be sold on March 18th.

**60 HEAD OF CATTLE.**—Shorthorn and Shorthorn grades. Stock Bull, Robin = 79431 =, 20 cows, some fresh and giving a good flow of milk, some with calves by their side, others in calf, balance ranging in age from one month to twenty months old.

**TERMS OF SALE.**—All sums of \$10 and under cash, over that amount eight months' credit will be given on furnishing approved joint notes, or discount of 5% per annum off for cash on all sums entitled to credit.

Oak Park Farm is situated between Brantford and Paris, and can be reached by the Grand Valley car from either town, which runs every hour by the farm. Sale starts at 10 o'clock. Lunch at noon.

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then, very wisely—"Of course, I don't try to explain everything. If I did, there would be no opportunity for the play of fancy. Too much explanation directs the child's attention to words and sentences, so that he fails to get the thought as a whole."

As a last point,—Dr. Montessori considers it very important to have the child express his thoughts clearly, easily and correctly; expression, she recognizes, helps thinking itself. Miss Sullivan discovered the same thing in working with Helen Keller. In one of her letters to Mrs. Hopkins, after describing the interest of her walks with her pupil, she concludes, "We go home about dinner-time usually, and Helen is eager to tell her mother everything she has seen (perceived). This desire to repeat what has been told her, shows a marked advance in the DEVELOPMENT OF HER INTELLECT, and is an invaluable stimulus to the acquisition of language."

There are many more points of resemblance which you must have noticed, and which, you must have concluded, are due to the fact that both Dr. Montessori and Mrs. Macy, instead of starting from an outside theory and trying to work it out, started from intimate study of the child himself. "Let Nature be your teacher," has been the watchword of both.

I have been wondering if these two remarkable women ever met. If they did, what intensely interesting conversations they must have had! What a meeting of mind with mind, experience with experience, and sympathy with sympathy! I have never had the privilege of seeing Dr. Montessori, although she visited very near us a few weeks ago, with our cousins just over "the border," but to look upon her sweet pictured face is to love her, and to know that she lectured on anthropology in the University of Rome is to know that she is a conversationalist of no mean order. Mrs. Macy is one of the most attractive women I have ever seen, and the very best (woman) public speaker. I wish you could all have seen her as she stood there in her pretty dress of silver-gray with a touch of blue,—her animated face filled with the intelligence that comes only with much thought, her unaffected manner, her graceful gestures, her sweet smile growing ever more tender as she talked about or looked at her wonderful pupil. More still I wish you could all have heard her elquence, her clear and logical reasoning, her cultured and expressive voice.

It is so hard to convey clear mental pictures to you through this printed page; it is so hard to give, within the space allotted to a magazine article, more than an echo of all the things one wants to tell. But it is, thanks be, so easy to recommend books that shed a great light and help to fill these lives of ours with interest. We can speak no more at length of either of these women in these columns, but again may I say that those who wish to learn of them or be helped by them, can do no better than secure the books referred to in the articles of the last few weeks in this department. . . . That is one of the delights of good books, is it not?—they suggest things to us, they make us think, they lead us to make comparisons and set us off on trails of exploration on our own account, they open up new worlds to us, they knock us out of our own little ruts and our own little neighborhoods, and set us travelling on the broad highway where walk the great souls of the earth. As a great man said, "Good Lord! the world is so full of delightful company in books that I am ashamed of being so grievously bored."

"If you have two loaves," runs the Chinese proverb, "sell one and buy a lily to feed your soul." "If you can't afford both," one might render the thought in modern paraphrase, "do without the new parlor carpet and buy books."

### RIPE PEAS.

I am informed that there is a method of canning garden peas after they have become ripe by first soaking in some solution before boiling them. Could you

give me the formula used and method of canning followed?  
A READER.  
Oxford Co., Ont.

We have heard that ripe peas may be improved for use by treating them with a solution of lye, but we have no information in regard to the method. Perhaps one of our readers will be kind enough to supply it.

### "EGGLESS" RECIPES.

Dear Junia,—I have received much help from the Ingle Nook of the widely-known "Farmer's Advocate," and, as is natural, I come for more. A short time ago some very good recipes for "Eggless Cakes" appeared in your columns. Would you kindly publish some more? I should also like a good recipe for coarse oatmeal gingerbread. I notice that I am not the only one who has come to the end of the egg supply. What contrary creatures those hens are to be sure! The members of my feathered flock seem to think it utterly beneath their dignity to lay eggs when most needed. They seem to have taken example from affairs across the water, and are on strike! Thanking you for your help at all times.  
Simcoe Co., Ont. ZOE.

**Eggless Fruit Cake.**—Two cups butter-milk, 2 cups brown sugar, 2 cups raisins, 2 cups currants, ½ cup butter, 1½ teaspoons soda, 4½ cups flour, spice to taste.

**Cake Without Eggs.**—One cup sugar, 1 cup milk, 2 cups flour sifted with 2 teaspoons baking powder, 1 teaspoon lemon or vanilla. Beat well, and add, last of all 5 tablespoons melted butter.

**Good Plain Cake.**—Take dough enough to make a small loaf, and work into it ½ lb. butter, ¼ lb. sugar, and some caraway seed. When well worked, pull into bits and work again. Do this three times, let rise, and bake.

Do you think your hens can manage a one-egg cake occasionally? If so, you will find some recipes elsewhere in this paper.

Can anyone send a recipe for oatmeal gingerbread?

### LETTER FROM JUANITA.

Dear Junia and Chatterers,—Just a few words to say "how do you do" to everyone, and ask where all the old friends have gone? Nearly every name is new in the Nook now. Of course, I know the new ones are all welcome, but like the words of the song, "Make new friends, but keep the old," we would certainly like to keep the old. I hope you all had a merry Christmas, and will have a very happy and prosperous year. I went to Montreal for my Christmas, and found it was not all holiday. My husband had sent to his aunt and cousins three turkeys, and until the afternoon before Christmas they had not arrived. Knowing that he would be disappointed, I set out to find them. I phoned the butcher. He sent the remainder of the flock, too, and he told me if I'd come to his shop he would give me three, but he could not send anyone with them; as all his boys and delivery carts were rushed already. Before going up I went to the Express Company to see if they were there, but was only bluffed, and told they were on their way, and would be home before me. I was doubtful, and went to the butcher's and phoned my friends to see if they had come. They had not, so there was nothing left to do but to carry 38 pounds of turkey from one end of the city to the other. I thought the butcher would make them up in a neat, brown-paper parcel, but no; he brought in a big bran sack, and just dumped them in one after the other, heads and tails sticking out in all directions.

"Oh, Mr. W.," I said, "could you not put a paper on them?" "Och, missus," he said, "they'd only burst it all; shure an' there's lots worse parcels than that goes on the cars." He sent a boy to the car with me, and for a time all was well. Then I had to transfer, of course, had to walk a block, carrying my unwieldy load in front of me, it being too bulky to carry in my arms. My car was not there, so I set it down as close to my feet as possible. A man running to get another car caught his toe on one corner of it and went headlong in the snow. I expected him to say all sorts of wicked things, but he had no time, never stopping to see what tripped him. My car came, crowded, of course, all

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A READER.

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but the back, so I pushed my bundle aboard and stood on guard. A young gentleman came on right after, and the surprised look in his face, led me to say hastily, "I know I am out of place here, but my parcel was rather bulky, so I thought I had better stay outside." The back of the car filled up—such a jam—I thought I would never get off when my time came. One man offered to hold my bundle for me until I got off, but I swung it off myself. I walked another block and a half, then carried the turkeys up to the third flat, and was not at all unwilling to give them up into the hands of their owners. Next day, as I helped to eat the largest one, I felt that I had earned my Christmas dinner. Quebec. **JUANITA.**

One-Egg Recipes.

**Doughnuts.**—One cup sour milk, 1 cup sugar, 1 egg, 1 teaspoon soda, a pinch salt, spice to taste, 2 tablespoons melted butter, flour to make a dough. Fry in deep fat.

**Pop-overs.**—One cup sweet milk, 1 egg, 1 cup flour (level), pinch salt. Half-fill deep buttered "pate-pans," and bake in a very quick oven. Eat with butter and syrup, jam or honey.

**Gems.**—One egg, a dessertspoon or two of butter, 3 cups Graham flour and 1 cup white flour sifted with 2 teaspoons baking powder, milk to make a stiff batter. Bake in "pate-pans" in a quick oven.

**Muffins.**—1 1/2 cups flour sifted with 1 teaspoon salt and 1 1/2 teaspoons baking powder. Add 2 tablespoons sugar. Beat an egg and add to it 1 cup milk, then pour on dry ingredients and beat to a batter. Last of all beat in 1 tablespoon melted butter. Have gem pans buttered and very hot. Fill two-thirds full, and bake in a hot oven 15 or 20 minutes.

**Rock Cakes.**—Three small cups flour sifted with 1 1/2 teaspoons baking powder, 1/2 teaspoon cinnamon, 1/2 teaspoon ginger, 1 large teaspoon sugar. Rub in 1 1/2 dessertspoons butter, and the same of lard. Beat an egg well, and add to it 2 drops lemon essence and 2 tablespoons milk. Mix to a very stiff paste with a fork, and bake in little, rough heaps on a tin in a very hot oven.

**Potato Cake.**—Two cups mashed potato, 1 cup flour, a little salt, 1 egg, a very little milk. Roll out, cut into cakes, bake, and serve very hot with butter.

**Johnny Cake.**—Two cups corn meal, 3 cups flour, 1/2 cup sugar, 1 teaspoon salt, 4 level teaspoons baking powder, all sifted together. Break an egg into 1 pint cold water, beat together, then add dry ingredients. Last of all, beat in 3 tablespoons melted butter, and bake in a fairly quick oven.

**Gingerbread.**—Two cups molasses, 1 cup sugar, 1 cup milk, 1/2 cup butter, 1 beaten egg, 1 teaspoon soda, 1 tablespoon ginger, flour to make a thick batter. Bake in a rather slow oven.

**Jelly Roll.**—One egg (not beaten), 1/2 cup sugar, 1/2 cup sweet milk, 1 cup sifted flour, 1 teaspoon baking powder. Put all in a bowl and stir (not beat) until the batter is smooth. Grease a pan, then dredge with flour. Spread the batter on to a very thin sheet, and bake a few minutes. It must not be crisped. Turn out on a cloth, spread with jelly or jam, and roll quickly. Put the cloth around to press the roll into shape.

**Coffee Cake.**—One cup light bread-  
sponge, 1/2 cup sugar, 1/2 cup melted but-  
ter, 1/2 cup warm sweet milk, 1 egg, a  
little salt. Mix down with flour, not  
quite so stiff as for bread, let rise over  
night in a warm place. In the morning,  
roll out and put in a greased pan.  
Sprinkle with sugar and cinnamon, let  
rise and bake.

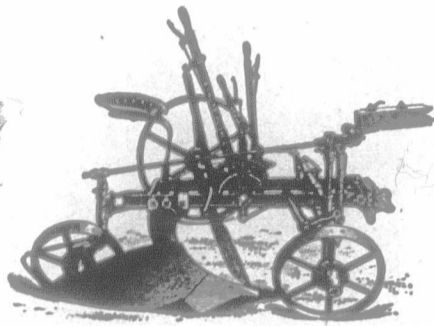
The Scrap Bag.

"COLD" SORES.

The application of a little sweet nitre or turpentine to cold sores on the lips will often prevent the spots from enlarging.

CLOTHES FREEZING TO LINE.

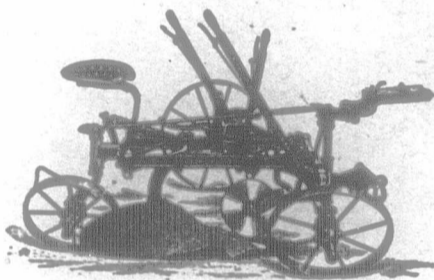
To prevent clothes from freezing to the line, rub the line with a cloth dipped in strong salt water. When putting out clothes, heat the clothespins and wear white woollen mittens.



"BEAVER" SULKY

This BEAVER Sulky Plow can be fitted with wide or narrow bottoms, so is adapted to all classes of work. The triangular wheel arrangement makes it very easy riding over the roughest ground. The rod connection between furrow and rear wheel axles enables it to follow closely every irregularity of the surface, and makes for continuous, uniform furrows. Furnished with rolling or knife colter or jointer; choice of several bottoms.

COCKSHUTT PLOWS



"ONTARIO" FOOT-LIFT

This ONTARIO Foot-lift Sulky is the most practical Sulky Plow built. Raising and lowering of the plow is controlled by foot. A powerful helper-spring makes the operation remarkably easy. A never-failing lock positively holds the plow down to its work or clear of the ground, as desired. So simple and easily controlled is this plow that any boy can handle it. Rolling or knife colter or jointer, as desired. Several different bottoms, to meet the needs of your soil.

See these plows at your nearest dealer, or drop us a card for our complete Plow Book.

For 37 Years

the name COCKSHUTT has been Canada's household word for the very best plows. From Newfoundland to Vancouver, these famous plows have been the forerunners of bigger and better crops.

In every type, from light walking plow to 12-furrow engine gang—in every soil, from lightest sand to heaviest clay—

have proven their ability to turn the deepest furrow in the shortest time with the least effort of operator and horses.

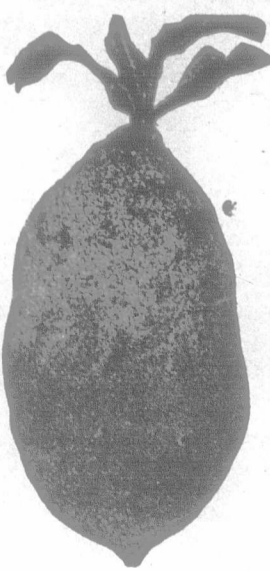
From steel bar to finished implement, COCKSHUTT PLOWS are made entirely in the Cockshutt Plant. That's why we can guarantee them to give you absolute satisfaction in every respect.

COCKSHUTT PLOW CO., LIMITED

BRANTFORD :: :: ONTARIO

Sold in Eastern Ontario, Quebec and Maritime Provinces by

FROST & WOOD COMPANY, LIMITED  
Smith's Falls Montreal St. John, N.B.



MANGEL TURNIP SEED FIELD CARROT

Did you ever miss your mangel or turnip crop through seed that did not germinate? If you have had that experience you will appreciate getting fresh seeds. We know our seeds are full of life. We have tested them all. No guess work. Then, again, there is a saving in the price. Do not put off till seedling time, when often you go to the nearest store to get doubtful seed. Surely it is worth your while to sit down and order good live, fresh seeds direct. Our mangels and turnips are put up in 1-lb. cotton bags. There is nothing better to be got. Our catalogue describes accurately all our varieties. (If you have misplaced it or did not get one—drop us a line. It will be forthcoming by next mail. It is of interest to everyone who earns a living on a farm.) If you are ordering Clover Seed, Timothy Seed, Grain or Seed Corn, your Mangel and Turnip Seeds can go along with them at 5c. lb. less than prices herewith quoted.

**MANGELS.**—Keith's Prizetaker, Danish Sludstrup (a new intermediate, very fine). Prices for both, postpaid, lb., 35c.; 5 lbs. or over, 30c.

**MANGELS.**—Keith's Yellow Leviathan, Yellow Intermediate, Mammoth Long Red, Giant Half Sugar. Prices, postpaid, lb., 30c.; 5 lbs. or over, 25c.

**SWEDE TURNIPS.**—New Century, Scottish Champion, Elephant. Price, postpaid, 30c.; 5 lbs. or over, 25c. per lb. Keith's Prizetaker. Price, postpaid, 35c.; 5 lbs. or over, 30c.

**MAMMOTH SMOOTH WHITE INTERMEDIATE CARROT.**—Price per lb., 60c., postpaid.

Keith's Prizetaker Mangel

Geo. Keith & Sons, 124 King St. East, Toronto  
Seed Merchants since 1866

When writing advertisers, please mention "The Farmer's Advocate."

NEVER Such Poultry and Egg DEMAND

—before in poultry business. Shortage of beef, pork, mutton in both Canada and the United States makes this poultrymen's bonanza year. Poultry profits high. But use right tools—get full measure success.

CYPHERS INCUBATORS and BROODERS

World's Standard. Self-regulating. Self-ventilating. Fireproof, insurable. Highest records for big, continuous hatches. Get Cyphers Co.'s 164-page Special Canadian Edition catalog and poultry guide before you buy. Eight vitally helpful chapters. Address right now—this very day. Cyphers Incubator Co. Dept. 184 Buffalo, N. Y.

Write For Big Free Book

Hardy Roses

strong 2 year plants. 25c. each; 5 for \$1.00; 12 for \$2.25 post paid. PINK.—Amy Mueller, Anne Diesbach, Frances Levett, La France, Magna Charta. RED, Baron Bonsettin, Genl. Jack, Gruss au Teplitz, Mad. Chas. Wood. WHITE.—Blanche Moreau, Coquette des Alps, Coquette des Blanches. CLIMBERS.—Baltimore Belle, Queen of Prairie, Dorothy Perkins, Lady Gay, Philadelphia Rambler and Yellow Ramblers, Seven Sisters, Tausen- chon DWARF.—Baby Dorothy, Baby Rambler.

C. H. PLUMB, Ridgeville, Ont.

## Feed Your Stock on PURE CANE MOLASSES

**E**XPERIENCED stock feeders know the value of Cane Molasses in toning up the stock and finishing fattening animals. It is extremely palatable and much relished by cattle, pigs and horses. By its sweet taste, great palatability and high nutriment content, it is very valuable to mix with other feeds especially at this season when the last stages of finishing fattening animals have been reached and when other feed may be growing scarce. Put up in barrels, containing about 600 lbs., also half-barrels.

**Dominion Sugar Co'y**  
LIMITED  
Wallaceburg, Ontario

AN IMPORTANT

## Shorthorn Dispersion

ON

Thursday March 12th, 1914

At WINTHROP, ONT. (near Seaforth), the property of Geo. McKee

This sale comprises the entire herd of 24 head of such noted strains as Clementinas, Lavinias and Matchless; also the grandly-bred prize-winning bull, "Meadow Signet," just two years old.

Winthrop is five miles north of Seaforth on G. T. R., and five miles south of Walton, C. P. R.

TERMS—Eight months' credit on approved joint notes; 5% per annum off for cash.

Sale at 1 o'clock p.m.

Catalogues on application to

Auctioneers { Capt. T. E. Robson  
Thos. Brown } Geo. McKee, Winthrop, Ont.

## FOR SALE AT \$30.00 AN ACRE

800 Acres best quality Manitoba farm lands. 30 Miles from Brandon, 2½ miles from nearest Railway Station and 5 miles from divisional point on the Grand Trunk Pacific Railway, in well settled district. 500 Acres of this land is summer-fallowed ready for crop. One-half section fenced. Water in abundance. A 1. proposition for mixed farming.

Could be divided into two separate farms as there are two complete sets of exceptionally good buildings. The present stock implements can be purchased if desired.

This is a snap, as the owner wishes to retire.

\$5000.00 down will handle the deal

In addition to the above mentioned property, we have 2,500 acres of farm lands in South-Eastern Saskatchewan, in well developed country, with good railway facilities, which we will sell in any quantity from quarter section (160 acres) and up at prices ranging from \$20.00 to \$30.00 an acre. Can also furnish stock and equipment to right party with small cash payment.

For further particulars apply to

HUGHES & COMPANY :: :: BRANDON, MANITOBA

When writing Advertisers please mention this paper.

### OIL THE CASTERS.

Oil the casters of heavy pieces of furniture once in a while, and the furniture may be moved much more easily.

### CONVENIENCE FOR AN INVALID.

A large bag, with several pockets, that may be fastened with safety-pins to the side of the bed, is a great comfort to invalids. In it may be stored the books, papers, handkerchief, and other articles that are constantly being lost in bed.

### KEEPING FEET WARM.

Rub the feet every morning with wet salt until the skin is in a glow, rinse off with cool water, and rub with a coarse towel until perfectly dry.

### DISHCLOTH.

Be sure to wash the dishcloth with soap after each using, and hang it close to the stove to dry, or else out of doors. In some households, dishcloths are being almost discarded in favor of large, stout brushes, which are easily cleaned.

### RENEWING PETTICOATS.

Make the petticoat two inches longer than the required length, and put a tuck above the hem to take up the extra length. When the bottom edge of the skirt wears, let down the tuck, cut off the frayed portion and hem up, and your skirt will be as good as new again.

### SHINY SERGE.

Rub the shiny places lightly with sandpaper to improve the appearance of serge that has become glazed with wearing.

### Re Embroidery Patterns.

By mistake, in February 12th issue, it was omitted to state that as the stamped materials are sent from New York, duty may be charged at the customs offices.

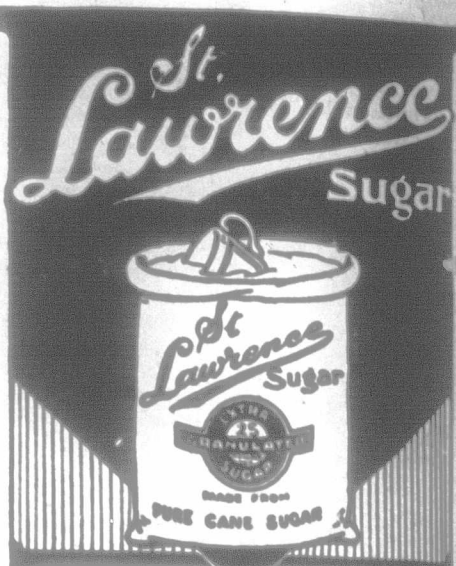
### The Windrow.

Holbein's famous portrait of Thomas Cromwell, Earl of Essex, has been sold for over \$150,000 to Messrs Agnew & Sons, art dealers, London. It was painted about 1532.

Louis E. Reber, Dean of the Extension Department of the University of Wisconsin, is planning to put moving pictures in all the schools of the State, each school to buy its machine, costing \$100, and the films to be supplied free from the University. By this means, it is held, the children will learn with comparatively little strain, and going to school will become a pleasure instead of a dread as it so often is.

How Tolstoy made his will is told in the forthcoming annual of the Tolstoy Society by Alexej Sergejenco, who was one of the witnesses says, "Public Opinion." On July 22nd, 1910, he was summoned by a lawyer, who said that Tolstoy wanted to make his will without an hour's delay. They rode away at once to the meeting place, a mile from Tolstoy's home. He met them, and led the way into a dense forest. "In the thickest part of all," the narrative continues, "we stopped at a big stump of a tree. Tolstoy sat down on the stump, took a fountain pen from his pocket, and asked for a sheet of paper. With feet crossed he began to make the rough sketch of his will." It was completed, signed, and witnessed then and there, and then "He rose, and going to his horse, said to me, 'How ghastly all this legal business is!' With an activity remarkable in a man of 82, he swung himself into the saddle and vanished quickly in the dark greenery of the undergrowth."

If we think at all, if we get away from our egotism, and step out into the world with a determined will and see life as it is, we realize that unbrotherliness is the insanity of the age—unbrotherliness, that fearful and shocking and pathetic cause of separation that exists among men in the world to-day.



### THE CHOICEST SUGAR

No choicer or purer sugar can be produced than St. Lawrence Granulated White Pure Cane Sugar.

Made from choice selected cane sugar, by the most modern and perfect machinery, it is now offered in three different sizes of grain—each one the choicest quality.

St. Lawrence Sugar is packed in 100 lb., 25 lb. and 20 lb. sealed bags, and also in 5 lb. and 2 lb. cartons, and may be had at all first class dealers. Buy it by the bag.

ST. LAWRENCE SUGAR REFINERIES LIMITED, MONTREAL.



The General says—

The roof goes on last—but think of it first. It's the final protection for buildings. This label stands for 15 years of guaranteed service at least—when you buy

## Certain-teed ROOFING

—and it means that the 3 biggest roofing mills in the world are behind the reliability of your purchase. There is no test by which you can judge roofing. The Certain-teed label is your protection.

Your dealer can furnish Certain-teed Roofing in rolls and shingles—made by the General Roofing Mfr. Co., world's largest roofing manufacturers, East St. Louis, Ill., Marseilles, Ill., York, Pa.

We are sole Agents in Ontario for

## Certain-teed

RED RING  
ROOFING

THE Roofing that is guaranteed for 15 years, and will last longer.

See your dealer—if he does not handle RED RING Certain-teed Roofing, write us for samples and prices.

The Standard Paper Co., Ltd.  
109-111 George Street  
TORONTO, ONT.

## SEED CORN FOR SALE

High germination test. White Cap Yellow Dent. Grown on our own farm. Write

TISDELE BROS., Tilbury, Essex Co., Ont.

# "Ideal" Fence

## Is Stronger Than The Strongest

The Weak Exist; But The Strong Live

Strength is what you want in a fence. You want a fence that will live; a fence that will last; a fence that possesses great strength in every wire.

To get strength you must get weight. The heaviest fence contains the most strength. Weigh "Ideal". Compare its weight with any other fence you can buy.

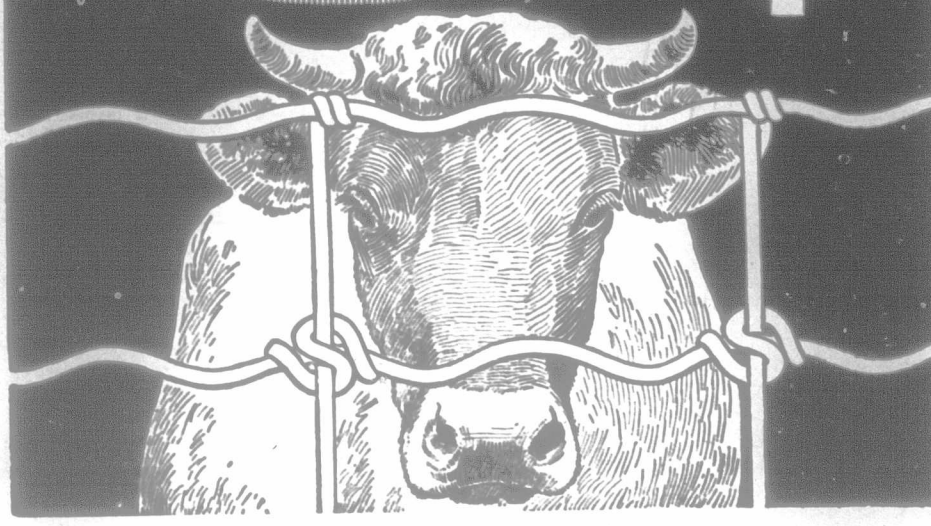
No small weak wires in "Ideal". From top to bottom it's all the same—all No. 9, all hard steel wire and every wire full of strength and properly galvanized to protect and preserve that strength.

Strong unruly animals can look through but not break through "Ideal". It's stronger than the strongest.

Why not buy the fence that possesses the greatest strength—that weighs the heaviest, that contains the most real genuine value. "Ideal" is the cheapest for you in the end.

Our "Ideal" representative, in your section, will gladly tell you more about this strong "Ideal" fence. If you do not know him drop us a card. Also ask for catalogue 121

**The McGregor Banwell Fence Co. Ltd.**  
Walkerville, Ontario.



## O. A. C. NO. 72 OATS

This seed is true to variety, of excellent quality, and can be relied upon as being "No. 1" grade in every respect, samples taken by our government seed inspector, testing considerably above the highest grade demanded by the Seed Control Act. For sale by the grower.

R. F. KLINCK, VICTORIA SQUARE, YORK CO., ONTARIO

## POULTRY AND EGGS

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

**AMERICA'S** Greatest laying strain of high-class pedigree White Wyandottes. Winners at the principal International Egg-laying competitions. Hatching eggs from \$2. per setting, mating list free. McLeod Bros., Beulah Farm, Stoney Creek, Ont.

**BREEDER** of high-class Barred Rock cockerels. Eggs for hatching. Get my prices. Leslie Kerns, Freeman, Ont.

**BABY CHICKS**—Order your baby chicks now from our splendid laying strain of Single-comb White Leghorns. Utility Poultry Farm, T. G. Delamere, Prop., Stratford, Ont.

**BARRED** Rock Cockerels, pure-bred and select winter-laying strain. Farm-raised, vigorous stock, two, three and four dollars each. Ingleside Farm, Ancaster, Ont.

**BARRED** Rocks, R. I. Reds, White Wyandottes, S. C. Brown and White Leghorns. Wm. Bunn, Denfield, Ont.

**CHOICE** R. C. Rhode Island Red cockerels; well-matured birds; three dollars each. R. Wilson Douglas, Caledonia, Ont.

**FOR SALE**—A few choice Rose Comb Rhode Island Red cockerels, from my best laying strain, two to five dollars each, Howard Smith, Winona, Ont.

**FOR SALE**—Mammoth Bronze turkeys; prize-winners at the Western Fair, also Guelph Anous Beattie Wilton Grove, Ont. R. No. 1.

**FOR SALE**—Pure bred Bronze Turkeys, bred from Guelph and Ottawa winners. Good, each. Eggs in season. W. T. Ferguson, Spencer-ville, Ont.

**FOR SALE**—Silver Comb White Leghorn Cockerels, also eggs in season. Prices reasonable. Robt. J. Agnew, 449 E. 5th Ave., Owen Sound.

**GIANT** strain of M. B. and White Holland Turkeys, champion flock of Canada, winning more prizes than all other exhibitors. W. H. Beattie, Wilton Grove, Ont.

I HAVE a choice lot of exhibition and utility Barred Rock cockerels which I must on account of room sell this month and at a big reduction. Write at once for prices. Eggs for hatching \$3 and \$5 per setting. J. A. Betzner, Aldershot, Ontario

**LIGHT** Brahma Cockerels two to three dollars each.—beauties. H. Wilson, Collingwood, Ont.

**MAMMOUTH** Bronze Turkeys, fine heavy birds bred from prize stock. R. G. Rose, Glanworth, Ont.

**PARTRIDGE** Wyandotte poultry and eggs. Selected males and females. Eggs from special pens \$2.00 per fifteen. H. H. Groff, Simcoe, Ont.

**PURE** Bred Bronze Turkeys, Brown Ducks single comb White Leghorns. Prices reasonable. C. A. Powell, Arva, Ont.

**S. C. White** Leghorns for sale, a number of choice cockerels. Geo. D. Fletcher, R. R. No. 2, Erin, Ont.

**SILVER** Campines, prize winners. The Dutch Egg Machine, eggs, \$3 for fifteen. Stanley, R. Janes, Newmarket, Ont.

**WHITE** Wyandottes—Champions eight years at New York State Fair. Big, vigorous cockerels, \$2, \$3 and \$5 each. Pullets, \$2 and \$3. Eggs, \$3 per setting. Send for free catalogue. John S. Martin, Drawer R, Port Dover, Ont.

### FARMERS' FAVORITE BREEDS

**Barred Rocks, White Wyandottes, Rhode Island Reds**

From Canada's champion yards. Great laying strains. Yearling cocks and cockerels while they last \$3.00 each. Few red males \$2.50 each. Satisfaction guaranteed.

**JOHN PRINGLE, LONDON, ONT.**

**Live Hens Wanted at 16c.**  
5-lb. each or over.

18c. per lb. for choice, crate fattened chickens, dry picked to the wing tips and bled.

**WALLER 700 Spadina Ave. TORONTO**  
Established over 25 years.

Would You  
**SAVE \$100.00**

on the purchase of a piano—  
if we show you how?

**THE SHERLOCK-MANNING PIANO CO.,**  
London, (No street address necessary) Ont.

It not only touches our public life, but our personal lives; and of course it touches our homes. Our homes are in danger, our young folk are in danger all the time; and no matter how great the love with which parents may surround their children, and thus try to protect them, they are constantly meeting with conditions that it seems almost impossible to overcome. This is a fact, and we know it; and the greatest difficulty, I think, that we have to meet with in our efforts is that we not only have so many systems of religion, but we also have so many systems of education. We need to have a Universal Religion; and if we had this, we should have a universal system of education.—Katherine Tingley, in the "International Theosophical Chronicle."

Mr. Nathan Straus, brother of Mr. Isadore Straus who perished with the Titanic and one of the richest Jewish merchants of New York, retired recently from business, but will devote the rest of his life to trying to better the Holy Land and modernize and improve Jerusalem to make it a livable place. Already he has established in Palestine a Soup Kitchen and Relief Bureau, at which 330 people, regardless of race or religion, are fed daily; a Pasteur Anti-hydrophobia Institute; an International Health Bureau and a mother-of-pearl factory in which about 80 men and 25 girls are given work. He has also engaged an eye specialist and assistant to treat eye disease, so fearfully prevalent in the Holy Land, and has founded a domestic science school in which native girls are taught how to sew, cook, and keep house; but his plans are still more far-reaching. In the immediate future he hopes to institute vaccination against typhoid, to organize a campaign against mosquitoes to prevent malaria, to establish waterworks and so provide better sanitation for the Holy City, and to promote the planting of orchards and agriculture generally in the rural districts. Nor have his good works been confined to the Holy Land. In New York he was instrumental in having milk pasteurized as a preventive of tuberculosis and distributed at about half cost, while the Preventorium for Consumptives at Farmingdale, N. J., was built and equipped at his expense. Mr. Straus describes himself as non-denominational, anxious only for the uplift and relief of humanity. At the time of the Titanic disaster he said, "In the Titanic tragedy all creeds were at least united in the brotherhood of death. If one could only hope for a brotherhood of life! Why wait for death to teach us the lesson of human fraternity?" He says what he can do is only a mite to what should be accomplished to make Palestine productive and its cities sanitary.

We are in receipt of an excellent bulletin, "Birds of Ontario in Relation to Agriculture," by Charles W. Nash, issued by the Ontario Department of Agriculture. The bulletin is finely illustrated, and the description of the birds are given in Mr. Nash's well-known, interesting style. Bird-lovers should make haste to secure one of these very educational pamphlets before the edition is exhausted, and not only bird-lovers, but all farmers, whether bird-lovers or not; the need of insect-eating birds on our farms cannot be over-estimated. To secure a bulletin write to the Department of Agriculture, Parliament buildings, Toronto.

The wireless telegraphy station on Toronto Island is now in working order.

Sir J. M. Barrie, the novelist and playwright, has given \$50,000 towards the equipment of the Shackleton Antarctic expedition.

The Browning letters are offered to the nation for £7,205. It will be remembered that Mr. Savin, the present owner, gave £6,550 for them last year. An appeal is made by Sir F. C. Kenyon, director and principal librarian, British Museum, for half the money. If he can collect £3,600 he has reason to hope that the other half will be forthcoming from sources with which he has been in communication.—T. P's, Weekly.

Last year, says T. P's. Weekly, the

## LEARN DRESSMAKING BY MAIL

As a wife or daughter of a farmer, mechanic, millionaire, etc., you should learn dressmaking. No accomplishment you can acquire will prove to you of such everyday, life-long value as a practical knowledge of dressmaking. If you do not want to be a professional dressmaker, the cost of learning our method is so small that you can well afford to take this course, if only to do your own sewing. Our method will teach how to cut and finish everything, from plainest waist to most elaborate dress, etc.

Write for free booklet, terms and information.  
**ELLISON DRESSCUTTING CO.**  
Dept. L. Berlin, Ontario

## SHORT DATE MORTGAGES

WE INVEST SAFELY, SMALL SUMS OF \$500 AND UPWARDS, FOR RESIDENT AND NON-RESIDENT INVESTORS, SECURED BY CHOICE RESIDENTIAL AND BUSINESS PROPERTY IN TORONTO, TO YIELD, NET -

### 8% TO 10%

NOTE: No inconvenience to you in caring for investments. We collect and remit interest and principal promptly during the mortgage period without charge. Write for Booklet.

**A. L. MASSEY & CO.**  
8 WELLINGTON ST. E. TORONTO.



### MAIL CONTRACT

SEALED TENDERS addressed to the Postmaster General, will be received at Ottawa until noon on Friday, the 3rd day of April, 1914, for the conveyance of His Majesty's mails on a proposed contract for four years, six times per week over Dorchester Station (East) Rural Route, from the Postmaster General's Pleasure, 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 Office of Dorchester Station, and at the Office of the Post Office Inspector at London.

Post Office Department, } G. C. ANDERSON,  
Mail Service Branch, } Superintendent  
Ottawa, 21st February, 1914.

## FARMERS

Intending to go West may find it to their advantage to communicate with Box N, Farmer's Advocate, concerning a few improved farms in an excellent mixed farming district in the western part of Manitoba, for sale on easy terms, or to let at money rent or on shares. Schools and churches convenient, excellent railway facilities. Only well qualified farmers need apply.

### FOR SALE

Creamery Equipment complete, including boiler, waggons, cans etc, practically new; also Ice Cream Freezer, ice crusher and shipping tubs. Unusual opportunity to secure up-to-date outfit at a great bargain. Will sell separately or en bloc.  
Box 75, Farmer's Advocate, London, Ont.

### 5,000,000 Ft. Belting For Sale

Rubber, Canvas, Leather, etc., 100,000 rods Wire Fencing, 40,000 lbs., Barb Wire at 2c. per lb., 300,000 ft. Iron Pipe, also 1000 other bargains at 25% to 50% less than regular value. New lists just issued, sent free on request. Write immediately. All machinery bought and sold. Imperial Mfg. Supply Co., 20 Queen Street, Montreal, Quebec

### HOVER CHICKS IN NATURAL FEATHERS

Nature never intended chicks to be feathered with the aid of artificial heat of any kind. Feathers they retain and distribute natural heat. Chicks thrive, grow healthy, strong and vigorous if raised under the natural feathers in the Simplex-Perfection feather brooder or hover. Price \$4.00 to \$10.00. Shown to 100 chicks. Write for catalog 228 if you want to know more.  
Simplex Supply House, Postoffice Bldg., Chicago, Ill.

There is nothing so vital to the interests of democracy as the progress of education.—Dr. Gilbert Slater.





# 22<sup>c</sup> PER ROD HEAVY WIRE FENCE PER ROD 22<sup>c</sup>

**FREIGHT PAID** **48 INCHES HIGH-ALL BIG WIRES** **FREIGHT PAID**

Mr. Farmer, you cannot afford to overlook these prices for Wire Fence which include the freight charges to your nearest railroad station in Ontario. The quality of our fence is unsurpassed and is sold to you under the EATON Guarantee, "Goods satisfactory to you or money refunded including shipping charges. NO EXCEPTIONS." Think of the cash saving which our low prices afford you, but don't stop there—make out your order and send it to us to-day.

**POPULAR FENCE 38c PER ROD**

These Fences are a splendid value, and excellent general purpose fencing. They will turn either poultry or animals. Read below the close spacing of line wires and uprights, and by stretching single strands of wire above can be made as high as desired.

70-384. Height 48 inches, 14 line wires, uprights 8 inches apart, top and bottom wires No. 9, line wires No. 12, stays No. 13. Price, per rod, freight paid... **38c**

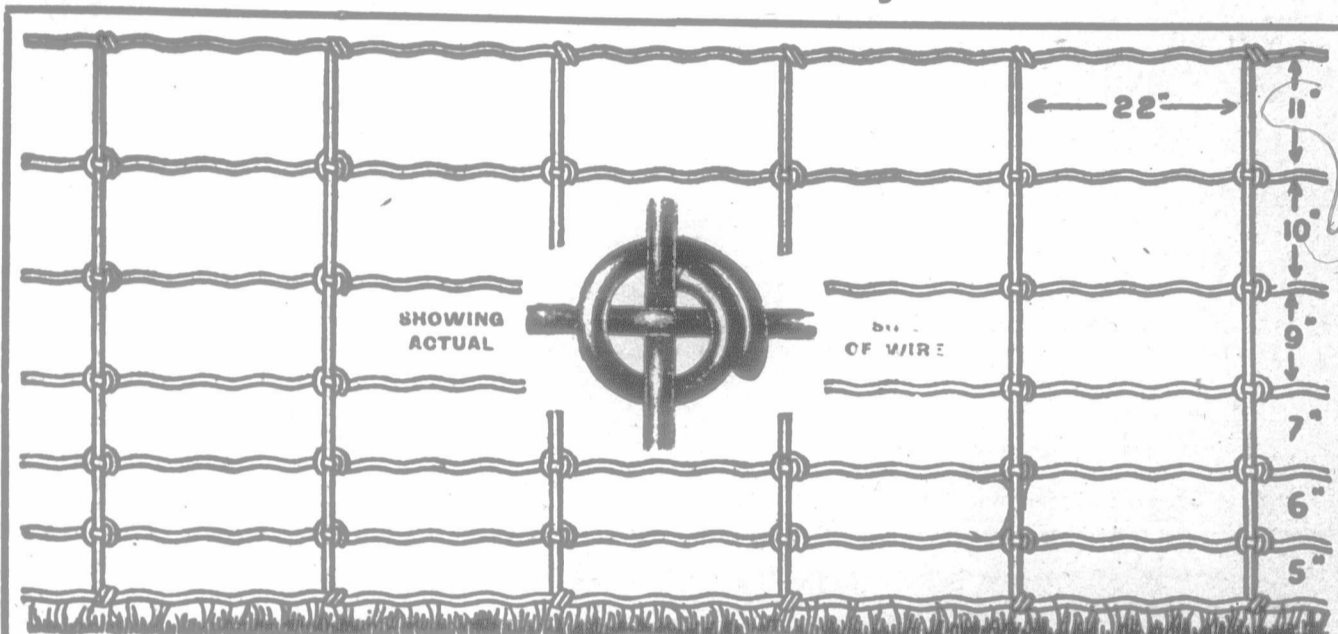
70-385. Height 36 inches, 10 line wires, uprights only 6 inches apart, or 33 to the rod, top and bottom wires No. 9, line and stay wire No. 13. Price, per rod, freight paid... **32c**

**SOLD IN 20, 30 AND 40-ROD ROLLS.**

**HOG AND SHEEP FENCE 23<sup>1</sup>/<sub>2</sub>c PER ROD**

It is a hog-tight fence, with the upright stays 12 inches apart. Height of fence is 34 inches. It has 8-line wires. Top and bottom wires are No. 9, with No. 12 filling, heavily galvanized. Sold in 20, 30 and 40-rod rolls.

70-360. Price, per rod, freight paid... **23<sup>1</sup>/<sub>2</sub>c**



## 22c PER ROD FARM AND STOCK FENCE 7 LINE WIRES 48 INCHES HIGH

A strong and serviceable fence, a popular height, and easy to erect. It is made of No. 9 hard steel wire, fully galvanized, and tightly interlocked. This fence is heavy enough for general purposes, and tight enough to turn the worst animal. Stays are rigid, and 9 to the rod, being 22 inches apart. Sold in 20, 30 and 40-rod rolls.

70-367. Price, per rod, FREIGHT PAID ANYWHERE IN ONTARIO... **22c**

**STEEL FENCE POSTS**

They save digging holes. You simply drive them in the ground. They are made of stiff, tough steel, and are pointed. A splendid line post, taking the place of cedar posts, and will last longer. They make a strong, neat job of farm fencing, also a fine post for garden fence. They have holes punched 2 ins. apart to fit the spacings of any fence, and are painted. Wires are fastened by a loop of soft wire put through holes and twisted back of post.

70-398. 1 1/2 x 1 1/2 x 5/32-inch, 6 feet 3 inches long. Price **33c**

Heavier, and longer posts.

70-400. 1 1/2 x 1 1/2 x 3/16-inch, 7 feet 2 inches long. Price **47c**

Freight paid in lots of ten or more.

## 18c PER ROD 42-INCH HEAVY FARM FENCE

An extra heavy and strong fence. It is high-grade, reliable fencing at a very low price. The knots lock the stays so tightly to the line wires that they cannot slip or spread, and the line wires cannot move up or down. This fence will turn the ugliest and strongest animals. Wire is all hard steel, No. 9, and heavily galvanized. Stays are 22 inches apart, or 9 to the rod. Read fence information below. Sold in 20, 30 and 40-rod rolls.

70-355. 5-line wires. Height 42 inches. Per rod... **18c**

70-356. 8-line wires. Height 47 inches. Per rod... **27c**

70-357. 8-line wires. Height 51 inches. Per rod... **32c**

Same Heavy-weight Farm Fence, with closer stays, being 16 1/2 inches apart.

70-358. 8-line wires. Height 47 inches. Per rod... **30c**

70-359. 8-line wires. Height 51 inches. Per rod... **35c**

**FREIGHT PAID TO YOUR STATION ANYWHERE IN ONTARIO.**

## MEDIUM WEIGHT CLOSE FENCE, 20<sup>1</sup>/<sub>2</sub>c PER ROD

This is a most serviceable and popular style of fencing. It is thoroughly and completely galvanized, and we use a No. 9 wire for top and bottom lines, with a No. 12 wire filling. There are 15 stays to the rod, being only 13 inches apart, making it a close mesh for general use. A durable and tight fence. Sold in 20, 30 and 40-rod rolls.

70-371. 8-line wires. Height 40 inches. Per rod, freight paid... **20<sup>1</sup>/<sub>2</sub>c**

70-372. 10-line wires. Height 50 inches. Per rod, freight paid... **32c**

Staples, 1 1/2 ins., galvanized. About 65 in a lb. Sold only in bags of 10, 25 and 50 lbs.

70-368. Price, per pound... **3<sup>1</sup>/<sub>2</sub>c**

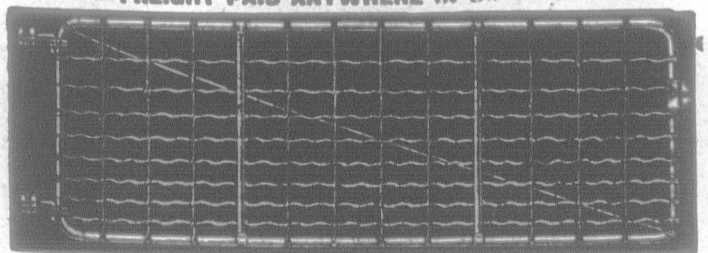
Brace Wire of soft, pliable steel, galvanized, No. 9 size, sold only in 25 and 50-lb. coils.

70-357. 25 lbs... **85c** 50 lbs... **1.70**

**FREIGHT PAID ON STAPLES AND BRACE WIRE IF BOUGHT WITH FENCING.**

## 12-FOOT STEEL GATE, 3.65

**FREIGHT PAID ANYWHERE IN ONTARIO**



Strong Farm Drive Gate, the frame is heavy tubular steel, perfectly welded by electrical process, and the filling is No. 9 galvanized wire. The frame is rigidly braced, and painted black. Latch and hinges are supplied with gate. Freight paid to your station.

70-362. 3-foot Walk Gate, 48 inches high. Price... **1.95**

70-363. 3 1/2-foot Walk Gate, 48 inches high. Price... **2.20**

70-364. 12-foot Drive Gate, 48 inches high. Price... **3.65**

70-365. 13-foot Drive Gate, 48 inches high. Price... **4.20**

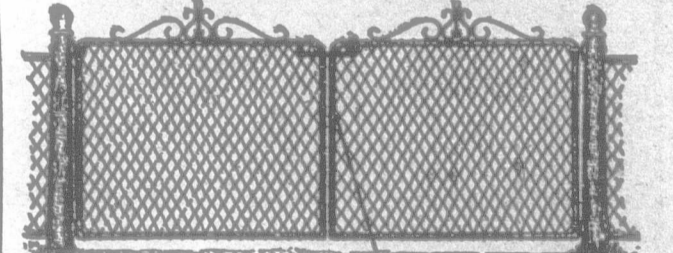
70-366. 14-foot Drive Gate, 48 inches high. Price... **4.60**

## \* READ THIS \*

Wire is made in sizes such as 8, 9, 10, 11, etc. These gauge numbers run higher as the size of wire is smaller. For instance: A No. 10 wire is smaller than No. 9. Most of the wire used in this country is imported from the United States and England, and the gauges are different in each country. These gauges vary enough to confuse the sizes of wire, though hardly noticeable unless measured with a micrometer. An English No. 9 is smaller than American wire of same gauge, and an American No. 10 is equivalent to No. 9 1/2 Canadian size, the Canadian No. 10 being smaller. But no half sizes are stated on the scale of gauges, and half sizes are not recognized by the customs officials. There is no uniformity in wire sizes. The conditions of manufacture also are such that the dies through which wire is drawn are made smaller when new to allow for wear, and the wire varies in size as the die wears. We mention these facts to show that an exactness in fence wire does not exist. We insist on our fence wire being as uniform as possible, and not smaller anywhere than half the gauge difference, and we do not use any No. 10 wire at all in our heavy fence. We use what is known as No. 9, and we stipulate that this must not be smaller than No. 9 1/2 at any point. This makes a farm fence that is heavy and very strong in every part of it, and up to a definite standard. The strength is in this heavy, hard, steel wire, and the life of the fence is in the galvanizing on the wire. Our fence is thoroughly galvanized with an even coating. We will send a sample piece of wire upon request.

## 4.75 DOUBLE DRIVE GATE

**FREIGHT PAID ANYWHERE IN ONTARIO**



A very attractive and strong steel frame gate, with a filling of 2-inch diamond mesh No. 13 galvanized wire. They are substantial and chicken-tight, as well as attractive gates. We supply hinges and fasteners, complete with hook for holding centre, so that one gate can be used at a time if desired. Each gate has artistic iron scroll on top, painted black.

70-389. 8 feet wide, 3 1/2 feet high, freight paid... **4.75**

70-390. 8 feet wide, 4 feet high, freight paid... **4.95**

70-391. 10 feet wide, 3 1/2 feet high, freight paid... **5.75**

70-392. 10 feet wide, 4 feet high, freight paid... **6.50**

70-393. 12 feet wide, 3 1/2 feet high, freight paid... **6.95**

70-394. 12 feet wide, 4 feet high, freight paid... **7.45**

**ALSO WALK GATES TO MATCH**

70-395. 3 feet wide, 3 1/2 feet high, freight paid... **2.45**

70-396. 3 feet wide, 4 feet high, freight paid... **2.65**

70-397. 3 1/2 feet wide, 3 1/2 feet high, freight paid... **2.80**

70-398. 3 1/2 feet wide, 4 feet high, freight paid... **2.75**

## IMPROVED FENCE STRETCHER

A "Dreadnought" Fence Stretcher, a heavy duty steel stretcher for all kinds of woven wire fencing. Stretcher has clamp, chain and tightening device of latest type. The pull is positive and to the limit.

70-374. Each, freight paid to your station... **6.90**

70-408. Lighter, but powerful Stretcher, for average use. Price, freight paid... **4.85**

Fence and Gate Prices  
Freight Paid in Quebec  
or Maritime Provinces in  
our Catalogue.

THE **T. EATON CO** LIMITED  
TORONTO - CANADA

Low Prices on Cream  
Separators and Farm  
Implementations in our Spring  
and Summer Catalogue.

*Progressive Jones Says:*

## "Get a Good Crop in Spite of Handicaps"

Take a pointer from Mr. R. A. Jackson, of Cottam, Essex County, who faced a small crop due to late planting and a bad dry spell. From an acre of fertilized land he reaped over one-third more bushels of corn than he did from an acre without fertilization. He has a high opinion of



# Harab FERTILIZERS

Good fertilizing helps to win prizes, too. In the field contest for the best ten acres of corn in Kent County, the first, second and third prizes were won by Messrs. W. G. Stark, R. J. Wilson and Leslie English & Son. ALL of these gentlemen used Harab Fertilizers.

There is a sure way to bring back the old-time profits you got when your soil was fresh. Harab Fertilizers will build it up, nourish and enrich the soil while stimulating the crop.

There is a Harab Fertilizer especially good for your soil and the crop you wish to raise—it will be found among the 25 different kinds manufactured by the Harris Abattoir Company. Let their experts select it for you.

But first of all write for a copy of The Harris Abattoir Co.'s Fertilizer Booklet. Visit the Harab Agency in the nearest town or village and get fully posted about these tried and proven fertilizers.

*Yours for bumper crops,*

*Progressive Jones*

The Harris Abattoir Co., Limited, Toronto  
Fertilizer Department



## THE "SPRUCEDALE" STOCK FARM

A. WATSON & SONS, C. F. JACKSON, PROPRIETORS,

will hold an important

### Auction Sale of Registered Holsteins, Clydesdales and other Live Stock, also 100 Acre Farm,

On Thursday, March 12th, 1914

The sale comprises:—15 Registered Holsteins, Four due to freshen about time of sale. 2 Registered Bulls, one yearling and one two-year-old. 10 Grade Holstein Cows, Springers, Five Fresh Milk Cows. 12 Durham Cows, 5 Jersey Cows, due to calf March and April. 10 two-year-old Steers and Heifers, 10 yearlings, Grade Durhams. 20 Grade Shrops., 20 Long Wool Sheep, All Brood Ewes. 6 Oxford Lambs, 22 Leicester Ewes Registered. 3 York. Sows, Registered, 3 Brood Sows, (in pig). 5 Young Boars, fit for service (Registered); 5 Yorkshire Sows, ready to breed (Registered); 10 Young Pigs (Registered); 10 Shoats. 3 Clyde Mares rising 3 (Registered); 6 Percherons, in foal, 5, 6, and 8-year-olds, Dark Greys; 3 Percheron Mares, rising 3, Black; 2 Geldings, General Purpose, 4 and 5-year-olds; 1 Chateau Mare, extra good mare, five-year-old; 1 Hackney Gelding, sired by Brigham Radiant, five-years-old, broke single and double, with style; 2 two-year-old Clydes; 1 three-year-old Clyde Colt; 3 yearling Clyde Colts; 2 Hackney yearlings, 2 general purpose yearlings. 6 Pure Bred Bronze Hen Turkeys and two Gobblers. 25 Fowls.

### Also the Farm, Consisting of 100 Acres

on Talbot Road, four miles west of St. Thomas. All level land under good state of cultivation. Walnut loam. One and a half storey frame house, one barn 34 by 70, stables underneath. One barn 30 by 50. Drive barn and stable 30 by 60, and other out-buildings. A good orchard and plenty of water. Fall wheat in, and plowing done on the farm.

Sale will be held on this farm, and will commence at 1.30 p.m.

USUAL TERMS

Locke and McLaughlan, Auctioneers.  
Trains met on date of sale at St. Thomas.

A. Watson & Sons, C. F. Jackson, Proprietors, St. Thomas, Ont.  
Lunch Provided. Long Distance Telephone, Fingal via St. Thomas.

When Writing Advertisers Please Mention "The Farmer's Advocate."

## News of the Week

CANADIAN.

At a gathering of priests, preachers and laity, including representatives from every religious denomination, which met in St. James Parish House, Toronto, on Feb. 20th, it was decided unanimously to urge upon the Ontario Government Dr. Seath's proposal to have religious instruction given in the schools, and a paper on theology added to the list of subjects for Entrance examinations.

The Grey Nuns' Convent in Quebec was damaged, and the church destroyed, on February 20th, by a fire caused by the ignition of benzine fumes in the kitchen. Beautiful paintings valued at thousands of dollars were lost.

A movement is afoot to have libraries established in the rural post offices of Canada.

An appropriation of \$25,000 will be granted to the Canadian Peace Centennial Association for use in connection with the celebration to commemorate the one hundred years of peace between Canada and the United States.

BRITISH AND FOREIGN.

An inflammable dart, to be used by army aeroplanes for setting fire to buildings, was successfully tested at Buch, France, on February 19th.

William Benton, a British subject, was killed last week at Juarez, Mexico, by order of General Villa. A thorough investigation has been ordered.

The United States Senate has sustained President Wilson in his stand that the Panama tolls question be not exempt from arbitration.

Recent tests with Koch's tubercula, greatly improved, have shown that it is remarkably effective in curing cases of bone and gland tuberculosis, also of lung tuberculosis in its early stages.

Rumor announces the forthcoming engagement of Princess Helena, eldest daughter of King Constantine of Greece, to the young Prince of Wales.

On February 21st, the Senate at Washington ratified general arbitration treaties between the United States and Great Britain, Japan, Italy, Spain, Norway, Sweden, Portugal, and Switzerland.

Henri Bergson, author of "Creative Evolution," has been elected a member of the French Academy. Professor Bergson visited America two years ago, and the lecture-halls of Columbia University, where he lectured, were packed to the doors with an enthusiastic audience.

### A Friend.

Sometimes when life has gone wrong with you,

And the world seems a dreary place,  
Has your dog ever silently crept to your feet,

His yearning eyes turned to your face—  
Has he made you feel that he understands,

And all that he asks of you  
Is to share your lot, be it good or ill,  
With a chance to be loyal and true?

Are you branded a failure? He does not know—

A sinner? He does not care—  
You're "master" to him—that's all that counts—

A word, and his day is fair,  
Your birth and your station are nothing to him;

A palace and a hut are the same—  
And his love is yours, in honor and peace,  
And it's yours through disaster or shame.

Though others forget you, and pass you by,

He is ever your faithful friend—  
Who is ready to give you the best that is his,

Unstintedly to the end.  
—Esther Birdsall Darling, in *Up in Alaska*.

## The Beaver Circle

### Our Senior Beavers.

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



Russell Lypps, Harrow, Ont., with His Orphan Pig.

### A Cheerful Pair.

By A. T. Frost.

They went to walk one day, just Jack and Patience,  
Way down the street, and past the candy store,  
They turned a corner, maybe two, the darlings,  
And Patience she was three, while Jack was four.  
Nurse Jane was home, and dogs they passed a-plenty,  
They saw some frightening things, as children can,  
Yet smiled serene, and, oh, I know the reason,  
He wore a soldier cap, she had a fan.  
His shoe-strings came untied, and almost tripped him,  
And from her curls, there slipped a bow of blue,  
A saucy wind across the park came flying,  
It blew her petticoats, and ruffles, too;  
The rain-drops fell so quickly, pitter patter,  
And anxious Jane, straight to their rescue ran.  
But still they smiled—what mattered shine or shadow;  
He wore his soldier cap, she had her fan.

Professor of Astronomy—"Can anyone tell what the 'milky way' is?" Tommy—"Please, sir, I don't know what it is, but I think it was caused by the cow jumping over the moon."

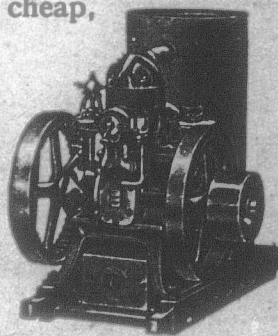
**A SURE ENOUGH COMMANDMENT.**  
A teacher had given lessons to an infants' class on the Ten Commandments. "Can any little child give me a Commandment with only four words in it?" she asked. A hand was raised immediately. "Well," said the teacher. "Keep off the grass," was the reply.

"What do you think makes the sea salt?" was a question put to a school class. A brilliant idea struck a boy. "Please, sir, the 'errings.'"

## Use Coal Oil-12c. for 10 Hours

This is the cost for Coal Oil per horse power to run this engine, figuring the price at 16c. a gallon. Don't let the high price of gasoline prevent you from having cheap, safe and dependable farm power.

# ELLIS ENGINE



Will develop more power on a gallon of the cheapest coal oil than other engines will do on a gallon of high priced gasoline; no danger of fire or explosion. Simplest engine on the market, only three working parts; starts without cranking; runs either way; no excessive weight; guaranteed 10 years and will last a life-time. Anyone can run it; very complete instructions furnished.

### READ WHAT CANADIAN FARMERS SAY

"Have used the 3 h.p. 'Ellis' on the grinder, cutting box and saw. Run it on coal oil all the time."

"Am running on coal oil with the best of satisfaction. Every one thinks it is a dandy."

"We have the 6 h.p. 'Ellis' hitched to a 10-inch grinder. Am entirely satisfied. Engine has wonderful staying powers."

"My engine is running as good now as two years ago, and giving excellent satisfaction."

"My 6 h.p. is running better than ever. I am thoroughly satisfied with the engine and your business methods."

"Would not trade my 3 h.p. 'Ellis' for any 6 h.p. gasoline engine I have ever seen."

"My coal oil engine is a perfect wonder in power. Am more than satisfied."

"The 'Ellis-Nine' is the best engine I ever saw run."

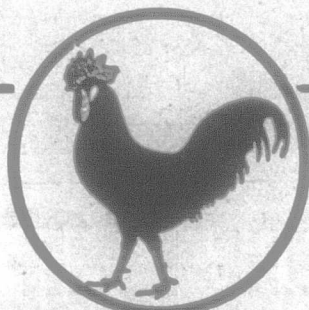
Names and Addresses of these men and hundreds of others on request.

## Make us Prove It!

Don't let any competitor or agent tell you that Ellis Engines will not use coal oil satisfactorily; ask anyone who saw them run at Toronto Exhibition. Let us prove it to you under actual working conditions on your own place before you buy. We'll ship an engine from Windsor, Ontario, on 30 days' trial, freight prepaid, so you will have neither duty nor freight to pay. If we don't prove our claims, send the engine back. Write to-day for catalog and opinions of users in all parts of Canada.

ELLIS ENGINE CO., 94 Mullet St., DETROIT, MICH.

## Winter Eggs



## Black Victor Meat Foods

Black Victor Meat Scrap, \$4.00, per cwt. If your dealer cannot supply you, we will send it all charges prepaid on receipt of the regular price.

Cooped-up hens must be supplied with egg-making food. What hens get in Summer—the natural laying season—they must get in Winter or the egg yield will fall off.

Meat and Bone take the place of the live bugs, grubs and grasshoppers that go to make up a hen's summer rations. The Poultry experts, the Government bulletins—everyone that knows says "Feed Meat for Winter eggs."

Black Victor Meat Foods are clean healthy meat and bone from which all grease, waste and moisture have been removed; more economical than the cheapest fresh meat.

Write for complete price-list.

Matthews-Blackwell Limited - Toronto

When writing advertisers please mention this paper"

## Garden Competition Letters.

To-day you will be pleased to read the "garden letters" sent by Lorne Tucker and Mabel Gunning. Lorne, Margaret Sorley, Elizabeth Hughes, and others, sent nice little pictures, but they were rather too dim to reproduce very well.

Dear Puck and Beavers,—The place where I put my garden was low, and so I could not get my seeds in until quite late. The money for my seeds was earned from chickens which my grandmother gave me a year ago this fall.

One Saturday when I had spare time I went over to the garden and measured out a plot six by twelve feet, and put a stake at each corner, so that I would not get the seeds sown wrong.

I then took the handle of my hoe and made a mark to sow the lettuce seed. I sowed it on all the sides except the front end, as you may plainly see in the picture. I then took the handle of my hoe and made a mark the same shape as that of the lettuce, a foot closer to the middle; this I sowed carrots in. I again made the handle of the hoe useful, making sixteen marks across, putting balsams, nasturtiums, carnations and pansies in them, having four rows of each. I had the balsams to the back, then the nasturtiums, and then the carnations, and to the front the pansies.

I left them then for about a week, and then went to see how they were coming along. The lettuce was up, and I could see signs of the other plants coming. They were soon all up, and I soon made the hoe useful by cutting the weeds. I did all the hoeing myself, and in the dry weather carried a little water from the creek close by, but my mother thought this was too hard work for me, and instead of that I gave it extra hoeing.

I went away for my summer holidays, and when I came back, to my joy, most of the flowers were in bloom.

I then kept the ground loose with my hoe, and the flowers soon came.

When frosty nights came, I covered the plants with corn, as the corn field was close by.

I had my picture taken by a friend of mine, Nicholas Stout, and one night when he wasn't busy he invited me over and we finished them up, besides other pictures.

The cabbage and the other plants you see in the picture are my father's. I am standing at the back of mine.

I did all the planning and work of the garden myself; also the writing of this essay.

After the picture was taken, we used some of the carrots on the table, and they were very nice.

Wishing the Beavers every success with their gardens, I will close.

LORNE TUCKER (age 12, Jr. IV).  
Harold, Ont.

Dear Puck and Beavers All,—The first I did was dig up the soil, then I got a rule and measured out the size of my garden. After this was done, I raked

## Don't Pay Freight on Water

### Use NIAGARA BRAND SOLUBLE SULPHUR

The most talked of SPRAY in America

The SPRAY in powder form with all the following advantages: No leakage or loss—only one-sixth the freight—Keeps indefinitely. Does not freeze—sticks like paint—100 lb. can makes more spray than 600-lb. barrel. Packed in tight cans of 100-lb., 50's, 25's, 10's and smaller. Dissolves immediately in water. Does all the work of Lime-Sulphur Solution and does it quicker and better. A perfect insecticide for scales. A perfect fungicide for apple scab and fungous diseases. Cheaper and more efficient than any other spray. Soluble Sulphur has been used by thousands of fruit growers this past season with wonderful results. It is endorsed by the leading fruit growers in Canada and the United States and by Experimental Stations in Ontario and all over America.

**SOLUBLE SULPHUR** is a patented product. It can only be procured from us. Hundreds of growers were disappointed last season at not being able to secure it. Our supply is limited—Order at once so as to be sure of being supplied. Write for further particulars if you have never used this spray.

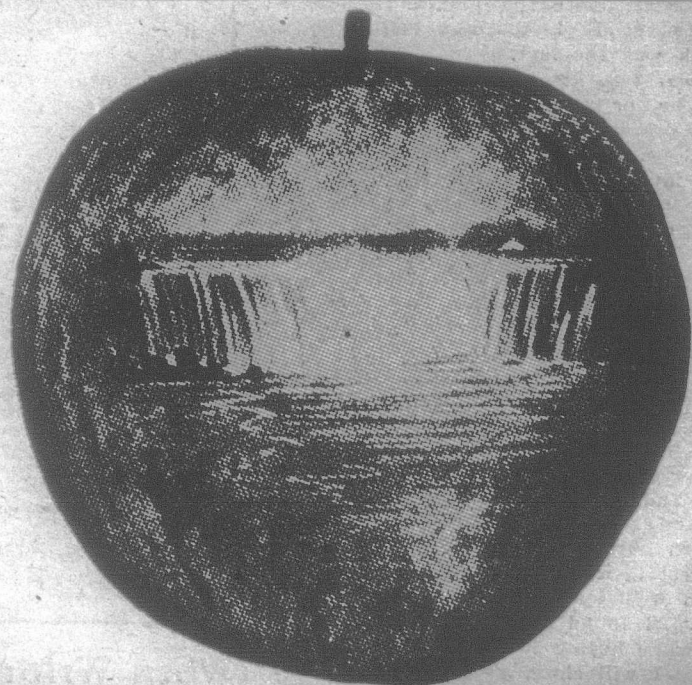
**LIME SULPHUR**—We will still supply the famous Niagara Brand.

**ARSENATE OF LEAD**—The highest grade only—The kind that gives results.

**SPRAY PUMPS**—Bean and Niagara—Hand and Power—Noted for power—capacity—high pressure—low cost of maintenance—efficiency—Send for catalogues.

Let us quote you on your requirements in spraying supplies

**NIAGARA BRAND SPRAY COMPANY, LIMITED**  
BURLINGTON ONTARIO





### Try this Thirsty Flour

A very thirsty flour. Absorbs a lot of water. Because it contains so much gluten. Manitoba wheat is wonderfully rich in sturdy gluten. And, think of it, FIVE ROSES is milled exclusively from the very cream of the Manitoba wheat berries. So FIVE ROSES must be awfully thirsty, don't you see. In your mixing bowl it greedily absorbs more water. So you get more loaves than usual without using more flour. You use less. Your flour lasts longer, doesn't it? Less trips to your dealer's. That's how FIVE ROSES saves money. Actually saves YOU money. Use this economical flour.

# Five Roses Flour

Not Bleached



Not Blended

LAKE OF THE WOODS MILLING COMPANY, LIMITED, MONTREAL

and hoed it until it was quite ripe. I then measured how much room I would have for my vegetables, and how much room for my flowers. When this was finished I got my flower seeds and began to make little trenches for the seeds.

The first thing I planted was sweet peas, which were planted along the side of my garden. I then planted my mignonette along the end of the garden. I then planted my asters, and next to that Chinese pinks, and next to that Shirley poppies, and next to that came petunias.

After that was done I got my vegetable seeds.

I first planted my asparagus, and next to that was beets. Then I planted my carrots. I put the seeds about half an inch apart. I then planted my lettuce, and next to that I planted my beans; after that I planted flax and sorghum, which was the last.

I was very attentive to my garden, and in four or five days some little heads were peeping out of the ground. It was my lettuce. The next thing I noticed was my asters, and at last everything was up in the fresh air. Everything started at once to grow. I was quite busy for a while trying to keep down the weeds. When this was done I had to thin everything that grew, and I then strung up my sweet peas with little branches off trees. The plants soon grew until they were flowering. My poppies were very pretty, as was also my mignonette.

My lettuce is quite thick with seed, and now ready to pull. When my mignonette and poppy seed was ripe I picked it, and also my flaxseed. I hoed my garden once every week. I took great interest in working at my garden, and if I am well I shall have a garden next year. I found many weeds in my garden while hoeing it that I never saw before. I will close, as my letter is get-

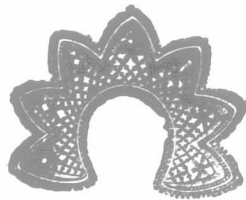
## ENGLISH HAND-MADE LACE

MADE BY THE COTTAGERS OF BUCKINGHAMSHIRE.

This is the old-fashioned lace made on the cushion, and was first introduced into England by the Flemish Refugees. It is still made by the village women in their quaint old way.

Our Laces were awarded the Gold Medal at the Festival of Empire and Imperial Exhibition, Crystal Palace, LONDON, ENGLAND, for general excellence of workmanship.

BUY some of this hand-made Pillow Lace, it lasts MANY times longer than machine made variety, and imparts an air of distinction to the possessor, at the same time supporting the village lace-makers, bringing them little comforts otherwise unobtainable on an agricultural man's wage. Write for descriptive little treatise, entitled "The Pride of North Bucks," containing 200 striking examples of the lace makers' art, and is sent post free to any part of the world. Lace for every purpose can be obtained, and within reach of the most modest purse.



COLLAR—Pure Linen, \$1.00.



DAINTY HANDKIE—70c. No. 910.—Lace 1½ in. deep.

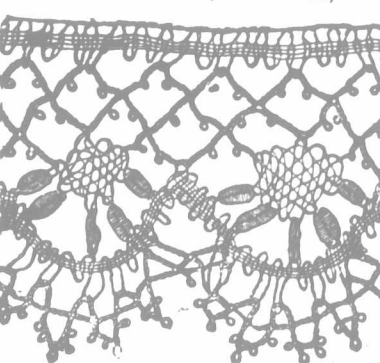
Collars, Fronts, Plaistons, Jabots, Yokes, Fichus, Berthes, Handkerchiefs, Stocks, Camisoles, Chemise Sets, Tea Cloths, Table Centres, D'Oylices, Mats, Medallions, Quaker and Peter Pan Sets, etc., from 25c. 60c., \$1.00, \$1.50, \$2.00 up to \$5.00 each. Over 800 designs in yard lace and insertion from 10c. 15c., 25c., 45c., up to \$3.00 per yard.

### IRISH CROCHET.

Mrs. Armstrong having over 100 Irish peasant girls connected with her industry, some beautiful examples of Irish hand made laces may be obtained. All work being sold direct from the lace-makers, both the workers and customers derive great advantage.

Every sale, however small, is a support to the industry.

(1½ in. deep.) STOCK—Wheel Design. Price 25c. each. (Half shown.)



No. 122.—80c. per yard.

Mrs. Addie Armstrong, Olney, Bucks, England

When Writing Advertisers Mention "The Advocate."

ting long, hoping this escapes the monster w.-p. b. MABEL GUNNING. (Age 10, Book Sr. III.) Science Hill, Ont.

### A LETTER TO THE BEAVERS.

Dear Puck and Beavers,—We are nearly all broken-hearted over all our other sorrows; now Ernest Dunn, the second son, brother of dear Fred that was killed, is on a sick-bed with typhoid fever. He is a M. C. R. fireman in the city of St. Thomas. Gladys loves her brother, so she feels very badly over him. We live out three miles from St. Thomas. Gladys is so pleased; she has received three letters from little Beavers. We have taken "The Farmer's Advocate" for thirty years. We could not do without it. Claude and Gladys can hardly wait till it comes. Gladys will write again soon. Thanking you for your kindness, I remain yours, MRS. E. DUNN.

### Our Junior Beavers.

[For all pupils from the First Book to Junior Third, inclusive.]

### Junior Beavers' Letter Box.

Dear Puck and Beavers,—I have been wondering where my courage was not to write to you before this. I want some boy to write to me about my own age, that is interested in the farm and has animals for pets. We have a lamb and two Rhode Island Red chickens. We had eight of our own. We sold six roosters and kept the two pullets. We have a guineapig to sell. It sings when you say, "Here, Sammy," for that is his name. We live on a farm of one hundred acres, and there is a creek running through our place. I have two brothers

# Ladies benefit by this oven test—

It allows you to use less flour. For only flour that makes more bread and better bread in our oven test is offered you.

From each shipment of wheat delivered at our mills we take a ten pound sample. The sample is ground into flour in a tiny mill. The flour is baked into bread. If this bread is high in quality and large in quantity we use the shipment from which it came. Otherwise, we sell it.

So your benefit from flour bearing this name is sure.

## PURITY

"More Bread and Better Bread" and "Better Pastry Too" 530

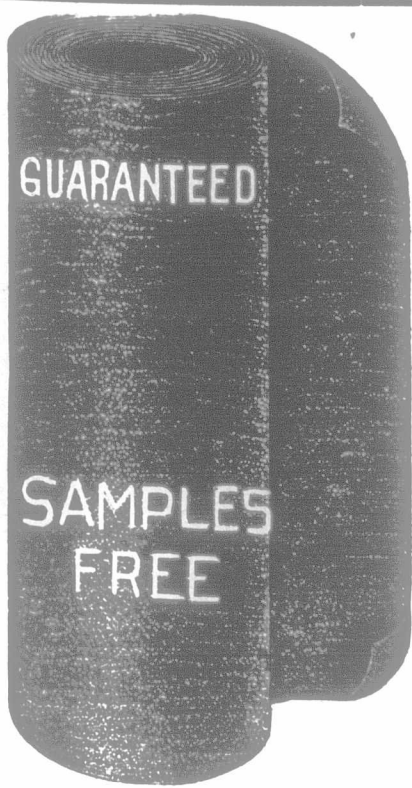


### SO ECONOMICAL!

'Camp' Coffee—one spoonful to one cup—usable, enjoyable—to the very last drop. No dregs, no grounds, no impurities, no waste with 'Camp.' A treat for your children—for you—for all.

# 'CAMP' COFFEE

Of all grocers. Sole Makers—R. Paterson & Sons, Ltd. Coffee Specialists, Glasgow.



## ROOFING SACRIFICED

Only The Labels and Wrappers Spoiled

The floor of our basement containing newly arrived stock of roofing was flooded owing to a break in the sprinkler system. The Roofing itself is as good as ever. Naturally water does not hurt roofing. But rather than re-wrap and re-label this roofing we have decided to sell it at a sacrifice.

### REDUCED PRICES

	Weight.	Regular Price.	Reduced Price.
1 Ply Mica Coated Roofing	35-lbs.	\$1.85	\$1.45
2 " " "	45-lbs.	\$2.25	\$1.75
3 " " "	55-lbs.	\$2.75	\$2.15
4 " Marble "	65-lbs.	\$3.10	\$2.45

All roofing is put up in full rolls of 108 square feet complete with nails and cement all ready for laying. Reduced prices are f.o.b. Hamilton. Roofing takes lowest freight rate.

### ORDER QUICK—SEND NO MONEY

This roofing will go so fast that you won't have time to write for samples. Send your order at once. Tell us how many rolls you can use (each roll covers 100 square feet) and we will ship in our name to your station. Then when the roofing arrives you can examine it and pay for it, after you see what you are getting. If you are not entirely satisfied you don't need to take it.

If you expect to use Roofing this season don't delay your order.

## THE HALLIDAY COMPANY LTD.

Hamilton FORMERLY STANLEY MILLS & CO. Canada

When writing advertisers please mention this paper.

and one sister. She is not two years old yet. She is funnier than any of the others. I got a football and a lot of other games for Christmas. Do you like to go fishing or skating? I like both, and I like to get good big fellows, too. I guess I must close now, so good-bye.

KENNETH TAYLOR (age 11).  
Blyth, Ont.

Dear Puck and Beavers,—I want to tell how my little sister and I amuse ourselves on a cold, sunny day.

We take a thick hand-mirror, with a bevelled edge. When the sun strikes the glass, it throws the light on the walls and ceiling just like rainbows, only they are a great many shapes and sizes. They shine violet, orange, green, red, yellow, and blue. The stronger the sun the brighter the colors. Try it yourself some day and see what good fun it is. I will close, wishing you every success.

SANDY D. CHAPMAN.  
(Age 7, Sr. Primer.)  
Almonte, Ont., R. M. D. No. 2.

Dear Puck and Beavers,—This is my first letter to your Circle. I have been reading "The Farmer's Advocate" for two years. I live on a farm in Ashfield. Our post office is Kingsbridge, Ont. I walk two miles to school. Our teachers are Sisters of St. Joseph. We had a very nice concert in our school before the Christmas holidays. One of the longest dialogues was "The Bogus School Inspector." The bogus inspector asked a girl "What is grass?" She answered, "Whiskers on the face of the earth," and everybody laughed.

I have a brother and sister younger than myself. Their names are Terence and Martina. If this is printed I will write again.

MARY IGNATIA HUSSEY.  
(Age 9, Book III.)  
Kingsbridge, Ont.

Dear Puck and Beavers,—As this is my first letter to the Beaver Circle, I will try and not make it very long. My father has been taking "The Farmer's Advocate" for about a year and a half, and we like reading it very much. We have a farm, and one cow and a calf.

My father is a section foreman on the Temiskaming & Northern Ontario railway. I go to school, and am in Senior Second class. Our teacher's name was Miss Clarke, and she went away. I live eight miles away from a town. The nearest town is Englehart. I guess I will close, wishing kind Puck and all the Beavers a very happy New Year.

WILLE SCHHEVERT (age 11).  
Krugersdorf, New Ontario.

Dear Puck and Beavers,—I like reading the Beavers' letters very much. I have two brothers and two sisters; my brothers' names are Grant and Charlie, and my sisters' are Vera and Alba. I go to school every day. We have a mile and a half to go to school. One sister and one brother and I go. I guess I will close with a riddle. Hope this will escape the scrap-bag.

Why does a duck swim in water? Ans.—Because it can't walk in water.

MARJORIE THOMPSON.  
Beaverton, Ont. (Age 9).

Dear Puck,—This is the second time I have written to your charming Circle. I was disappointed not to see my first letter in print, but I thought I would try again. We are building a new henhouse, but did not get it finished before the snowstorm. We have about one hundred and thirty hens. Last year I got a pair of skates for Christmas, and had lots of fun learning to skate. It was very good weather to skate before the snowstorm, but it does not look much like skating now.

I go to school a mile from home. I am in the Third Class. I am going to try for the Fourth next summer. Our teacher's name is Miss Aldrich. Well, I guess my letter is getting rather long, so I will close with a riddle.

What do you do when you live backwards? Evil.

I hope this will escape the w.-p. b.  
ROBERT RIPLEY (age 9).  
Wallacetown, Ont.

### Honor Roll.

Grant Thompson, Vera Thompson, Luella Boyd, Eleanor Allen, Inez Barrer.

## THIS WASHER MUST PAY FOR ITSELF.

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

So I told him I wanted to try the horse for a month. He said "All right," but pay me first, and I'll give you back your money if the horse isn't all right." Well, I didn't like that. I was afraid the horse wasn't "all right" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now, this set me thinking.

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

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

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

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

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

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

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

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

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

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

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

Address me personally,  
I. V. MORRIS, Manager 1900 Washer Co.,  
357 Yonge St., Toronto.

## 264 Page Book on Silos and Silage

1913 copyrighted edition now ready. Most complete work on this subject published. Used as text book by many Agricultural Colleges.

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Gives the facts about Modern Silage Methods—tells just what you want to know, 264 pages—indexed—over 45 illustrations, a vast amount of useful information boiled down for the practical farmer. Tells "How to Make Silage"—"How to Feed Silage"—"How to Build Silos"—"Silage System and Soil Fertility"—"Concrete or Cement Silos." All about "Summer Silos" and the Use of Silage in Beef Production. Ninth Edition now ready. Send for your copy at once. Enclose 10c in coin and mention this paper.

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Hair on the face, neck and arms, red veins, brown growths on elderly people's faces, and other disfiguring blemishes can always be permanently eradicated in an almost painless manner by our antiseptic method of electrolysis. Booklet "F" and sample of toilet cream mailed free.

HISCOTT INSTITUTE, 61 College St. Toronto Established 1892

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can be cured, not merely of the habit, but of its cause. The Arnott Institute has permanently restored natural speech to thousands—is doing it to-day. Write for full information and references to:

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for sale. Write for samples and prices. W. H. BRADSHAW. CANFIELD, ONTARIO.

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and learn how you can benefit by the experiences of successful poultry raisers, and thus avoid making costly mistakes.

The book tells all about the kind of Incubators and Hovers that have been endorsed by all our Canadian Agricultural Colleges and expert poultrymen everywhere as the most efficient and economical.

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Red Clover Standard No. 1,	\$12.00 Bush.,	Bags free.
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(Northern grown)		
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**SEED GRAIN—O.A.C. No. 27 Oats**

Introduced by O.A.C. Guelph, out-yielded Banner Oats the last 5 years. Very thin hull, splendid straw and big yielder. Price per lb., 15c.; 10-lbs., \$1.00; Bush., \$3.00. Bag included.

Banner Oats, 60c. Bush., Bags extra 25c. each.  
Sheffield Standard, 60c. Bush., Bags extra.  
Tartar King, 60c. Bush., Bags extra.  
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O.A.C. No. 21 Barley, 90c. Bush.; 10 Bush. lots, 85c., Bags extra.

"We make a specialty of Seed Grain."  
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Goods not satisfactory can be returned and money refunded.

Above prices all f.o.b. Guelph. Terms: Cash.

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**Great Athletic Book 10c**

Be strong and athletic. Learn wrestling, self defense, jiu-jitsu. Let **Farmer Burns**, Mgr. **Frank Gotch**, World's Champion, teach you. Great opportunity for young men. Makes you strong, healthy and skillful.

Send 10c for 22-page book showing great holds and tricks by Burns and Gotch. Only a few at this price. Don't delay—send at once—today.

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Am offering a quantity of very choice White Cap Seed Corn. The very best in Poland-China and Chester White wine, and select young Shorthorns. Prices easy.

Essex Co. Geo. G. Gould, Edgar's Mills, Ont.

**Demonstration - Lectures to Women's Institutes.**

During the season of 1912-13, the Women's Institute Branch of the Department of Agriculture gave systematic courses of lectures to 1,667 persons, in addition to a number of others who took only occasional lectures. Each course consisted of from ten to fifteen lectures, depending upon the nature of the work undertaken.

During the months of October, November, and December last, the Department had five persons engaged in similar work. 600 persons took advantage of these classes, and with the courses now in progress, together with those being planned for the months of March, April and May, the season of 1913-14 will witness a material extension in this feature of activity in connection with the Women's Institutes.

A keen interest is being shown in the Sewing course. The majority of members seem to prefer Sewing to instruction in Food Values and Cooking, or even in Home Nursing. It is worthy of note, however, that those who take advantage of the instruction in Food Values and Cooking, appreciate the instruction given very much. Some of the Institutes are asking for instruction in Home Nursing, which is a most valuable course, especially to those who live in the more remote parts of the Province. Altogether, the method adopted for taking systematic instruction by those who have taken advantage of the courses offered, promises to develop into a most important branch of the Institute activities.

**Through the Snow.**

By Richard Le Gallienne.

We fared together through the snow—  
How should we heed the driving blast?  
I felt her heart beat warm below  
The arm that held me fast,  
And in her cheeks the laughing blood  
Bloomed like a rose beneath her hood.

How should I miss the summer flowers,  
With such a flower so sweet and close?  
White Winter seems a friend of ours—  
And all his drifted snows  
But hint of whiter snows that hide  
Here in the breast against my side.

Come singing April soon or late  
For all the frozen world—for me,  
Oh, I can well afford to wait  
For bloom and bird and bee.  
If only she and I can go  
Walking forever through the snow.

—Harper's Magazine.

**No Name Sent from Cashel**

We have received an order for two patterns for children's dresses from the above post office. These will be sent on receipt of necessary information. Name of sender was omitted.

**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.**

**Grass Seed Manuring.**

1. What kind of seed is best for a permanent pasture? Land is clay loam, and lays low.

2. Am manuring 14 acres for barley. Top-dressed seven acres last fall. Would you advise drawing for the other seven acres while the snow is on, or afterwards with a spreader? How would you work it in for a seedbed?

R. H. P.

Ans.—1. Try red top, 10 lbs.; Kentucky blue grass, 10 lbs.; timothy, 6 lbs.; alsike, 2 lbs., and red clover, 4 lbs. per acre.

2. If the land is level and the spreader will work, draw it now, and cultivate in with a spring-tooth cultivator or disk harrow next spring.

DIG YOUR DITCHES WITH  
**C. X. L. Stumping Powder**

Costs less than half of shovel method. Ditches four to five rods long excavated in an instant. One man can do the work. No shoveling of dirt necessary.

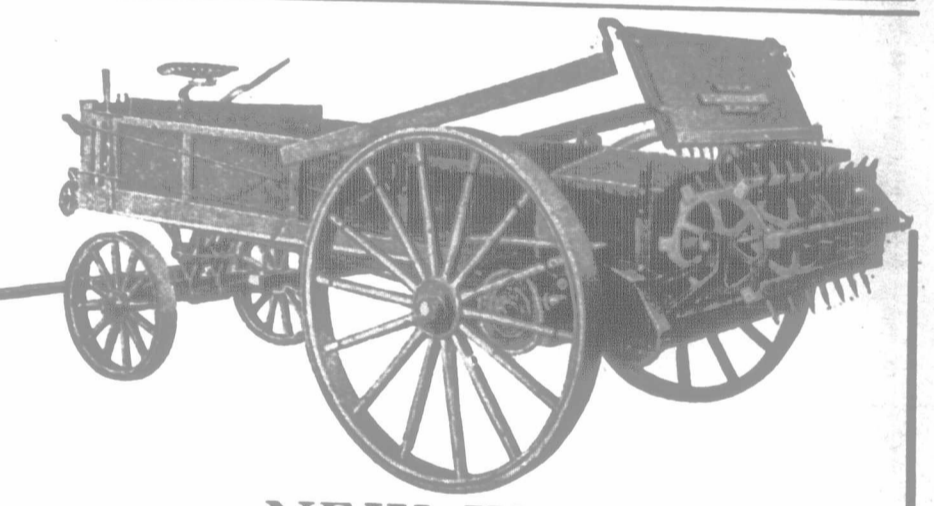


The accompanying cuts were taken from photographs of a ditch blown with C. X. L. Explosives at Kolapore, Ont.



Write for our booklet to-day. It tells you how this can be accomplished.

**Canadian Explosives Limited,** MONTREAL, QUEBEC  
VICTORIA, B. C.



**NEW KEMP LOW-DOWN MANURE SPREADER**

Low enough for easy loading. High enough for clearance.

Short coupled for light draught, both front and rear wheels under load.

The only Spreader equipped with the patented reversible self-sharpening, graded, flat-tooth cylinder.

The only cylinder that will spread all kinds of material. Forty years' experience enables us to give you the best and lightest-draught Manure Spreader manufactured to-day.

Do not buy an experiment, but write for prices and terms; also J. S. Kemp's article on saving and application of manure.

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**NEW COAL OIL LIGHT BEATS ELECTRIC OR GASOLINE**

10 Days FREE—Send No Money

We don't ask you to pay us a cent until you have used this wonderful modern light in your own home for ten days, then you may return it at our expense if not perfectly satisfied. We want you to prove for yourself that it gives five to fifteen times as much light as the ordinary oil lamp; beats electric, gasoline or acetylene. Lights and is put out just like the old oil lamp;

**BURNS 70 HOURS ON 1 GALLON OIL**

Gives a powerful white light, burns common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Guaranteed.

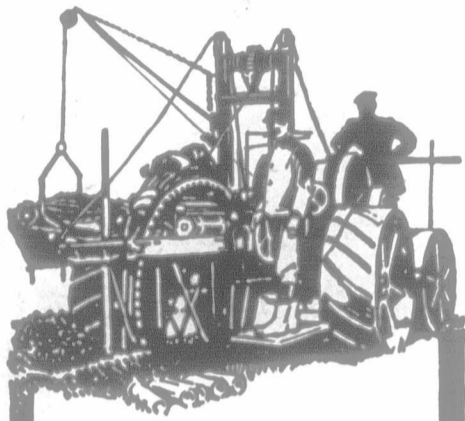
**\$1000.00 Reward**

will be given to the person who shows us an oil lamp equal to this Aladdin in every way (de-dare make such a challenge to the world if there was the slightest doubt as to the merits of the Aladdin? We want one person in each locality to whom we can refer customers. Write quick for our 10 Day Absolutely Free Trial Proposition, Agents' Wholesale Prices, and learn how to get ONE FREE.

**MANTLE LAMP CO., 744 Madison Bldg., Montreal & Winnipeg**

**AGENTS WANTED**

to demonstrate in territory where oil lamps are in use. Experience unnecessary. Many agents average five sales a day and make \$300.00 per month. One farmer cleared over \$500.00 in 6 weeks. You can make money evenings and spare time. Write quick for territory and sample.



**Tile Drainage makes Worthless Acres pay**

MANY an acre that is now worth nothing can be made as productive as any land in its neighborhood, by a judicious investment in tile drainage.

Tile Drainage makes land more fertile, it lengthens the tillage season and it is a protection against drouth.



**A perfect trench at one out**

This remarkable machine is in use all over the country and has been used for years. With it one man can dig up to 150 rods of ditch a day and every foot of it will be of proper grade.

Improve your own farm and at the same time make good money on the side after seasons.

Figure out where you can use tile drainage and size up your neighbors' farms. Then write for the Buckeye Book of Facts, No. 2

The Buckeye Traction Ditcher Co.

FINDLAY, OHIO

Builders also of Buckeye Open Ditchers and Buckeye Gasoline Engines for farm use

**Questions and Answers. Miscellaneous.**

**Up-to-date Pig Pen.**

Please give me, through the columns of your valuable paper, descriptions and illustrations of a few up-to-date pig pens.

W. I.

Ans.—We refer you to the Stock Department of this issue for description and illustrations of practicable pig pens.

**Pipes Clogged.**

We have a water-front in our stove, but having to use hard water in it, have considerable trouble with the lime from the water collecting in the pipes, and thereby preventing the water from circulating freely. Do you know of anything which can be put into the water that will in any way rid it of the lime?

SUBSCRIBER.

Ans.—Do any of our readers know a practical and effective means of overcoming this difficulty?

**Fishing Rights.**

We have a kind of fish in our river commonly called "red-fins." We believe the proper name to be "mullet." These fish have mouths like suckers, and do not bite. We have been told that it is not lawful to catch these "red-fins" in any way but with line and hook. I understand that these fish abound in Lake St. Clair, and are caught there in nets. I would be glad if you could give me any information about the law regarding the catching of these fish. If not, could you kindly give me the address of the proper authorities to whom I should apply for such information?

M. M.

Ans.—Write the Superintendent of Game and Fisheries, Parliament Buildings, Toronto.

**Cows Fail to Conceive.**

I have two cows that I have bred several times and still they are not in calf. Is there anything I can do or give them to do any good? They come around regularly, and are in fairly good condition, and not old.

HALTON SUBSCRIBER.

Ans.—It is believed that in such cases bacteria cause an acid condition of the secretions of the generative organs, which prevents conception. Take an ordinary yeast cake and make it into a paste with a little warm water. Allow this to stand in a moderately warm place for 12 hours, then add one pint of lukewarm, freshly-boiled water; mix, and allow to stand another 12 hours. Prepare this mixture 24 hours before the time the cow is expected to come in heat, and inject it into her vagina the moment she is seen in heat. Breed the cow as she is going out of heat.

**Scratches.**

I have a horse that was bought in Prince Edward Island, weighing about thirteen hundred pounds. Since I got him home I notice one of his hind legs swelling, and upon examination find a white, scaly scurf on the back of the leg near the fetlock, and the hair near the head will be covered with white frost at times while in the barn. He is not lame, and has a good appetite. What is the matter? What treatment should he get? What would be a good ration for him? He is not five years old till late in the spring. The horse was on the train and boat for a week, and unable to lie down. After being out of the car for two days, was driven twenty-seven miles on icy roads to his present home. Would this cause the trouble?

J. L. M.

Ans.—This is likely scratches. Some horses are predisposed to this trouble, and no doubt the long journey might have some effect in bringing on the attack. If bad, poultice with boiled turpentine and powdered charcoal for two days and two nights. After this, dress three times daily with a lotion composed of 1 ounce each of sulphate of zinc and acetate of lead, and 1 dram of carbolic acid, to a quart of water. Dress the itchy parts of the legs twice daily with corrosive sublimate 40 grains to a quart of water. Feed rather lightly on oats, and all the good, well-cured hay he will eat. A little bran in the ration would not be amiss.

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ABSOLUTE SECURITY TO POLICYHOLDERS

**"Some fine day, Bill**

I'll put on some life insurance and when I do I'll take it with you."

In these words last summer a young man declined to apply for an Imperial Life policy to protect his widowed mother against the contingency of his death.

Four weeks later he and a friend were drowned while bathing.

Supposing you should die suddenly—what would happen to your dependents? Would they be destined to a life of hardship? It is for you to say.

You can prevent it by means of an Imperial Home Protection policy. Let us tell you more about it? A postal will bring the information.

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**Potato Profits**

depend largely on how the crop is planted. Every skipped hill is a loss in time, fertilizer and soil. Every double wastes valuable seed. It means \$5 to \$50 per acre extra profit if all hills are planted, one piece in each. That is why

**IRON AGE 100 Per Cent Planters**

often pay for themselves in one season on small acreage. They also plant straight, at right depth, 12 to 24 inches apart. With or without fertilizer distributor. Ask your dealer to show you this Planter and write us for booklet, "100 Per Cent Potato Planting" and copy of Iron Age Farm and Garden News.

The Bateman-Wilkinson Co., Limited, 415 Symington Ave., Toronto, Can.

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Also manufacturers of Iron Pumps for every service, Galvanized Steel, Pine and Cypress Tanks  
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**MULOCK BROS., EDGELEY, ONTARIO**

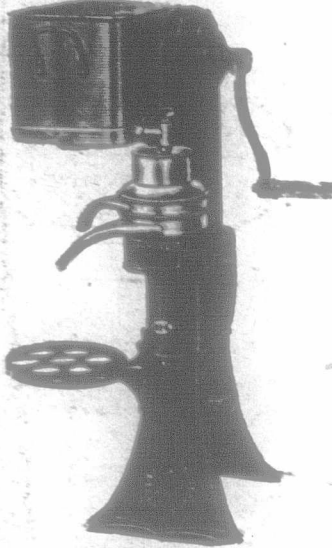
will hold an Auction Sale of Farm Stock and Implements, on Thursday, March 5th, 1914. Their entire stock of registered Clydesdale Mares and Fillies, registered Shorthorn and Jersey Cattle and registered Yorkshire pigs. 8 Months' Credit—No reserve, as the proprietors are giving up farming.

'Phone 357 :: :: :: :: Maple, Ont.

## Hear What Others Say About the

# Standard

Following are some extracts taken from letters received from owners of Standard Cream Separators. They show what others think of the Standard:



"Its skimming by our repeated tests is perfect."

"I think it is the easiest machine I ever turned, and very easily washed, and I don't think there is a separator that can skim as clean taking it all round."

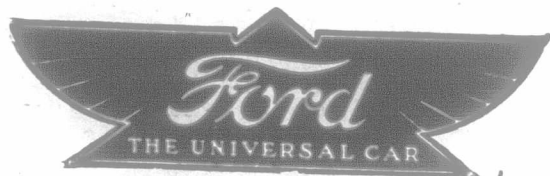
"No back straining to put in the milk and no dirty oil smeared around the machine all the time."

"It has the best oiling device I have ever seen."

"I find it a very close skimmer with the milk in any condition, and that it will deliver any density of cream with either warm or cold milk, and still flush out easily."

The letters from which the above extracts are taken are printed in full in our booklet. Send for a copy. It is interesting, instructive, and fully describes "The World's Greatest Separator," the Standard.

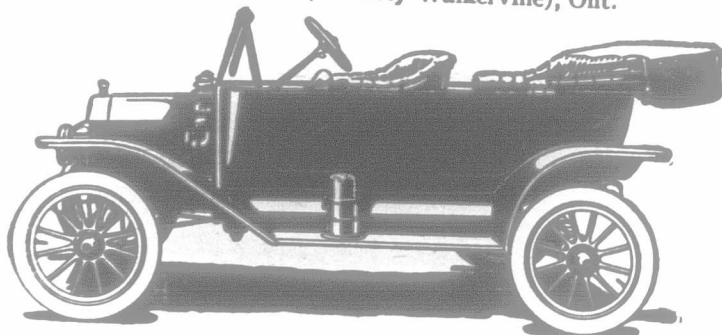
**The Renfrew Machinery Company, Limited**  
HEAD OFFICE AND WORKS: RENFREW, ONTARIO  
Branches: Saskatoon, Sask.; Calgary, Alta.; Sussex, N. B.



## Buy It Because It's a Better Car

Model T  
Touring Car  
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Get particulars from Ford Motor Company of Canada, Limited, Ford (formerly Walkerville), Ont.



**130-Egg Incubator and Brooder Both For \$13.90**

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

**WISCONSIN INCUBATOR CO., Box 342, Racine, Wis., U. S. A.**

**FREIGHT AND DUTY PAID**

### Questions and Answers. Miscellaneous.

#### Book on Bees.

What bee book would you advise for a beginner? Do you sell such books? If so, give me prices. W. T. O.

Ans.—The A B C X Y Z of Bee Culture, may be had through this office, at \$2.25, postpaid.

#### Cows Chew Wood.

I have two cows which seem perfectly healthy, but when left out of the stable they make for lumber piles and old boards and start chewing at them. Give a remedy.

Ans.—This is due to a lack of phosphates in the system. Give 1 dram each of sulphate of iron, nux vomica and gentian, and 2 drams phosphate of lime, three times daily as long as necessary.

#### Pig's Nose Obstructed.

I have a pig about four months old, and its nose is almost closed, so it must draw its breath through its mouth. It seems all right every other way, and the rest are all right. J. A. K.

Ans.—You do not state whether it is a growth or what is closing the nose. If it is a growth in the nostril, as we suppose, you had better get a veterinarian to dissect it out.

#### Twin Breeding.

I am a constant reader of "The Farmer's Advocate," and have had much valuable information from it. I have a cow that has had twin calves, a bull and a heifer. I have been informed that the heifer will be barren. Will you tell me whether this is correct or not? J. J. C.

Ans.—As a general thing, a heifer twinned with a bull will not breed, but sometimes they do. A heifer of this kind is known as a free martin.

#### Aphids on House Plants.

We have some indoor flower plants and the undersides of the leaves are almost covered with a small white fly. Please tell me through your columns: 1st, what are they? 2nd, if injurious to the plant, what is the remedy? W. M.

Ans.—These insects are probably what are known as aphids. Take a quarter of a pound of ordinary ivory soap, shave it into small slices and put a little water on it and put it on the stove until it melts. Then add this solution to a bucketful of water, into which you can dip the plants, if they are small enough to go into an ordinary pail. If you find it inconvenient to dip them, this solution might be administered to the plants through a small syringe or ordinary spraying apparatus. Repeat the treatment several times until they have entirely disappeared. Many florists make use of this mixture with success.

#### A Stave Silo.

1. How many staves, 2 x 6, will it take to build a silo 12 feet in diameter? How many before, and how many after being dressed?

2. Will staves 12 feet long and 6 feet long, be all right for a 30-foot silo?

3. Hoops, to be in two pieces, how long will each piece be, or are they better in three pieces? If so, how long must each piece be, and what size iron?

4. Silo to be set on stone wall, how large inside must stonework be, and how finished inside?

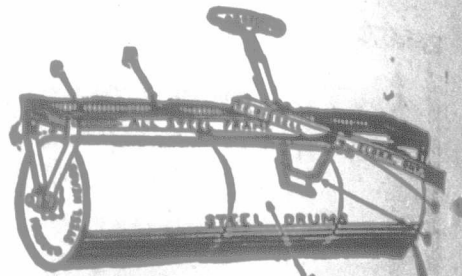
5. What would you finish bottom with? W. F. B.

Ans. 1 and 2. If the staves are dressed, tongued and grooved, it will require about 79 staves, 6 inches wide and 30 feet long. If they are not tongued and grooved, it will require, approximately, 75. That would mean 75 staves 6 feet long, and 150 staves 12 feet long. These lengths work out very satisfactorily.

3. For a silo of this size, hoops in two pieces will be satisfactory. They should be 19½ feet long. The lower bands should be at least ¾-inch, and the upper ones 1-inch.

4. Diameter of the base should be exactly the same size as the inside of the silo proper, so there will be no air spaces formed when the silage settles.

5. The bottom might be finished with concrete, mixed one to eight.



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are all steel except the Pole. They are braced and stayed to stand all kinds of hard work and wear well. The entire frame, bottom and all, is built of steel. The (18) anti-friction Roller Bearings make light draught.

The Draw Bracket and low hitch do away with neck weight.

The Axle revolves with the drums and there is no squeaking or grinding.

The Cages holding the anti-friction rollers are the best yet; they're MADE OF MALLEABLE ALL IN ONE PIECE—no twisting or binding of the bearings on the axle of the "Bissell" Roller. The Seat Spring is reinforced and is DOUBLED AT THE HEEL. These good features are not all of the advantages of the "Bissell" Roller. Many more good points are built into them, making a Land Roller that is "built for business," that stands up against lots of hard work.

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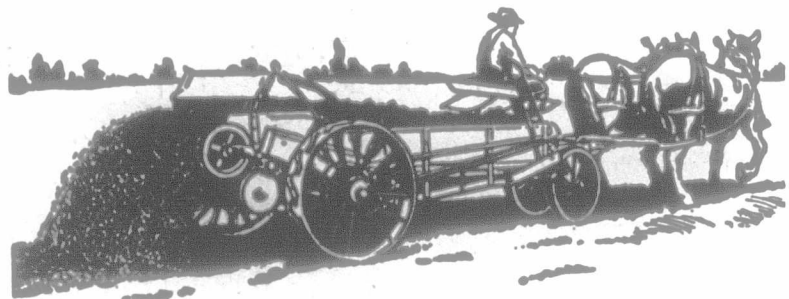
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 Reapers, Reapers Mowers, Mowers, Mowers, Hay Loaders, Hay Presses

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All styles are in the I H C spreader line, high and low, endless and reverse apron, and various sizes for small and large farms. Our catalogues will tell you more. Write for them and let us tell you also where you may see I H C manure spreaders.

**International Harvester Company of Canada, Ltd**  
 At Hamilton, Ont.; London, Ont.; Montreal, P. Q.; Ottawa, Ont.; St. John, N. B.; Quebec, P. Q.

## Questions and Answers. Miscellaneous

### Cement Floor

Kindly advise as to the effect of cement floors on horses' feet. Are they more injurious than other floors? What is the effect of cement floors on tires, both rubber and steel? Replies in your paper will oblige.

W. G. M.

Ans.—It is generally believed that it is better to cover the cement over in horse stalls with a layer of plank. This makes a warmer floor to lie on, one not so hard on the horses' feet, and one upon which they are not so likely to slip. We do not think cement is injurious to rubber or steel tires. They are used in livery and garages.

### Share Farming.

What is the usual division to make, or what do you think would be fair in renting a farm, the landlord to furnish everything in the way of machinery, horses, and breeding sows. There is not much done in the cow end of it, but what there is would need to be taken into consideration. It has been our habit to buy steers in the fall and feed loose in the yard till spring. The landlord would also pay taxes. The tenant to do all the work, and pay for threshing. Who would feed the horses? If the tenant, and he just rented for one year's crop, would he do so for the whole year, or just the working season? How about the seed?

A. F.

Ans.—We cannot suggest any more equitable arrangement than the one we have always advocated, viz.: That the tenant pay 35 per cent. of the expenses, and receive 35 per cent. of the net proceeds. This agreement usually varies between 33½ and 40 per cent., but 35 per cent. seems a fair average to strike, and it may be varied according to the particular conditions existing between landlord and tenant. This means that the tenant do all labor and pay for the hired help, as well as pay 35 per cent. of the taxes. The tenant would be expected to feed all stock for the year if the lease was drawn up for that time. The seed might be divided equally, or the tenant provide 35 per cent. of it, but the whole thing must be decided by the parties to the agreement, as we can only suggest a basis of calculation from our limited knowledge of the particular circumstances.

### Cream Questions.

1. If I make 13 lbs. butter from 44 lbs. cream, what per cent. butter-fat would that be equal to? (Made up butter.)
2. Have heard that sour cream gives a better test than sweet, by the testers used at dairies or creameries. Is that true?
3. Have heard, too, that if cream is frozen during time of gathering, it will not test so well. Is this true?
4. Would it pay a man with 10 or 12 cows to get a fat tester? He ships sweet cream. If so, about what size and price of same?
5. If cream is perfectly sweet when shipped, and is left through neglect where it sours during transportation, should company pay difference in price?

J. W. M.

Ans.—1. It is impossible to estimate exactly as the overrun in all cases is not exactly the same. That is, there is not the same amount of moisture and salt in all butter. Assuming that one pound of butter-fat made one and one-sixth pounds of butter your test would be 24.6 per cent., but it might have been higher or lower, according to the overrun.

2. If the test is accurate there should be no difference in sour or sweet cream.
3. There might be a small loss, but if the cream is properly stirred after thawing out and before taking the sample for testing it should make little difference.
4. It might. Possibly its greatest value would be in testing individual cows to weed out the unprofitable producers. A four-bottle tester, costing between \$6.00 and \$7.00, should do.
5. If you can prove that through the company's neglect a loss to you is caused they could be made pay, but usually it is somewhat difficult to prove that through their negligence alone the goods were damaged.

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will be natural, and justified, if you plant Ewing's Reliable Seeds and give them proper care. The bumper crops which, for forty years or more, have been grown from

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are explained by the care which we take to give our customers only specially selected seeds that are clean, fresh, healthy and true to type—seeds that produce grains, roots, vegetables and flowers of which the growers may well be proud. Write for our handsome illustrated catalogue, and if your dealer hasn't Ewing's Seeds order from us direct.

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You save money—because by using Standard Fence and Posts, you SAVE THE COST of digging post holes.

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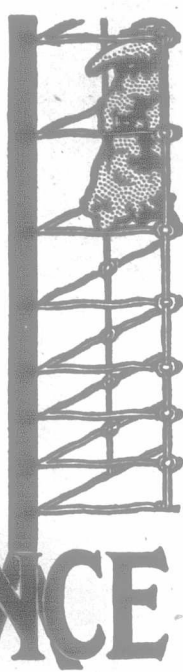
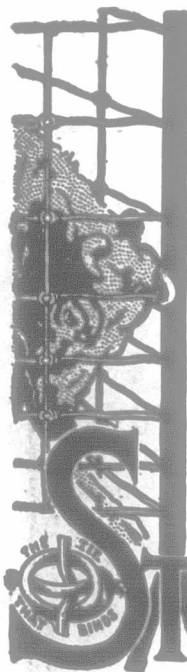
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# STANDARD FENCE

## Reg'd R. O. P. Milking Shorthorns

BY AUCTION, IN THE CITY OF WOODSTOCK,

Tuesday, March 10th, 1914

TO BE HELD IN DR. RUDD'S SALE STABLES.

The herd consists of 7 cows, 4 heifers under a year, 1 ten-months-old bull, and 3 bulls 2 to 3 months old. They are large, strong cattle, nearly all dark reds or red and white. Every cow is a good individual of milking Shorthorn, heavy milk producers and regular breeders. Those under test are the big, strong, red cow, Belle of Beachville 2nd 55450; she is 19 years old April 10, 1914, has been under test 10 months, and has produced 9,483½ lbs. of milk testing over 4%, and still giving 20 lbs. a day, and apparently good for years to come, is safe in calf to College Duke. Butter Belle 96416, a 3-year-old daughter, has produced 5,200 lbs. in ten months, testing over 4% and safe in calf. A pair of 2-year-olds lately entered are doing well also. Duchess of Maple Lane, a very large heavy cow, produced in one

month since calving on Nov. 30 1,394 lbs., testing 4.2%, and others of like record of which records will be given on sale day. The 10-months-old bull is a large, vigorous, growthy fellow, fit for service. His dam is Belle of Beachville 2nd, and sired by our late stock bull, College Duke, now owned by The William Weld Co., Ltd., bred by the Macdonald College, Quebec, out of imp. English stock with high milk records.

Also a big, high-class Hackney mare, 3-year-old, and a good Simplex separator 700 lbs. capacity.

Bereavement in the family the cause of selling, and everything will be sold without reserve.

Terms: 6 months' credit on approved notes, or 6% per annum off for cash.

For further particulars write:

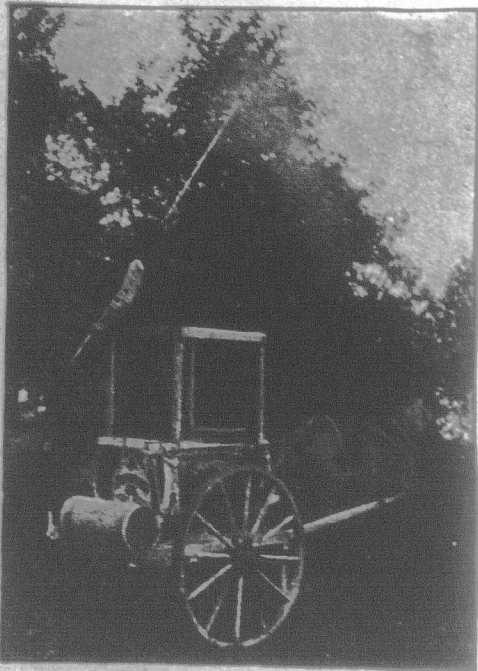
**Walter Pullen, Prop., R.R. No. 1, Beachville, Ont.**  
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If you can get these results, it means more profit from your work and more money in your bank account. There are three ways of tackling crop pests and diseases. You can sprinkle on the mixture in some make-shift



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Investigate the features of Spramotor that you can't find on any other machine—there are twenty of them, each rigidly protected by patents. You should know all about these facts.

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There is only ONE way to stable your stock profitably, and that is the SUPERIOR WAY. If you are building or remodelling, get posted on the most modern stabling for stock. Get my big book with 63 illustrations, describing seven different designs. Cow Stanchions, Cow Stalls, Bull Pens, Maternity Pens, Calf Pens and Calf Stanchions, Horse Stalls and Horse Stall Fittings. Learn about the 17 special patent advantages in Superior Equipment, found in no other make. Superior Sanitary Steel Stable Fittings are the highest-class goods on the market, and cost no more than imitations.

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A PASTE | THE F. F. DALLEY & LTD. | NO DUST  
NO WASTE | HAMILTON CANADA | NO RUST



### Questions and Answers. Miscellaneous.

#### Warts on Colt.

A correspondent writes that he has successfully removed large warts from colts by repeated applications of turpentine.

#### Market for Wood.

Could you inform me of a market for apple wood? J. T.

Ans.—Outside of the regular market for it as fuel, we know of no other, unless it be some of the furniture factories.

#### Sweet Clover Seed.

In your issue of February 5th, Mr. Linton writes a letter about sweet clover. Will you please say where the seed may be obtained, and the price? Could you please answer in your next issue? L. J. C.

Ans.—Write any of the seedsmen advertising in these columns.

#### Dehorning Calves—Manuring.

1. Would like to know if it was made law by the Government that \$2 will be taken off each bullock if not dehorned, or is it only Toronto butchers?

2. Some say that killing the horns with caustic potash injures the head and stops the growth of the calves.

3. Which is the best, to draw manure out and spread it in winter, or put in small piles; or draw it out and spread it just before sowing turnips?

#### SUBSCRIBER.

Ans.—1. So far, this just applies to Toronto market.

2. Properly applied, the caustic potash has no ill effects on the calves, and does not injure growth.

3. If the land is not too rolling, so as to cause too much waste in run-off, it is a good plan to spread on the snow. We do not favor putting the manure in small piles. Hauling in winter saves much time in summer, and when labor is so scarce, is quite advisable.

#### Miscellaneous.

1. How much per horse-power does hydro cost farmers in sections that are using it around London? Also how much would the cost per light be per month?

2. How much should milk sell for per quart when inspection of beef and milk cows re tuberculosis comes in force, so as farmers could make a fair profit after losing part of the herd through beef inspection, and balance with milk inspection?

3. Are the germs prevalent in meat and milk, present in the butter and cheese?

4. Why are the dairies that supply butter to London not inspected, if the germs are identical? F. S.

Ans.—1. Where hydro-power is being used by the farmers in the vicinity of Woodstock and Ingersoll, the charge is \$96 per year for a two-horse-power current, and an additional charge when an excess is used. The lighting comes out of this current, and the whole is paid in one amount.

2. When that time comes, the milk will sell per quart so that the output will yield a reasonable profit after paying expenses of operation, interest on capital invested, a reasonable depreciation, and an amount, which, spread over a number of years, will eventually reimburse the owner for the loss he has sustained through condemned cattle. If the price of milk does not repay the dairyman for his work and expenditure, the production of milk will so diminish that the price will go to a point that will make it exceedingly profitable for someone. However, the city consumer will be glad to pay for an article he knows or thinks is pure.

3. The germs present in meat and milk are present in butter and cheese to a certain extent. Some authorities claim that the germs may be present in cheese in very small quantities up to eight months old, and they are sometimes present in butter.

4. The restrictions in force regarding the milk supply of the city of Toronto are gaining favor in other cities, and you need not worry very much, for the time may soon come when the dairies supplying milk and butter to all our large cities will be officially inspected.



It takes more than good looks to make good roofing.

Some roofings that look good wear bad. Be sure of the waterproofing if you want roofing that lasts.

## Genasco

THE TRINIDAD-LAKE-ASPHALT  
Ready Roofing

is a lasting resister of sun, wind, rain, snow, heat, cold, alkalis, acids, and fire. This genuine natural asphalt from Trinidad Lake keeps Genasco full of life and vigor, and it doesn't crack or leak.

Ask your dealer for Genasco. Smooth or mineral surface. Several weights. The KANT-LEAK KLEET makes seams watertight without cement—packed in rolls of Genasco smooth surface roofing. Look for the trademark. Write us for the Good Roof Guide Book and samples. FREE.

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Largest producers in the world of asphalt and ready roofing.

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Winnipeg and Return - - \$35.00  
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From Toronto and stations north and west of Toronto. Proportionate low fares from stations east of Toronto.

Return limit two months.

Full particulars at Grand Trunk Ticket Offices, or write C. E. HORNING, D. P. A., Toronto, Ont.

## Wanted to buy YOUNG BREEDING SOWS

Grades of any kind. Old enough to be bred.

LAKEBOURNE FARMS LTD., Brighton, Ontario

## Plow Sale

We have quit making plows. From last year's stock we have a number of Waterloo Twin Gang Steel Plows; the No. 13 General Purpose Walking Plows; the No. 21 General Purpose Walking Plows. They will be sold at a sacrifice. Get your order in now.

The Exeter Mfg. Company Ltd., Exeter, Ont.

**Questions and Answers.**  
Miscellaneous.

**How to Tell a Horse's Age.**  
How can you tell a horse's age?  
SUBSCRIBER.

Ans.—Read the article in the Horse Department of this number.

**Direction for Incubators.**  
Would you kindly tell me where I can get directions for a \_\_\_\_\_ incubator?  
S. B.

Ans.—Full directions should be available from the manufacturers of this machine. Articles on incubation appear in this paper from time to time.

**Lame Colt.**

I have a colt coming two in the spring. He is a real good Clyde, and I kept him entire. I have had to keep him in all summer, but unfortunately I let him out one day last July. He got fighting over the woven-wire fence and reared up and got astride the fence and caught his left hind leg between the wire and strained it pretty badly. He did not appear lame after it, or any time since, but about a month later I noticed that the pointed bone on the inside of the hock joint was getting larger, and plumper than the bone on the other leg. I got a good strong blister from my veterinarian, and have applied it four times now. It does not seem to be getting any larger now, but has not got perceptibly smaller, either. Is there anything that I can do, or apply, that will absorb or remove the largeness?  
W. G. A.

Ans.—If the enlargement is of bony formation, you will be unable to remove it, but the blister, which was the proper treatment, would retard further growth, and possibly prevent lameness.

**Potash in Fertilizers.**

This is the way two different fertilizer companies guarantee their analyses. How much actual potash is there in (a) and (c)? What is the difference between potash (actual) and potash (K2O)? What analysis should be worth the most money as far as potash goes?

Fertilizer.	Per cent.
(a)—Potash (K2O).....	3.00
—Equal to sulphate of potash.....	5.55
(b)—Potash (actual).....	5.00
(c)—Potash (K2O).....	5.00
—Equal to sulphate of potash.....	9.24
(d)—Potash (actual).....	8.00

N. S.

Ans.—Actual potash and potash (K2O) are the same. Potash is usually combined with some other element to give a compound of potash, such as muriate of potash or sulphate of potash. Potash (K2O) is the part most valuable as a fertilizer, and is called the actual potash. (c) Contains 2 per cent. more actual potash than (a). (c) is undoubtedly worth more than (a).

**Gossip.**

**H. F. PATTERSON'S HOLSTEIN SALE**  
According to the report of the Dairy Commissioner for the Dominion, the consumption of dairy products in Canada per annum is: Fifteen pounds butter per head; three pounds cheese; one pint of milk per head daily; half pint cream per family of three daily. This, with the ice cream and condensed milk being consumed to the extent of three and one-half million dollars' worth per year, he estimates the total value of the dairy products for the Dominion for the last fiscal year at \$126,000,000. This is \$26,000,000 more than the year previous. With such a statement as that before the farmers of Canada, and the value of those products continually increasing, the security and profit to be realized on an investment in high-class Holstein cattle, such as will be sold at H. F. Patterson's sale on March 12th, has all the banks and real-estate booms withered into insignificance. The quality of this offering can be gleaned from the fact that last summer the Brant Creamery offered a series of prizes for the largest quantity of cream delivered at the creamery produced by any herd of fifteen cows. This herd won first prize over a host of competitors. They will all be sold, without reserve, as the farm is rented for a term of years. See the advertisement in this issue.

TALK No. 5 ON THE  
**"GEORGE" STEEL SHINGLE**  
GALVANIZED



The New Armouries, Oshawa, Ontario.

ON the question of cost, our METAL SHINGLES have many points in their favor. A "Pedlarized" Roof is cheaper than any other, because the first cost is the last cost.

You save time and labor by using either the big "GEORGE" Shingle (24 in. x 24 in.) on your barns, or the "OSHAWA" Shingle (16 in. x 20 in.), of identical design and quality, on your houses, sheds and smaller buildings—a wooden roof takes three days to lay, while a "Pedlarized" roof, of same size is laid in one day. No high-priced labor is required.

The long shingle (24 in.) means a great decrease in the amount of sheathing required—another Big Saving.

Laid with hammer, nails and snips only.

Effect a saving of one-third in nails.

Pedlar's Metal Shingles outlast the building and the builder.

**PEDLAR'S METAL SHINGLES PROTECT YOU FROM FIRE, WIND, WATER AND LIGHTNING**

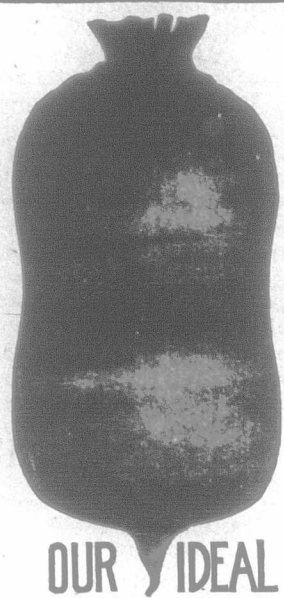
Get our prices on Siding, Corrugated Iron, Vents, Eaves Trough, Conductor Pipe, Finials and Ornaments. Every article is standard throughout Canada.

**THE PEDLAR PEOPLE, LIMITED**  
OSHAWA, ONTARIO ESTABLISHED 1861

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- Order our famous special collections:
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Our home-grown Yellow Mangel, "Our Ideal," leads them all. "Obtained 1,100 bushels from one acre," so writes us a Newmarket, Ont., farmer. This new Mangel is easily harvested and a keeper of highest feeding value. Give it a trial.

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A silo must have an airtight and moistureproof wall to keep ensilage fresh, sweet, succulent and palatable. Don't put up a silo that soon will need repairs, and, even while new, does not prevent your ensilage from souring or rotting. Build a

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The silo that's made of vitrified clay hollow blocks, each layer reinforced by continuous steel bands, and that keeps ensilage in perfect condition right down to the last forkful. Build a silo that will last all your lifetime and for several generations after you—a silo that never needs repairs or painting and that stands a monument to your good judgment.

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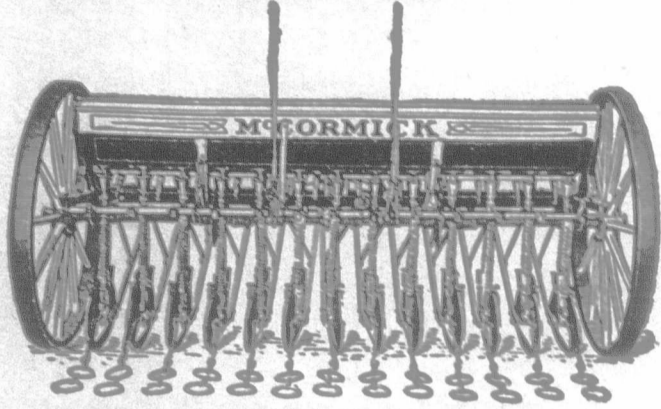
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McCormick single disk and hoe drills have continuous axles, strong, light, thoroughly braced frames of angle steel, and durable, wide running drive wheels. They have a double run force feed which adapts them perfectly to the sowing of all kinds of seed.

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See McCormick drills at the nearest IHC local agent's. All their features are explained in our catalogues. Get catalogues from the dealer, or drop a line to the nearest branch house.

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OTTAWA, ONT.      QUEBEC, P. Q.      ST. JOHN, N. B.  
These machines are built at Hamilton, Ont.

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keeps horses, cows, sheep and pigs in such prime condition, because it is composed of the same herbs, roots, seeds and bark that these animals eat freely when running wild. We grind these ten medicinal substances to a fine powder, mix them thoroughly and give them to you, at their best, in International Stock Food.

This is why a tablespoonful of International Stock Food with the regular grain feed tones up the system of horses, gives them new life, and a glossy coat of hair. It is the best thing you can give a horse for indigestion, liver trouble, coughs, influenza, hide bound or blood trouble. International Stock Food is equally good for horses, cattle, sheep and hogs. It keeps the system in a healthy condition and promotes rapid growth. For sale by dealers everywhere.

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Style Book for 1914, of "Quality Line"

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Twentieth Year of selling direct to the User. Our Catalogue will help you to choose just the Vehicle or Harness you require, and save you money. It describes and pictures many styles, gives prices, freight prepaid, and fully explains our method of Selling Direct, and saving you the middlemen's profit. Remember, we pay the freight in Ontario and Eastern Canada. The Catalogue is free for the asking. Send for it to-day.

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## Bickmore's Gall Cure



The old-time remedy for keeping horses free from sores. Don't lose the services of your high-priced horses. Bickmore's Gall Cure cures Galls and Sore Shoulders while the horse works. Approved remedy for Cuts, Wounds, Scratches, etc. Money back if it fails. Be sure to ask at the store for Bickmore's Gall Cure. Gray Horse trade mark on every box. Sample and 84 page horse book sent on receipt of a stamp for postage.

WINGATE CHEMICAL CO., Canadian Distr's, 8880 Notre Dame St. W., Montreal, Can.

### Questions and Answers. Miscellaneous.

#### Wheezing in Pigs

Would like a remedy for little pigs two months old which have a cough. They have a snoring sound in their nose and throat. Sometimes when they commence to eat they almost choke. One died, and on examination the wind-pipe and throat seemed red and inflamed, and filled with a frothy substance, which came through his mouth before he died. They have a dry, warm bed, and are fed on flour, shorts, and ground barley, with all the skim milk they can drink. J. C.

Ans.—These young pigs are quite likely suffering from either common or infectious bronchitis. For the infectious bronchitis, the treatment would be to close the doors and windows and burn sulphur in the pen where the pigs are, allowing the fumes to get as thick as a human individual could stand them. After burning for ten or fifteen minutes, open the doors and windows and allow the building to air out. It would be advisable also to disinfect the walls, and whitewash them with a mixture containing about five-per-cent. carbolic acid. It is hard to say whether this disease is the infectious kind or not. For the ordinary bronchitis, feed a little Epsom salts and sulphur daily, and if they are very bad, it is beneficial to apply mustard and turpentine as a poultice to their throats. Feed them on laxative food, such as roots and bran, and if possible give them exercise out of doors. Laxative foods, good ventilation, and plenty of exercise, are advisable under all circumstances.

#### Gossip.

SHORTHORNS AND YORKSHIRES AT H. J. DAVIS' FARM.

H. J. Davis, of Woodstock, Ont., the well-known importer and breeder of Shorthorn cattle and Yorkshire swine, has some particularly choice offerings this season in both cattle and swine. His old stock bull, Westward Ho (imp.), a Marr Missie, is breeding better every year, which goes far to prove the fallacy in vogue by so many breeders of continually using a young bull at the head of their herds. The many thick, splendidly-fleshed heifers, and the two yearling bulls, all his get, are the best we have ever seen in these noted stables. This is particularly true of those belonging to Mr. Davis' old Oxford tribe, that originally was of Bates' breeding. One of the oldest of that tribe is Oxford Queen 6th. This cow is good for 50 lbs. of milk a day for months after freshening. Two of her daughters, one a yearling, the other a two-year-old, are a right nice pair, and her last calf, a few weeks old, is a well-balanced bull calf. A grand feature of this tribe is the rapidity with which they flesh up when dry, reaching the big weight of eighteen hundred pounds. The two yearling bulls on hand are by Westward Ho, one of them a Rosewood, the other a Duchess. They are both above the average for fleshing qualities and trueness of lines, and both are solid reds. Scotch tribes represented are, Minas, Marr Beautys, Jilts, Duchesses, Rosewoods, and Rgan Ladys, many of them by Imp. Queen's Councillor and Imp. Bapton Chancellor. The Yorkshires need no recommending. Particularly strong in bacon type, there are a large number of choice young sows bred, and a few young boars.

#### Trade Topic.

CONTRIBUTION TO GUELPH SALE.

W. C. Edwards & Co., Limited, Rockland, Ont., write: "Our contribution to the Guelph sale on March 4th, consists of twelve young Shorthorn bulls of a very high class. A prominent breeder visiting the herd pronounces these bulls one of the best lots he has ever seen in one breeder's hands. They are of that low-down, soggy type, that fit them to head the best herds in the Dominion, and their breeding is of the very best. Breeders looking for herd-headers should not fail to attend this sale. Our private bull catalogue will be mailed on application."

## CLOVER SEEDS

GOVERNMENT STANDARD

Grown in County of Haldimand on good clean farms. We guarantee Seed to satisfy you on arrival, or send it back at our expense. These prices good until next issue.

ALFALFA, Home grown, \$11.00 Bush.  
ALFALFA, Northern grown, \$ 8.50 Bush.  
RED CLOVER - \$10.50 Bush.  
ALSIKE - - - \$11.00 Bush.  
TIMOTHY - - - \$ 4.00 Bush.

Bags are 25c each extra. Cash to accompany order. Ask for samples if necessary.

If you want lower grades enquire. We also make splendid Family Flour and have Feed for sale.

The Caledonia Milling Company, Limited

Caledonia :: :: Ontario

## Lump in Udder

Cured by Sample Bottle of Douglas' Egyptian Liniment

It is not much wonder, that Mr. Allan Schiedel, of New Hamburg, Ontario, is a staunch friend of Douglas' Egyptian Liniment. Here is what he writes about its work for him.

"I have now used Douglas' Egyptian Liniment for 2 years, and find it gives the best of satisfaction for man and beast. I tried the Liniment on 4 cows during the winter, for lump in udder, and a sample bottle cured each case in 36 hours. I also found it good for Muscular Rheumatism and Lumbago."

It's a great thing to always have on hand a bottle of Douglas' Egyptian Liniment. It stops bleeding at once, prevents blood-poisoning, and removes all inflammation, soreness and swelling in man or beast. 25c at all dealers.

Free Sample on request.

DOUGLAS & CO.

NAPANEE :: :: ONTARIO

## PERCHERON STALLIONS

One Grey, two-year-old; one Black, seven-year-old; one Grey three-year-old; also one German Coach, three-year-old. Prices right, main line G. T. R. 30 rods from station. Jacob Steinmann, New Hamburg, Ont.

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If you want to buy Percheron Horses and Mares, I will save you time and money and all trouble with papers and shipment. Will meet importers at any landing port. I am acquainted with all breeders and farmers. 30 years experience. Best reference. Correspondence solicited.

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For sale to settle partnership. Registered Clydesdale stallion Scottish Pride (No. 9813), kind, quiet, broke single or double, sure stock getter.

G. C. MURDOCK, Simcoe, Ontario

## FOR SALE—THE Imported Clydesdale Stallion

Royal Donald (8112) (13691) enrolled, inspected and approved, rising nine years old. We have used him six years here, also some pure bred fillies and mares sired by him. J. B. CALDER, CARLUKE, ONTARIO

FOR SALE—Large Standard Bred Stallion, Coateswood 44698. 16 hands high, weighed in Stud condition, 1440 lbs. A handsome horse, good action grand stock horse, can be seen at Renick, Kent County, Ont. In care of O. W. Adair, who will show, and sell him. Send for breeding. Priced low for quick sale. (This ad. will appear but once). R. C. Coates, V.S., (Owner) Thamesville, Ont.

DR. MCGAHEY'S HEAVE CURE FOR BROKEN-WINDED HORSES. The only medicine in the world that will stop heaves in 3 days, but for a permanent cure it requires from one day to one bottle used according to directions. 50c per bottle. The Dr. McGahey Medicine Co., Kompsville, Ontario.





## Bone Spavin

No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use Fleming's Spavin and Ringbone Paste. Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 5-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket Veterinary Adviser. Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ont.

### SHORTHORNS, COTSWOLDS, BERKSHIRES

For sale—A few Shorthorn females, a limited number of young Cotswold ewes and a number of Berkshires about three months.

CHAS. E. BONNYCASTLE  
P. O. and Station Campbellford, Ontario

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IT WILL PAY YOU  
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### SHORTHORNS

Bulls all sold, choice females for sale. 1 yearling Clyde stallion, 1 weanling Clyde stallion, big, best quality and breeding.

John Clancy, Manager. Cargill Limited, Cargill, Ont., Proprietors.

### GLENGOW SHORTHORNS

Still have a few choice bull calves, and several real nice heifers of different ages.

WM. SMITH, Columbus, Ont.

### Shorthorn Bull

For Sale. I have several choice young bulls for sale, from English Lady and Roan Duchess dams by Red Prince (Imp.) now in his sixteenth year. Also two imported Clydesdale mares in foal and one yearling filly imported in dam. Can now book orders for Leicesters for this coming season.

Geo. B. Armstrong, Teeswater, Ont.

### 5 SHORTHORN BULLS

from 9 to 14 months, large growthy fellows; 1 high-class herd header, 9 months, sired by a Duthie bull; a few good young heifers all priced, worth the money. STEWART M. GRAHAM Lindsay, Ontario

### WOODHOLME SHORTHORNS

I have for sale a most attractive offering in young bulls and young females, pure Scotch breeding unsurpassed, the low thick kind. Write me your wants. G. M. FORSYTH, North Claremont, Ont.

### "OAKLAND" 47 SHORTHORNS

Bulls and females of No. 1 quality. Present offering is three grand bulls, 11, 15 and 20 months respectively. Also a few females of milk strain. Visitors say they find things as represented.

JNO. ELDER & SON, HENSALL, ONTARIO

### Spring Valley Shorthorns

A few of the best young bull prospects we ever had. They will please you. Will sell females too. Visit the herd; we think we can suit you. Particulars on application. KYLE BROS., R. R. No. 1, Drumbo, Ont. Telephone, Ayr

### 1854 MAPLE LODGE STOCK FARM 1914 Shorthorns and Leicesters

have a most excellent lot of young rams for sale, mostly sired by imported Connaught Royal. Something very choice in young bulls. House one mile from Lucan Crossing, G.T.R. Estate of Late A. W. SMITH MADEIRA, ONTARIO

### STOCKMEN

Dehorn your Calves with Humane Dehorner and save the loss incidental to dehorning with the clippers later on. Humane Dehorner operates painlessly and is guaranteed to be effective, or money refunded. Price: Postage Prepaid \$1.00. CANADIAN DEHORNER COMPANY 512 Vester Avenue, Toronto, Ontario

### Spruce Lodge Shorthorns & Leicesters

present offering: A number of good heifers and young cows, with calf at foot, from good milking families. A few ram lambs and a choice lot of shearing ewes, now bred to imp. ram. W. A. Douglas, R. R. No. 2, Caledonia, Ont.

### Questions and Answers. Veterinary.

#### Enlarged Knee.

Two-year-old colt has an enlarged knee. It appears to be a thickening of the skin. D. P.

Ans.—Get a liniment made of 4 drams each of iodine and iodide of potassium, and 4 ounces each of alcohol and glycerine and rub a little of it well into the part once daily. V.

#### Bog Spavin and Thoroughpins.

Three-year-old filly has a soft lump in front, and one on each side of each hock. She sometimes goes lame. R. B.

Ans.—Get a blister made of 2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Clip the hair off the lumps. Tie so she cannot bite the parts. Rub well with the blister once daily for two days. On the third day apply sweet oil. Let loose now in box stall, and oil every day until the scale comes off. Then tie up and blister again. After this, blister once every month until she is turned out on grass. These bursal enlargements are very hard to reduce, and even after an apparent cure, are very apt to recur, but it is seldom they cause permanent lameness. V.

#### Miscellaneous Veterinary.

1. What makes a good liniment to apply to the throat of horses that have distemper?
2. Do horses have distemper more than once?
3. Is it good practice to steam them?
4. Colt has apparently recovered from distemper, but still coughs.
5. Pigs three months old are crippled, and have little use of hind legs.
6. What is good for pigs that have worms?

SCOTLAND.

Ans.—1. One part liquor ammonia fortier, and four parts each of oil of turpentine and raw linseed oil.

2. In rare cases a second attack occurs.
3. Yes.
4. Give him 1 dram chlorate of potash, 15 grains quinine, and 8 grains digitalis three times daily.
5. Purge each with 1½ ounces Epsom salts, and follow up with 5 grains nuxvomica three times daily. Feed on milk, shorts, chopped oats with the hulls sifted out, and raw roots, and see that they get regular exercise.
6. Starve them for 12 to 14 hours. Then mix 1 part oil of turpentine with 8 parts new milk. Shake the bottle well, and give each pig from 4 to 8 tablespoonfuls, according to size. Repeat treatment in about ten days. V.

#### Injury to Knee.

Horse was kicked on his knee. Next day I drove him fifteen miles and he went all right, but when starting for home I noticed him lame, and the knee was swollen and a bloody fluid was escaping from the wound. Next morning the swelling was very great, and extended to the breast. I treated by frequently bathing with hot water. Pus soon began to escape. I blistered all around the joint, and in a week I blistered again, but a yellowish, bloody fluid is still escaping, and the joint is stiff with a callous swelling all around. M. D.

Ans.—The horse should have been given complete rest, and treated under the direction of a veterinarian from the very first. A punctured joint is always liable to be a very serious affair, and no chances should be taken. It is not possible to say whether or not joint oil is escaping, but the symptoms given are very suspicious, and if such be the case, it is very probable the patient will be dead before this. If he be still alive, keep as quiet as possible. If he cannot put any weight upon the leg, place him in slings. Bathe the leg well several times daily with hot water, and dress the wound with one part carbolic acid to thirty parts water. When all discharge ceases, and the wound is entirely healed, the swelling can be reduced by repeated blisters. As injuries of this nature are liable to so many complications, it is always wise to have a veterinarian in attendance. V.

## 502.6 Bushels Potatoes From One Acre of Ground

TWENTY DIFFERENT FARMERS in 20 different parts of New England competed the past year in growing potatoes. The crops were widely separated as to climatic and weather conditions. Each one planted, cultivated and took care of his crop in his own way; but all used

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The winning crop was 502.6 bushels. The average of the twenty crops was 322.8 bushels. The average yield in New England is 131.6 bushels, and for the United States 89 bushels. Our crop-growing contests of the past four years have been so fairly and accurately conducted that they have been accepted everywhere as authentic. Henry Wallace, Editor of Wallace's Farmer, writes: "There is no guesswork about them."

Send for our Book of the Contest. Also tell us what your crops are, and your fertilizer requirements and we will send you our helpful book on Plant Food and our new Illustrated Catalogue.

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#### THE GUELPH FAT STOCK CLUB

Will hold their annual sale of PURE-BRED STOCK (BEEF BREEDS) on Wednesday, March 4th, 1914,

In the Winter Fair Buildings, Guelph.

When there will be offered for sale about FORTY-FIVE HEAD, comprising many good individuals of straight Scotch breeding. This is undoubtedly the best lot ever offered at the Guelph sale, and includes contributions from the herds of several prominent breeders. For catalogues and further particulars apply to

G. L. NELLES, President. J. M. DUFF, Secretary, Guelph

### Shorthorns & Clydesdales

We have seven yearling bulls and seven bull calves from 7 to 12 months. All reds and roans, and of choice breeding. We have some extra good imported mares for sale, also some foals. If interested write for catalogue of their breeding.

W. G. PETTIT & SONS, FREEMAN, ONTARIO  
Burlington Junction, G. T. R. Bell Phone

## SHORTHORNS

"A PLENTY." I have a wide range for selection in Shorthorn bulls and heifers, in pure Scotch or Scotch topped, beef bred and beef type. Dairy bred and dairy type; make a point to visit my herd at Markdale, Ontario.

T. L. MERCER, MARKDALE, ONTARIO

I have ten young Shorthorn bulls, some fit for service now. Part of them are bred, and made so that they are fit to head the best herds in any country, some of them are of the thick, straight, good feeding kind, that will produce money-making cattle; some of them are bred from the best-milking Shorthorns, and the prices of all are moderate. I have Shropshire and Cotswold rams and ewes of all valuable ages. Write for what you want. I can suit you in quality and in price. Ask for Bull Catalogue. ROBERT MILLER STOUFFVILLE, ONT.

Scotch, Bates and Booth. Yes, we have them, pure Scotch, pure Booth, and Scotch topped Bates. Young bulls of either strain. Heifers from calves up; one particularly good two-year old Booth bull, ideal dairy type.

**SHORTHORNS**  
GEO. E. MORDEN & SON, Oakville, Ontario

As ever in the front rank. Special offering: Ten young bulls, quality and price to suit any buyer.

J. A. WATT, Elora, Ont.

We have some of the best young bulls we ever bred, Scotch or Booth breeding, low thick mellow fellows of high quality.

**Glenallan Shorthorns**  
also some heifers. Glenallan Farm, Allandale, Ontario  
R. MOORE, Manager.



**YOU NEED THIS \$9.75 Machine**

It's a valuable outfit that should be in every stable. Those who know the horse best have agreed that to clip him at the proper time improves him in every way. He looks and feels better, does more work, rests better and gets more food from his feed. Insist on having the "Stewart." It's the easiest to turn, does the fastest work, stays sharp longer and is more durable than any other clipping machine ever made. Get one from your dealer, or send \$9.75 and we will ship C. O. D. for the balance. Your money and transportation charges back if not pleased.

**INCREASE YOUR WOOL MONEY**

The way to do it is to get more longer and better wool that will bring a higher price from the buyer. You can if you use a

**Stewart No. 9 Ball Bearing Shearing Machine**

It turns easy that a boy can run it all day without tiring. It is ball bearing throughout, including a ball bearing shearing head, shears, quick and evenly all over. The price including \$15.75 four sets of knives is only \$47.50. Get your dealer to send you, or if you prefer send \$47.50 and we will ship C. O. D. for balance and you may try the machine and if not satisfied money will be refunded. Patented. No competition. Write for catalogue. **STEWART SHEARERS' SUPPLY CO., 110 LaSalle Ave Chicago, Ill.**

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Labyrinth Keyless Padlock. Works like a safe, operated in the dark as easily as in daylight. Every combination different. Used on henhouse, cellar door, barn door, corn crib, refrigerator, automobile, gym locker, mail box—a hundred places. Sold everywhere—city or country. Enormous demand. Splendid profits. Patented. No competition. Write quick for territory, terms and canvassing sample if you mean business. **THOMAS KEYLESS LOCK CO., 2544 West Street, Dayton, Ohio**

**DON JERSEY HERD** Offers young bulls and heifers for sale; heifers bred to Eminent Royal Fern. **D. DUNCAN, DON, ONTARIO** Phone L.-D. Agincourt. Duncan Stn. C. N. R.

**PINE RIDGE JERSEYS** Pure Bred Jerseys for sale of either sex and all ages. **RALPH WILLIS, NEWMARKET, ONT.**

**Dunganon Ayrshires** For high-class Ayrshires, write us or come and see them. We can sell matured cows, heifers, heifer calves, all bull calves are sold. Prices right. **L. - D. Phone. W. H. FURBER, COBURG, ONT.**

**High-class Ayrshires**—If you are wanting a richly bred young bull out of a 50-lbs.-a-day and over cow, imported or Canadian-bred dam or sire, write me. Females all ages. Prices are easy. **D. A. MACFARLANE, Kelso, Quebec**

**Cattle and Sheep Labels**

Size	Price doz.	Fifty tags
Cattle.....	75c.	\$2.00
Light Cattle.	60c.	1.50
Sheep or Hog	40c.	1.00

No postage or duty to pay. Cattle sizes with name and address and numbers; sheep or hog size, name and numbers. Get your neighbours to order with you and get better rate. Circular and sample mailed free. **F. G. JAMES, Bowmanville, Ontario**

**REGISTERED HOLSTEINS**

Orders booked for bull calves from well bred dams with good A. R. O. backing. No females for sale at present. **Wm. A. Rife, Hespeler, Ontario**

**HOLSTEIN - FRIESIAN ASSOCIATION OF CANADA**

Applications for registry, transfer and membership as well as requests for blank forms and all information regarding THE FARMER'S MOST PROFITABLE COW should be sent to the secretary of the Association. **W. A. GLEMONS, ST. GEORGE, ONT.**

**Questions and Answers. Miscellaneous.**

**Huge Log-hauler.**  
Is it lawful to run a log-hauler on the public road, with no way of passing only to turn around and drive to the nearest place of safety? It is an engine as large as a railway engine, with three sleds of logs. The sleds and engine take up eight feet of the road, and there is no possibility of a team passing it.

**Y. J. P.**  
Ans.—We cannot say that it is unlawful to do so.

**Quitting Work.**  
A, a laborer, hires with B, a farmer, for a year, for the sum of \$300, commencing Sept. 1st. On Feb. 1st, A quits work. What part of his wages could A legally collect, his time not being as valuable at that time of year as during summer months?

**Ontario.**  
Ans.—Just whatever the Court might consider reasonable, having regard to all the circumstances. There is no hard-and-fast rule of law applicable to the case.

**Wages Claims.**

1. A works for B for five years without a bargain. Can A claim from B a reasonable amount of wages?
2. A hires to B for one year for two hundred dollars a year, but without a written agreement. A works three months and then leaves without a reason. Can A claim wages from B for the time he worked?

**Ontario. A SUBSCRIBER.**  
Ans.—1. It is probable that he can, unless he is closely related to B.  
2. No. He is only entitled to be paid what a Court might deem reasonable under the circumstances.

**Embarrassed Land Buyer.**  
A buys a farm from B. After receiving a note for the amount due, B requests that a certain piece of land be left in sod, as two of his children are buried there. Nothing of this was mentioned before the agreement was signed.

1. Is A entitled to retire from the contract?
2. Can B be made to remove the bodies?
3. Can A demand return of the note, pending investigation?

**Ontario.**  
Ans.—1. No.  
2. No.  
3. No.

**Sweet Clover.**  
We have a nine-acre field that is run down, and having heard that sweet clover was good for land, and that it would inoculate the soil for alfalfa, thought we would try some. Do you know of any private party we could get the seed from, and about what price per bushel it would be? What amount would be best sown per acre?

**H. P.**  
Ans.—Sweet clover is said to make up poor land rapidly, especially when it is plowed down. It will grow on almost any kind of soil, and may be obtained from seedsmen advertising in these columns. Private growers having seed for sale should advertise in "The Farmer's Advocate."

**Interest on Accounts.**

1. A owns a threshing engine; A a threshing machine. While A has his engine on B's place they got into a dispute. A finished threshing and took his engine home. He was expected to give the power for chopping also, which he did not do. B goes to A to settle his account; A headed him not. (B owed A a considerable sum.) Can A charge interest on his money? He did not send in an account.
2. Has a hired man a right to charge interest on his wages if not paid when the year is out?

**Ontario. S. X.**  
Ans.—Payment of interest cannot be legally enforced in either case until after the debtor has been notified that it would be charged, and then only from the time of his receipt of such notice.

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At a cost of less than a cent a day per head of stock, it will increase their value 25 per cent. Permanently cures Colic, Debility, Worms, Bots and Skin Diseases. Tones up run-down animals so that they quickly gain weight and vigor. Increases the yield of milk cows three to five pounds a day, besides enriching the quality of the milk.

**ROYAL PURPLE** is not a food. It is a conditioner—the best ever so'd. If there was any better we would be making it. It enables your stock to eat the natural food they should eat and get the most benefit from it. Here is the advice of all thorough veterinary doctors—"Feed your stock on food of your own growing"—not pamper them with soft predigested mush so that after a time they cannot digest good, wholesome feed. Feed the good food grown on your own farm—hay, oats, bran, chop, etc. You know what these things cost you and what they will do.

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Do you know that ROYAL PURPLE POULTRY SPECIFIC makes hens lay in winter as well as in summer, and keeps them free from disease? It does, and helps them over the moult, fattens and keeps them in vigorous health. A 50c package lasts 25 hens over 70 days. Shouldn't you try it? We have hundreds of recommendations from all parts of the country. If ROYAL PURPLE does not give you better results than anything you ever used, or give you satisfaction, we will refund your money. No matter what your opinion of other preparations, we want you to give ROYAL PURPLE POULTRY SPECIFIC a chance to show what it can do for your poultry—and a 50c package will show you some fine results. Sold in 25c and 50c packages and \$1.50 air-tight tins.

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If there is a run-down, poorly nourished beast on your farm, see what ROYAL PURPLE SPECIFIC will do for it. A 50-cent package lasts a cow or horse 70 days. The cost is so trifling that no farmer in Canada has any excuse for having out-of-

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Royal Purple Cough Specific for cough and distemper. (Will cure any ordinary cough in four days). 50c, by mail 60c.  
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We will mail for the asking our new revised 80-page book on common ailments of stock and poultry. Tells how to feed light and heavy horses, colic, mares, cows, calves, steers, hogs; also how to feed and keep poultry so that they lay winter and summer. Cover lithographed in six colors, showing farm utility birds in their natural colors. This is a book that should be in every farmer's possession. IT'S FREE. Write for your copy today.

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We are doing the largest business we ever did, chiefly with our old customers young bulls and heifers from sires with tested daughters. Several imported cows and bulls for sale. Canada's Greatest Jersey Herd. **B. H. Bull & Son, Brampton, Ont.**

**Ayrshires & Yorkshires**—Bulls for service of different ages; females all ages. Calves of both sexes. All bred for production and type. A few pigs of either sex ready to ship. **ALEX HUME & COMPANY, CAMPBELLFORD, R. R. No. 3.**

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In official record, high testing Ayrshires, that have won scores of prizes. I can surely supply your wants, over 50 to select from. Young bulls of superb breeding on record producing lines. Also the 3-year-old stock bull, Imp. Whitehall Freetrader. **P. D. McARTHUR :: :: NORTH GEORGETOWN, ONT.**

**Riverside Holsteins**

Herd head by King Johanna Pontiac Korndyke whose near dams and sisters, 12 in all, average 32.77 lbs. butter in 7 days. His sister, Pontiac Lady Korndyke, has a record of 38.02 lbs. butter in 7 days 156.92 lbs. in 30 days—world's records when made. We are offering several females bred to this bull also a few bull calves.

**J. W. RICHARDSON, R. R. NO. 2, Caledonia, Ont.**

**BEAVER CREEK HOLSTEINS AND PERCHERONS**

When wanting some right nice Holsteins of any age, workers and bred from workers, also young bulls, write me. One four-year-old and, one yearling. Percheron stallions for sale; also Buff Orpington cockerels and pullets. **A. MITTFELDT, Elcho P. O. Smithville Station.**

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**BULL CALF** for sale. His dam's record 24.12 butter. Write for pedigree chart. Our price is very reasonable. **D. B. TRACY, COBURG, ONTARIO**



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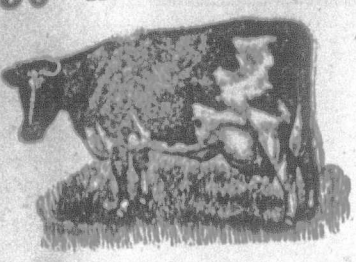
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 chart. Our price is

**50 R.O.M. Holsteins, R.O.P. Holsteins 50**

BY AUCTION



Having rented his Farm Mr. H. F. Patterson, R.R. No. 4, Paris, Ont., will, at his farm on

**Thursday, March 12th, 1914**

hold a complete dispersion sale of his entire herd of 50 R.O.M. and R.O.P. Holsteins, 45 females and 5 bulls, every one a high-class proposition both as individuals and as producer and all in the finest condition

R.O.M. Records from 18 to 23-lbs., Mature 3-year-olds up to 21.43-lbs.; 2-year-olds up to 14.62-lbs. R.O.P. records from 10,776-lbs. for 2-year-olds, up to 21,556-lbs. for mature cows, the latter a private test, many of them with B.F. tests, official, over 4% up to 95. lbs of milk in one day, among them being the 2nd prize cow at the Guelph Dairy Test, both standing and production; also the herd won 1st prize for largest quantity cream delivered to the Brant factory from any 15 cows. On day of sale all trains from any direction will stop at Alford Jc. Station, where conveyances will be in waiting.

TERMS: Cash, or 7 months at 7%.

**WELBY ALMAS, Brantford, Ont., Auctioneer.**  
 For Catalogue, write: H. F. Patterson, R.R. No. 4, Paris, Ont.

**NORFOLK SALE**

The First Annual Sale of the  
 Norfolk Holstein-Friesian Breeders' Club

Will be held in Dr. Burt's Sale Stables, SIMCOE, ONT., on  
**Tuesday, March 10th, 1914**

The cattle offered at this sale have been carefully selected, with a view to winning your confidence. We believe it is the best all-round lot for individuality, breeding and high official records that will be offered this season. Two-year-olds with 7-day records up to 22.07 lbs. butter. Two-year-olds with 30-day records up to 89.65 lbs. butter (Canadian record). Three-year-olds with yearly records up to 19,611 lbs. milk (Canadian record). Three-year-olds with yearly records up to 748 lbs. butter. Mature cows with 7-day records up to 23.42 lbs. butter. Cattle will be sold subject to tuberculin test. No three-teaters. No shy breeders.

Sale will commence at one o'clock sharp. **MOORE & DEANE** Auctioneers.

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**Gossip.**  
 ANOTHER HOLSTEIN RECORD.

It is Glen Canary De Kol 181889 which has broken the record this time. She has displaced Johanna Korndyke Aaggie 189481 in the seven-day division of the senior three-year class, by producing 27.675 lbs. fat from 514.5 lbs. milk. She has displaced Mayflower Lillith Pauline 2nd 184008 in the thirty-day division, by producing in thirty consecutive days, 111.855 lbs. fat from 2,402 lbs. milk. Glen Canary De Kol freshened on January 1st, 1914, at the age of 3 years 11 months and 3 days. She was bred by G. L. Miller, Northfield, Minn., and is now owned by E. C. Schroeder, Moorhead, Minn. This record-breaker was sired by Sir Johanna Canary De Kol 44034, and out of Glen De Kol Artis 3rd 68827.

G. H. MCKENZIE'S SALE OF R. O. P. HOLSTEINS.

In last week's issue there appeared a short resume of the wonderful breeding of the great bull, Sir Lyons Hengerveld Segis, whose sons and daughters will be sold at the big sale of Holsteins, the property of G. H. McKenzie, of Thornhill, Ont., on Wednesday, March 11th. There will be twelve daughters of this bull, from calves up to two years of age, and they are out of R. O. P. dams with official records ranging from 10,000 lbs. for two-year-olds up to 15,000 lbs. for mature cows, and they again out of official-record dams, thus making the entire offering one of exceptional merit, in which heavy-producing ability is permanently bred, for the reason that generations of record-making production are thoroughly established in their breeding. In all, there are to be sold 43 head, 39 of them females, and the other four bulls. As stated above, twelve of the heifers are the get of Sir Lyons Hengerveld Segis, as are also the four young bulls. Mr. McKenzie has leased his farm for a term of years, hence the sale is a complete dispersion, absolutely without reserve. All the mature cows will either have a calf at foot, or be in calf to the great bull, and all will be in the nicest kind of condition. For full particulars of the breeding, records, etc., write Mr. McKenzie to Thornhill P. O. for a catalogue.

**43 R.O.P. HOLSTEINS 43**

BY AUCTION

Mr. G. H. McKenzie, of Thornhill, Ontario, has leased his farm for a term of years; and on  
**Wednesday, March 11th 1914,**

will sell without any reserve, his entire herd of 43 R.O.P. Holsteins, 39 Females and 4 Bulls. Mature Cows in official R.O.P. tests averaging 15,000 lbs., two-year-old heifers averaging 10,000 lbs. All two years and under, the get of Canada's richest bred Sir Lyons Hengerveld bull, Segis, the records of whose Dam and Sire's Dam average 30.46 lbs. in 7 days, and 126.52 in 30 days, and average B.F. test 3.98%; the average record of his five nearest dams 27.51 lbs. A son of the great King Segis, with 70 R.O.M. daughters, 21 of them two-year-olds, with records from 20 to 26.44 lbs. All the Cows will be in calf to him. A high-class show herd, in show condition. Terms: Cash, or 8 months with 7%.

**J. H. Prentice, Auctioneer.** Sale at 1 p.m. Sharp.  
 Stop 39 on Metropolitan Electric Road, is exactly at the gate of the farm.  
 For Catalogue: Write, W. G. McKenzie, Thornhill, Ontario



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| Prilly, 7 day butter record   | - | 25.20-lbs. |
| Beauty Pietertje              | - | 30.51 "    |
| Lilian Walker Pietertje       | - | 30.01 "    |
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| Segis Walker Pietertje        | - | 27.85 "    |
| Buttercup Clothilde Pietertje | - | 32.92 "    |
| Mary Walker Pietertje         | - | 31.81 "    |
| Marion Walker Pietertje       | - | 31.63 "    |
- These are the Champion 3, 4 and 5 Generations of the

**HOLSTEIN HERD**

Buy a son of King Segis Walker from daughters of Pontiac Korndyke and get connected with this family.

A. A. FAREWELL, Oshawa, Ont.

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Present offering: a few bulls fit for service, sired by the great King Lyons Hengerveld, who is beyond doubt the richest butter and milk bred bull of the breed in Canada. These bulls are out of high testing R.O.M. cows and heifers, and individually are unsurpassed. Also a few heifers just freshened. If you want the best write me for prices and particulars.

H. BOLLERT, R.R. No. 1, Tavistock, Ont.

**Woodbine Holsteins**

Young bulls and bull calves, sired by Duke Beauty Pietertje; sire's dam's record 32.52 lbs. butter, and his two grand-dams are each 30-lb. cows, with 30-lb. daughter, with 30-lb. granddaughter. Three generations of 30-lb. cows. If you want a bull that will prove his value as a sire, write

A. KENNEDY & SONS, R.R. No. 2, Paris, Ont.  
 Stations: Avr. C. P. R.; Paris, G. T. R.

**The Maples Holstein Herd**

Headed by Prince Aaggie Mechthilde. Present offering: Bull calves born after Sept. 1st, 1913. All sired by Prince Aaggie Mechthilde and from Record of Merit dams. Prices reasonable.

R. R. No. 5, WALBURN RIVERS, Ingersoll, Ontario

**GLENWOOD STOCK FARM HOLSTEINS**

3 yearling bulls for sale, out of big milking strains; at low figure at quick sale. Thos. B. Carlaw & Son, Warkworth, Ont. Campbellford Station.

**Trade Topic.**

Doubtless many of our readers who have been following with interest the articles on "Artificial Fertilizers," concluding in last week's issue, will be glad to avail themselves of the opportunity to secure the whole series of twelve articles, bound in pamphlet form (80 pages), with ready-reference index of contents. Mr. Emslie intimates that he will send this book free to any reader of "The Farmer's Advocate" addressing him at 1106 Temple Building, Toronto.

**Fairview Farms Herd**

Offers for sale: A son of Rag Apple Korndyke 8th out of a daughter of Pontiac Korndyke with a record of 27.72 lbs. in 7 days, averaging 4 1/4% fat. Grand dam has a record of 29 lbs. Calf is nearly ready for service. Write me for description and breeding.

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Senior herd bull—Count Hengerveld Fayne De Kol, a son of Pieterje Hengerveld's Count De Kol and Grace Fayne 2nd. Junior herd bull—Dutchland Colantha Sir Mona, a son of Colantha Johanna Lad and Mona Pauline De Kol. Third bull—King Canary Segis, whose sire is a son of King Segis Pontiac, and whose dam is 27-lb. three-year-old daughter of a 30-lb. cow. Write for further information to—


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**HOLSTEINS FOR SALE**—Male or female. Herd sire, Prince Hengerveld of the Pontiacs, son of King of the Pontiacs. A few choice females bred to above sire.

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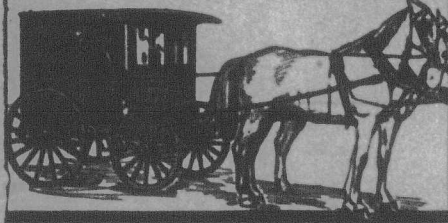
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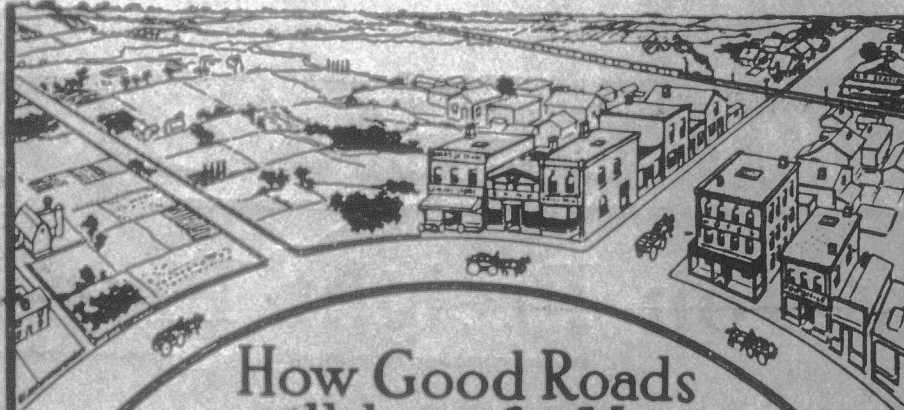
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| Scales  | Stoves     |
| Pumps   | Engines    |
| Pullies | Brooders   |
| etc.    |            |

Your name and address on a card brings it.

STYLE			Page Heavy Fence			PRICES		
No. of	Height, inches	Uprights, inches apart	No. 9 Page Wire throughout in 20, 30 and 40 Rod Rols, Freight Paid.			Old Out. per rod	New Out. and Outfit	Maritime Prov.
			Spacing of Horizontals in Inches.					
4	30	22	10, 10, 10	.....	.....	\$0.16	\$0.18	\$0.19
5	37	22	8, 9, 10, 10	.....	.....	.18	.20	.21
6	40	22	6½, 7, 8½, 9, 9	.....	.....	.21	.23	.24
7	40	22	5, 5½, 7, 7, 7½, 8	.....	.....	.23	.25	.26
7	48	22	5, 6½, 7½, 9, 10, 10	.....	.....	.23	.25	.26
8	42	22	6, 6, 6, 6, 6, 6, 6	.....	.....	.26	.28	.29
8	42	16½	6, 6, 6, 6, 6, 6, 6	.....	.....	.28	.30	.31
8	47	22	4, 5, 5½, 7, 8½, 9, 9	.....	.....	.26	.28	.29
8	47	16½	4, 5, 5½, 7, 8½, 9, 9	.....	.....	.29	.....	.....
9	48	22	6, 6, 6, 6, 6, 6, 6	.....	.....	.29	.31	.32
9	48	16½	6, 6, 6, 6, 6, 6, 6	.....	.....	.31	.33	.....
9	51	22	4, 4, 5, 5½, 7, 8½, 9, 9	.....	.....	.29	.31	.....
9	51	16½	4, 4, 5, 5½, 7, 8½, 9, 9	.....	.....	.31	.....	.....
10	48	22	3, 3, 3, 4, 5½, 7, 7, 7½, 8	.....	.....	.31	.33	.....
10	48	16½	3, 3, 3, 4, 5½, 7, 7, 7½, 8	.....	.....	.33	.....	.....
10	51	16½	3, 3, 3, 4, 5½, 7, 8½, 9, 9	.....	.....	.33	.....	.....
10	51	22	3, 3, 3, 4, 5½, 7, 8½, 9, 9	.....	.....	.31	.33	.....
11	55	16½	3, 3, 3, 3, 4, 5½, 7, 8½, 9, 9	.....	.....	.36	.....	.....

Medium Weight Fence			(Maritime Province prices of Medium Weight, also Special Poultry Fences, including painting.)					
No. of	Height, inches	Uprights, inches apart	No. 9 Top and Bottom, and No. 12 High Carbon Horizontals between; No. 12 Uprights; No. 11 Locks.					
5	36	16½	8, 8, 10, 10	.....	.....	.18	.19	.22
6	36	16½	6, 7, 7, 8, 8	.....	.....	.20	.21	.24
6	42	16½	7, 7, 8, 10, 10	.....	.....	.20	.21	.24
7	42	16½	6, 6, 7, 7, 8, 8	.....	.....	.22	.24	.27
7	26	8	3, 3, 4, 5, 5, 6	.....	.....	.23	.25	.28
8	48	16½	4, 5, 6, 7, 8, 9, 9	.....	.....	.26	.28	.31
9	36	12	3, 3, 3, 4, 5, 6, 6, 6	.....	.....	.27	.29	.32
9	50	16½	3, 4, 5, 6, 7, 8, 9, 9	.....	.....	.28	.30	.33
10	54	16½	3, 3, 4, 5, 6, 7, 8, 9, 9	.....	.....	.30	.32	.35

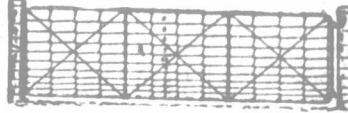
  

SPECIAL POULTRY FENCING			No. 9 Top and Bottom. Intermediates, No. 13. Uprights 8 inches apart.					
18	48	8	Close bars	.....	.....	.42	.44	.46
20	60	8	Close bars	.....	.....	.47	.49	.52

STAPLES—25-lb. box, freight paid			.75	.80	.85
BRACE WIRE—25-lb. rolls, freight paid			.70	.75	.80
STRETCHING TOOLS—Complete outfit, ft. pd.			8.00	8.50	9.00

PAGE "RAILROAD" GATES				
48	10-ft. opening		3.80	4.00
48	12-ft. opening		4.00	4.20
48	13-ft. opening		4.25	4.45
48	14-ft. opening		4.50	4.75

## PAGE WIRE FENCE CO., Limited

TORONTO  
1140 King Street W.

WALKERVILLE  
89 Church Street

MONTREAL  
508 Notre Dame Street W.

ST. JOHN  
42 Dock Street

WINNIPEG  
A. J. McMillan, 101 James Street E.

Prices for North-West on application.



# "PAGE FENCES WEAR BEST"