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SAMPLE COPY

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE  
SUCCEED  
FOUNDED

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

Vol. XLVII.

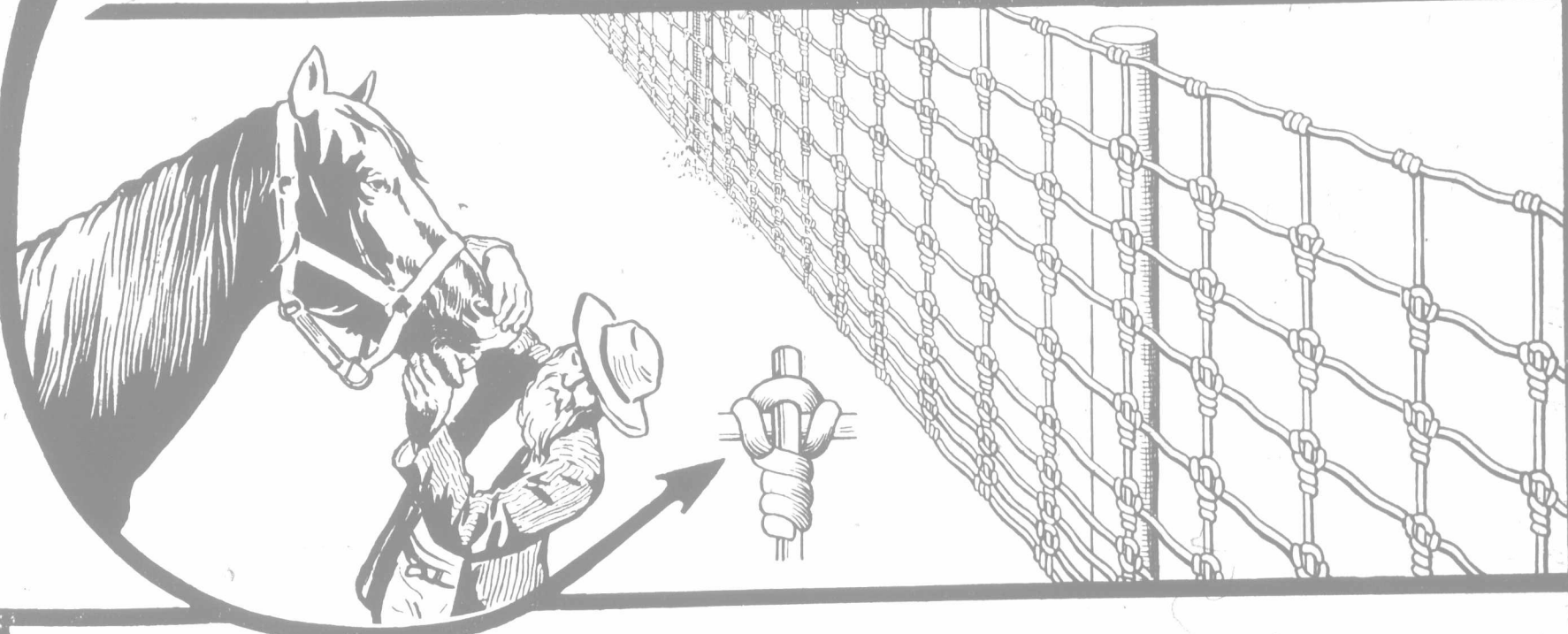
LONDON, ONTARIO, MARCH 28, 1912.

MAY 17 1912

No. 1018

Publications Branch

**YOU should exercise the same watchfulness in buying fence as in buying a horse.**



**YOU** should exercise the same watchfulness in buying fence as you would in buying a work horse.

If you take the precaution to look the "gift horse" in the mouth you'll likely see the reason for the low price. If you don't do so, you'll discover that you've made a bad bargain when the animal is pressed into service. But, of course, one must not expect soundness and faithfulness when he buys a horse very cheap.

Just now the same illustration applies forcibly to much of the woven wire fencing that farmers are being induced to buy at "gift-horse" prices. So when you hear of fence

being offered at a price below normal be watchful. Keep your eyes peeled. It is true that the bad points may be very cleverly disguised, but when the fence is pressed into service it won't require long to show you the why of the "gift-horse" price.

The use of small gauge wire, enabling the maker to economize in the weight, and thinly-galvanized wire purchased at cut prices, are two of the "gift-horse" features that can be detected at first sight. The quality of the wire and impractical weaving methods are other defects that show up soon enough after the fence is stretched.

When you buy **FROST FENCE**

you get a reliable fence with staying qualities. You pay a little more than is asked for the cheapest fence and less than some fences are offered for, but you get extra years of service and a full measure of satisfaction as well.

All the material used in **FROST FENCE** is made and galvanized right here under our own roof. We pay \$125 per ton for pure zinc. We put as much zinc on the surface of our wire as is practicable, instead of seeing how thin we can make the coat.

We make our own machines for weaving fence, and have experi-

mented at our own expense, not yours, to get best results.

The "**FROST**" is the square-mesh fence, with straight and evenly-spaced stays, and horizontals of even length. The tie or binding not only holds the stay to the horizontal, but is actually tied to it, several complete wraps and twists being involved.

**FROST FENCE** is stocked heavily with **FROST** dealers, one in every town or township. Some are in business to build the fences they sell. Others will loan you tools for stretching.

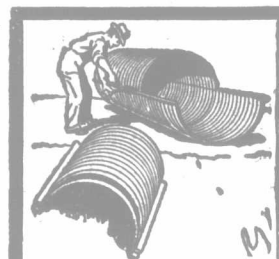
If you have not been a user of **FROST FENCE**, start now.

**"Frost" Fence** Company, Limited  
Hamilton, Canada

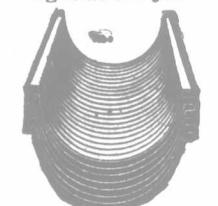


# FREE to FARMERS, REEVES and MUNICIPAL OFFICERS

**a Sample of the Easiest Laid, Strongest Frost-proof Culvert Ever Made for Farms and Roads, with Book of Facts.**



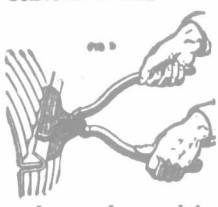
You put Pedlar's Perfect Corrugated Culvert up like this—right at the job



after teaming it there in handy bundles like this—



which fit into each other like this—



and are clamped in a three-flange stiff joint with a tool like this. Isn't that quick and easy? It is. There is no other way so good. Get Book.

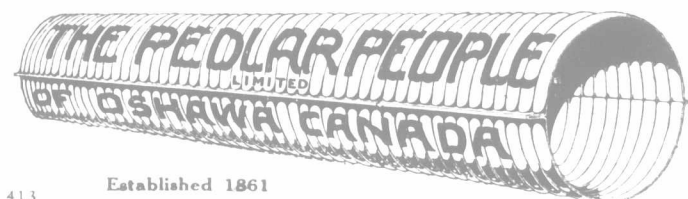
**EVERY** farmer wants to reduce his taxes and statute labor. Pedlar's strong, non-rusting corrugated culvert saves excavation hauling and time, and makes a culvert that will not wash out or cave in like brick or cement. Much better than wood. Needs no attention. Time you now give to culvert repairs can be given to the road surface only. Learn about Pedlar culvert and how much better it is.

# PEDLAR CULVERT



**YOUR** own farm ought to have this culvert at every open drain. Useful for drains, feed chutes, stable ventilation shafts, barn bridges on sidehills. Strong enough for holding up traction engines. Remember it is easy to use, stands frost and ice, never corrodes, being made from non-corrosive Toncan metal, takes only a short time to put in place. Get the free sample and book. Learn how to use it on your farm.

**SEND NOW** A SAMPLE OF THE CULVERT IN STRONG, NON-CORRODING GALVANIZED METAL WILL SHOW THE WHOLE STORY AND THE BOOK WILL HELP. WHY NOT LEARN ALL ABOUT IT NOW?



Established 1861  
 CALGARY Room 7, Crown Block ST. JOHN, N.B. 42-46 Prince William St. PORT ARTHUR 45 Cumberland St.

## The Why and How of this Wonderful Culvert

**P**EDLAR'S Perfect Corrugated Culvert is in very heavy and thick, strong metal, galvanized after being deeply corrugated. Unlike wood, it never rots. Unlike brick or concrete, frost and ice cannot burst it. A single man can make it up, clamp the wide, flat flanges tightly, and roll it into place. Not a useless shovelful of earth has to be lifted, as in every other kind of culvert, and Pedlar's Perfect Culvert is so strong it can hold up a traction engine on the ground itself. You save teaming, because the nested sections are compact. Washouts are impossible. Once you use it, you have no more culvert-trouble.



See what a neat bridge it makes across the highway ditch at your gate. Placed in half a day. Remember you can make any length culvert from sections of Pedlar's Nestable Culvert.

Below are two men doing statute labor. They are just setting a section of built-up Pedlar Culvert in place. See how little excavation is needed—hardly any. This means quick, easy work. This culvert will stand the heaviest loads and the hardest freshets without washing out. It comes from 8-inch sizes up. You build any length you need right at the job. Use Pedlar Perfect Culvert.



See How Easy it is to Use Pedlar Culvert Get Book and Sample Free To-day

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Write at once for this valuable book. It contains information that every farmer should have regarding the satisfactory housing of dairy cows. It explains every fundamental of correct construction and gives proper dimensions and arrangements. It describes lighting, ventilation, stable floors, and their construction, and contains suggestions about silos, site, exposures, appearance, design, drainage and inside equipment. Besides, you will find in this book a number of practical barn plans and other information that may point the way to your saving many a dollar. We have designed many of the finest and most modern dairy barns in this country and this book is based on our long experience and expert knowledge in dairy barn construction. The book contains in concise, clear and condensed form, information necessary to any farmer who is planning to build or remodel. Understand, we send you this book absolutely free without any obligation on your part—just for answering these few questions: Do you intend to build or remodel? How soon? How many cows have you? Will you want a litter carrier? Will you want a hay fork outfit? Send to-day.  
**BEATTY BROS. DCX A FERGUS, ONTARIO**



**TOWER'S FISH BRAND REFLEX SLICKER**  
 The design shows how our REFLEX EDGES (pat'd) keep water from running in at front of coat. Every drop goes down and off, so  
**YOU CAN'T GET WET**  
 MADE FOR SERVICE SATISFACTION GUARANTEED SOLD EVERYWHERE  
 TOWER CANADIAN LIMITED TORONTO.

## 160 Acres of Land for the Settlers

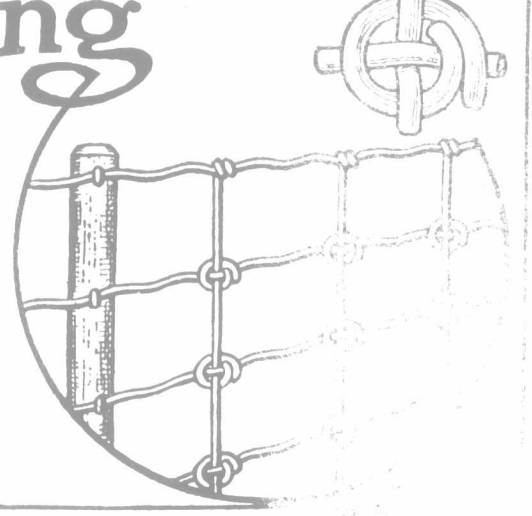
Large areas of rich agricultural lands, convenient to railways, are now available for settlement in Northern Ontario. The soil is rich and productive, and covered with valuable timber.  
 For full information regarding homestead regulations and special colonization rates to settlers, write:  
**The Director of Colonization**  
 DEPARTMENT OF AGRICULTURE TORONTO.



**INVINCIBLE FENCING**  
 Like the invincible, thoroughbred British Bulldog, never lets go. Its locks, stays and strands are of the hardest, strongest, toughest, best galvanized open hearth steel wire ever used in fencing. They embody in zinc-clad, rust-proof steel, the invincible qualities of that famous breed of dog which never relaxes its hold.

# Invincible Fencing

From first to last, from ore to finished product, INVINCIBLE FENCING is Canadian made and Canadian quality, intended for Canadian trade. The Steel Company of Canada wants the patronage of Canadian fence buyers and intends to get it by supplying a product which in quality and value cannot be surpassed.  
 Invincible, Hot process Galvanized Gates, galvanized after made, absolutely lead the world in quality. They are the final word in the art of gate making.  
 Our agency is without exception the most desirable fence line for the future in all Canada. Write at once.  
**The Steel Company of Canada, Limited.**  
 The Fence Department, Box 22 MONTREAL, CANADA.



London Automatic Concrete Mixer does any kind of mixing automatically, measures and mixes. If you use concrete you better write us for price of this machine. We have the largest line of concrete machinery of any firm in the world. Tell us your requirements. London Concrete Machinery Co., Dept. B., London, Ont.

GOES LIKE SIXTY BELLS LIKE SIXTY \$65  
 BELLS FOR  
**GILSON GASOLINE ENGINE**  
 For Pumping, Cream Separators, Churns, Wash Machines, etc. FREE TRIAL  
 Ask for catalog—all sizes  
 GILSON MFG. CO. Ltd., Dept. 10 GUELPH, ONT.

**Corn that Will Grow**  
 Canadian grown seed corn. Your money back if not satisfied.  
**J. O. BURL, RUTHVEN, ONTARIO**

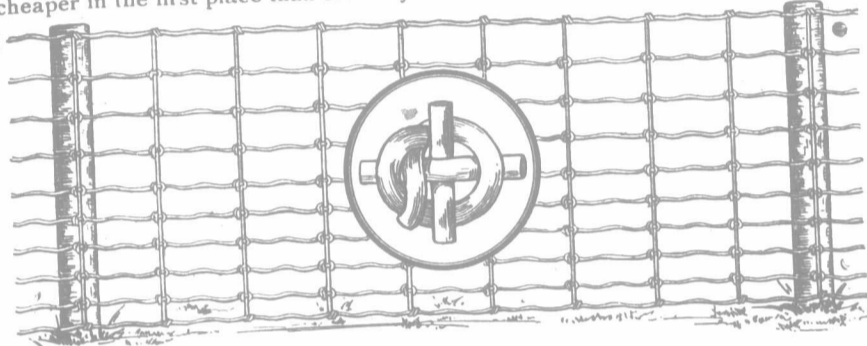


# Leader

**ALL**  
**Wire Fencing**  
**Looks Much Alike**

**Study the Cost**  
**of a Fence—**  
**Not Its Price**

There is mighty little difference between one woven wire fencing and another, so far as PRICE goes. But there is a bulky difference in the final COST. Fence-cost depends upon fence-endurance. Wire fence at a dime a rod would be dear if you had to repair and replace it yearly. Thus, though LEADER Fence is no cheaper in the first place than ordinary woven wire fences, it is a whole lot cheaper in the long run.



—for it stands up, stays tight, and keeps the repair bugaboo at arms' length year after year. It lasts, does LEADER Fence. If you do not know our local agent, write direct to us for complete information. Agents wanted in unrepresented districts. Write for proposition.

You cannot judge any woven wire fence's goodness by its looks. One make resembles another very closely. The vital difference is in the lock—the twisted clamp of wire that fastens verticals and cross-wires together. On that largely depends the fence's durability. LEADER Fence has the one lock that is actually perfect.

Every fence-maker claims the same thing for his lock, of course. You cannot judge which one is right until you study the thing out for yourself. We'll help you to do that for our LEADER Lock. Ask for a sample of it. Note the simple yet powerful triple-grip this lock holds on the cross-wires. Imagine how great must be the strain that would loosen such a grip. Then you'll realize why LEADER Fence, made of nine-gauge hard steel wire, specially galvanized, springy and able to stand tight stretching, WON'T sag and DOES last.

# Fence

The Frame & Hay Fence Co., King St., Stratford, Ont.

The Oil You Need for Your Separator

## STANDARD HAND SEPARATOR OIL

Never Gums. Never Rusts. Never Corrodes.



Standard Hand Separator Oil feeds freely into the closest bearings and gives the best possible lubrication.

It makes your separator last longer and do better work as long as it lasts.

One-gallon cans. All dealers, or write to:

**The Queen City Oil Company, Limited**  
Head Office, 63 Bay Street, TORONTO

Also offices at Ottawa, Hamilton, London, Kingston, Stratford, St. Thomas, Windsor, Brockville, Owen Sound, Sault Ste. Marie

## EUREKA Seed Drills and Cultivators



The best working drill on the market today—that's the "EUREKA". It sows evenly to the last seed—and handles the most delicate seeds without bruising or breaking. Unique Feed Cut out prevents waste of feed when turning rows. Seed Feed driven from rear wheel where weight naturally rests. Can be converted from straight drill sower to hill dropper in an instant. Just what you need for sowing Onions, Carrots, Sugar Beets, in fact all garden seeds. The new model "EUREKA" is a marvel of lightness. The addition of a few parts will convert it into a complete wheel hoe, plow or cultivator.

**Some of the other Eureka Lines**

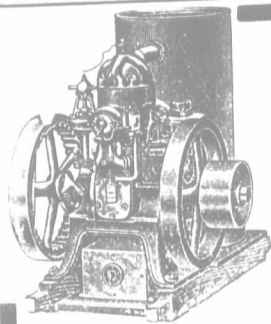
"Eureka" Sanitary Churn is the ONLY sanitary churn. Barrel is finest stoneware—not absorbent wood. Top is clear glass. Churns by hand lever, cleanest, easiest, best churn on the market, 8, 10 and 15 Imperial gallon sizes.

Combination Wagon Box and Rack. Easily adjusted to any position for any load without wrench, hook or rope. Makes the best possible rack for Hay, Stock, Wood, Poultry, Corn or Fruit.

"Eureka" Fountain Sprayer is just what you need for small Fruit Trees, Plants and Shrubs. Light, strong, compact. Two nozzles with hose attachment. Tested to stand Five Times the pressure required to expel liquid. Two gallon capacity and all expelled by one pumping.

"Eureka" Combination Anvil. Best iron anvil with vice, pipe vice and drill attachment, and saw clamps. Just what you need for repairing tools and machinery. Weighs 60 pounds.

Write for Catalogue. Every farmer should have one. 13  
EUREKA PLANTER CO., Limited, WOODSTOCK, Ont.



## This Engine Runs on Coal Oil

Every farmer can afford an Ellis Coal Oil Engine. They give far more power from coal oil than other engines do from gasoline. They are safe, as well as cheap; no danger of explosion or fire.

The strongest and simplest farm engine made; only three moving parts; nothing to get out of repair. Anyone can run it without experience. Thousands of satisfied customers use these engines to grind feed, fill silos, saw wood, pump, thresh, run cream separators, and do dozens of other jobs. Cheaper than horses or hired men. Fill up the tanks and start it running, and no further attention is necessary; it will run till you stop it.

**FREE TRIAL FOR 30 DAYS.** You don't have to take our word for it. We'll send an engine anywhere in Canada on Thirty Days' Free Trial. We furnish full instructions for testing on your work. If it does not suit you send it back at our expense. We pay freight and duty to get it to you and we'll pay to get it back if you don't want it.

**Absolutely guaranteed for 10 years.** Write for free catalog and opinions of satisfied users. Special offer in new territory.

3 to 15 horse power  
We Pay Duty and Freight

**Ellis Engine Co.,** 94 Mullett Street  
DETROIT, MICH.

## No. 65 Magneto Telephones

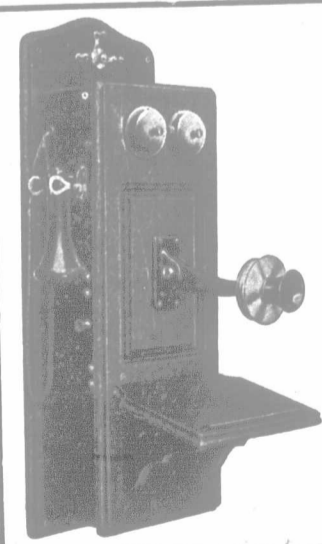
This is our standard rural line instrument, of which there are at present several thousand in use in Canada, some of which have been in service more than six years.

You will make no mistake in equipping your lines with CENTURY telephones.

Remember, we will send two instruments on 60 days' trial and prepay the freight, you can't lose on this proposition.


Our prices are right and deliveries prompt. Your request will bring catalogue and quotations.

**Century Telephone Construction Co.**  
Buffalo, N. Y. Bridgeburg, Ont.





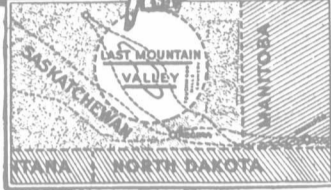
**Come to Canada!**  
**SASKATCHEWAN**  
**THE GOLDEN**



WILLIAM PEARSON  
of Winnipeg,  
Known as "Last  
Mountain Pearson"

"The Land That Pays for Itself  
in a Single Season"  
—Prof. THOMAS SHAW.

THOUSANDS of Eastern Canadians—some, your own former neighbors—are now in Golden Saskatchewan. They were struggling along five years ago, "back home"—just like you are to-day. Many were renters—didn't own a square foot of land. To-day they could buy out the richest farmer in your county. Not because these men are smarter or work harder than you, but because they now live where an industrious man has a fair chance.



Saskatchewan Land Maps Free

**Last Mountain Valley**

Saskatchewan farmers in Last Mountain Valley grow 40 bushels of wheat on \$30 land. Result: "Land cleared in one year." They are making money hand over fist. Crop failures? We don't have 'em here!

Seven great railroads form a veritable network over this district. You're right in civilization. And whoever saw a finer place to live! Good neighbors, fine climate, phones, railroads, churches, schools, rural mail, stores, good roads, fishing, hunting, etc.

**Two Big Land Openings—  
New Settlers Pouring in  
by Thousands**

Last year 351,593 settlers came to Canada—and fortune. This year will see 500,000 follow them. The bulk of them are bound for the Prairie Provinces. And they'll never go back! They'll never leave this land of health, happiness, sunshine and fortune.

We are putting on two gigantic new land openings—one at Raymore, in Last Mountain Valley, on the main line of new Grand Trunk Pacific—finest wheat land in the world.

WM. PEARSON CO., Ltd., 807 Temple Court, Minneapolis, Minn.

**Let Us Tell You How  
This Great Work Saver  
Makes Big Money**



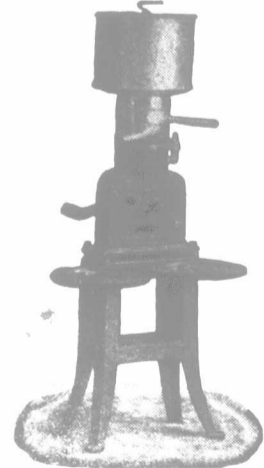
Just send your name and address on a postal now for big free book that tells all facts and figures about the labor-saving, time-saving, money-making advantages of the modern way of keeping barns and yards clean. Read how hundreds of other progressive farmers are cutting out the drudgery of barn cleaning by using the

**Great Western Manure Carrier**

It doubles the value of the manure. It makes clean barns. Clean barns mean pure air. Pure air means healthy stock, purer milk and cream, and better, sweeter and higher priced butter. It means comparative freedom from bovine tuberculosis, mange, canker, thrush, grease heel and scratches. Freedom from the escaping ammonia means freedom from weak and sore eyes. Let us tell you more about these advantages of owning a Great Western Manure Carrier. Write for big, Free Book "2"

Address Canadian Potato Machinery Co., Ltd., Galt, Ont.  
Manufacturers of Stalls and Stanchions and a complete line of Potato Implements. 2

\$15.00 and Upwards



**We Give a Free Trial**

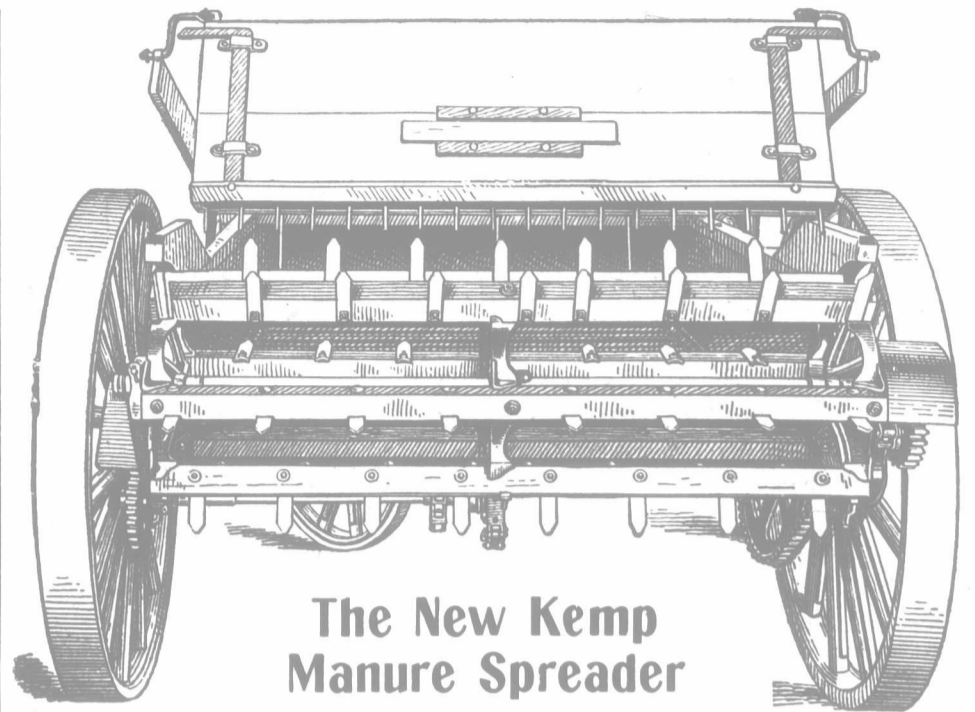
of the Domo Cream Separator, which excels any other separator in the world.

The Domo Separators are of the highest quality, well-built, and durable. They are close skimmers, turn easy, handsomely finished and guaranteed. Prices cut in two.

We gladly send a machine to you on free trial, FREIGHT PREPAID, and if you are not perfectly satisfied, return it to us at our expense. This liberal offer enables you to prove our statements, and that's what we mean, TEST IT AT OUR EXPENSE. We take ALL the risk. Can we offer anything more fair?

Write to day for Circular which gives full particulars of our machine, trial offer, a few of many testimonials received from users. Price and easy terms of payment. It's free.

**DOMO SEPARATOR CO.**  
BRIGHTON, Ont. ST. HYACINTHE, Que



**The New Kemp  
Manure Spreader**

Invented by a Canadian farmer, Mr. J. S. Kemp. Made by oldest manufacturers of Manure Spreaders in the world. Draft one horse lighter than any other Spreader built. Strongest Spreader built. Only Spreader equipped with J. S. Kemp's Patented Reversible, Self-sharpening, Graded, Flat Tooth. Handles all kinds of material found on the farm, even clear gum or rotted material. This is the only Spreader that will do it satisfactorily. Write to-day for catalogue and J. S. Kemp's article on Saving and Application of Manure.

**THE W. I. KEMP COMPANY, LIMITED**  
Stratford, Ontario

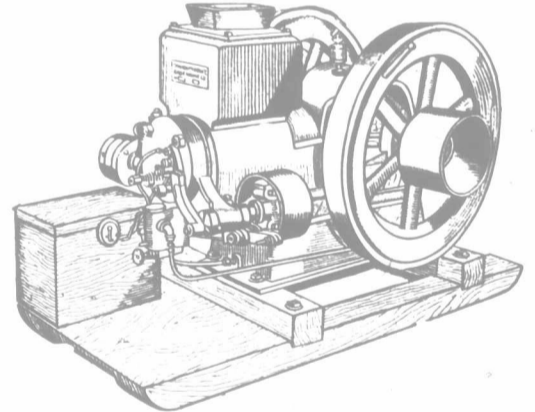
Also manufacturers of the Imperial Horse-lift Disc Drill—the only Drill equipped with the Horse-lift.

**THE BARRIE ENGINES**

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Stationary and Portables, 3 to 100 horsepower for gasoline, distillate, natural gas and producer gas. Either make and break or jump spark ignition. Reliable, economical, guaranteed to give entire satisfaction.

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**BEATS ALL PRICES** **THE DYER** **THE FENCE MAN** **GUARANTEES HIS GOODS**  
FREE SAMPLE HE PAYS FREIGHT RUST PROOF

**WHAT HE DOES**

Sells direct to Fence users at Factory Prices. Iron and wire fences, all styles. Gates. Barbed, coiled and plain wire. Staples, fence hooks, tools. Everything in fencing. At the cost of a postage stamp to investigate, he saves you \$15.00 to \$25.00 or more, in dealers' profits. His goods are right. He plays fair. In the fence business for 17 years. 21,500 fence buyers know him as Dyer, the square fence man. You ought to know him too.

**SOME OF DYER'S PRICES**

Every pound of wire in these fences guaranteed galvanized. Freight paid to any point in old Ontario south of North Bay. Prices per rod (16 1/2 ft.)  
No. 7-48-0, 7 lateral strands, 48 in. high, 9 cross bars to rod ..... 24c.  
No. 8-48-0, 8 lateral strands, 48 in. high, 9 cross bars to rod ..... 27c.  
No. 9-48-0, 9 lateral strands, 48 in. high, 9 cross bars to rod ..... 28 1/2c.

You cannot get better value anywhere in Canada. Stock carried at Winnipeg also. If you like dealing with a real man, and a good fence man at that—write

**DYER, THE FENCE MAN, TORONTO.**

**POLES OF STERLING QUALITY**

Michigan White Cedar Telephone Poles

**W. C. STERLING & SON COMPANY**

Oldest Cedar Pole Firm in Business

Produce 140,000 Poles

1880

MONROE, MICH.

1912









**REGAL BRAND**  
ALSIKE, LUCERNE  
TIMOTHY,  
RED CLOVER

JOHN A. BRUCE & CO.  
REGAL SEEDS  
HAMILTON

ESTABLISHED 1850

## SEEDS THAT SATISFY

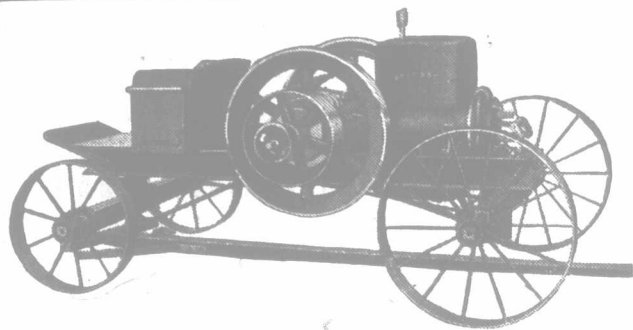
Regal Red Clover,	\$15.50 Bushel
Regal Alsike "	\$15.00 "
Regal Lucerne "	\$13.00 "
Regal Timothy "	\$ 9.50 "
Cotton Bags,	25c. each

*The above brand is our best grade of Seed and complies with the conditions of the Seed Control Act, Grading No. 1.*

Prices for lower grades on application.

**FREE**—Write for our handsomely illustrated 112 page catalogue of Vegetable, Flower and Farm Seeds, Bulbs, Plants, Poultry Supplies, Garden Implements, etc.

**John A. Bruce & Co., Limited**  
Hamilton, Canada  
The Pioneer Seed House of Canada.



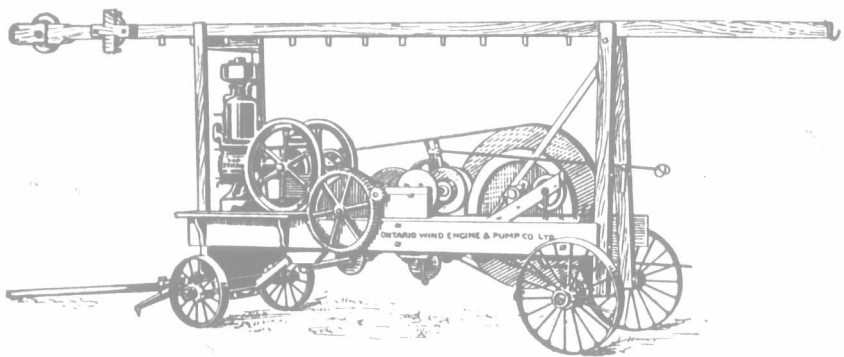
8, 12 and 16 H.P. Engines Mounted On All Steel Truck

## "Bull Dog" Gasoline Engines

are built especially for agricultural trade. Mounted outfit, shown above, is just the thing for work requiring a portable engine. Built without cast iron sub-base, and all unnecessary weight eliminated. Completely equipped. 8, 12 and 16 H.P. Also 1 1/2, 2 1/2, 4 1/2 and 6 H.P. sizes adapted for stationary, semi-portable or portable mounting. Strong, rugged construction. No complicated working parts. Write our Canadian Agents for descriptive catalog of "Bull Dog" farm engines.

**BATES & EDMONDS MOTOR CO., Lansing, Michigan**  
General Agents for Canada:  
**A. R. WILLIAMS MACHINERY CO., LTD., Toronto, Ont., St. John, N. B.**

## This Well-Drilling Machine



### Earns Big Money for the Man Who Owns One

Why not be the "well-driller" in your neighborhood. The driller pays for it very quickly, then keeps on earning easy money for you. Drills either deep or shallow wells in any kind of soil or rock. Get our free proposition and full particulars before your neighbor gets busy. Write today.

**ONTARIO WIND ENGINE & PUMP CO., LIMITED**  
Winnipeg TORONTO Calgary  
We supply Well Casings and General Deep Well Supplies of all kinds. Write for prices

## Anything from a Berry Plant to a Shade Tree is Waiting Your Order

No better stock or value offered than at the old reliable CENTRAL NURSERIES. We ship direct to customer with satisfaction. See our Priced Catalogue before placing your orders. It will pay. If you have not had good results from others, TRY OURS—32ND YEAR.



**Apple, Pear, Plum, Cherry, Peach and Ornamental Trees**

Roses, Shrubs, Californian Privet, Asparagus Plants, Small Fruits, etc.

**A. G. HULL & SONS**  
ST. CATHARINES ONTARIO, CANADA



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## Are In a Class By Themselves

They cost but a little more than the cheapest, while they save twice, as much and last five times as long as other separators.



They save their cost every six months over gravity setting systems and every year over other separators, while they may be bought for cash or on such liberal terms that they will actually pay for themselves.

Every assertion thus briefly made is subject to demonstrative proof to your own satisfaction by the nearest DE LAVAL local agent, or by your writing to the Company direct.

Why, then, in the name of simple common sense, should anyone who has use for a Cream Separator go without one, buy other than a DE LAVAL, or continue the use of an inferior separator?

**DE LAVAL DAIRY SUPPLY CO., LIMITED**  
173 William St., MONTREAL 14 Princess St., WINNIPEG

## Standard Wire Fence

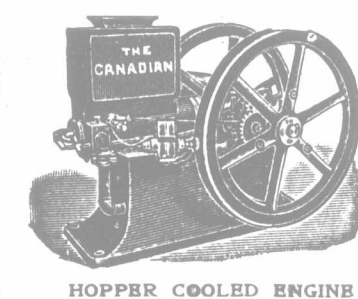
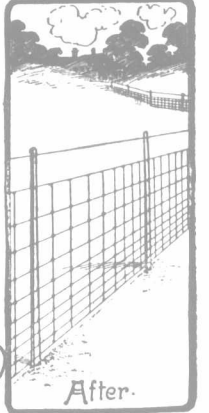


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# The Farmer's Advocate and Home Magazine

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Vol. XLVII.

LONDON, ONTARIO, MARCH 28, 1912.

No. 1018

## EDITORIAL.

Consumers seeking an explanation of the high cost of living will find a supplementary explanation in the extreme drouth of 1911 and the severe winter of 1911-12.

It has been a hard winter for pig-feeding, as many a swineherd can testify. But we have to take the bitter with the sweet. It is hard to see how pork prices can fail to be good this year.

This is the season when many a man wishes he had about ten feet of corn in the bottom of a twelve or fourteen-foot silo. He is likely to wish it again, too, about the time of the annual mid-summer drouth.

How would a man feel, or what appearance would he present, if he dispensed with washing or combing his hair for four months? Something very like that happens to a good many cows during the winter months.

More than one blessing besides good-health flows from the long, steady winter. Horse-owners have found it a great saving on blacksmith bills. A horseshoer told us the other day that it had been the worst winter for his business that he had experienced since he started, thirty-one years ago. Owing to the continued snow, often piled in drifts, many horses were left unshod, while shoes that were on stayed sharp an extraordinary length of time.

Few there are who make systematic seed germination tests, yet this is the only method of determining the real value of seed of any kind. Sowing or planting many kinds of seeds, without first making sure that they will grow and produce vigorous plants, is a serious matter, as there is danger of losing a part, if not the entire crop. These tests are the cheapest, surest and most profitable crop insurance, as far as the seed is concerned. Try it and be convinced.

In this issue we commence a series of four racy and rather illuminating articles by Peter McArthur, on the Canadian banking system. By means of illustrations which everyone can appreciate, Mr. McArthur, in his own limpid style, discusses some of the strong points and weaknesses of our much-lauded—perhaps overlauded—banking system, and makes out a strong case for some form of Government inspection or independent audit which will involve a periodic investigation of each bank, from the head office down. But we must not forestall. Read the articles. They will be found most entertaining, and instructive, as well. The subject is a live one—and one which the newspapers are not telling us much about.

From Dr. Snell's very clear exposition, in last week's issue, it would appear that those people are not wholly astray who smack their lips with gusto over the "genuine old maple flavor." The purer and better maple sugar is made, the nearer it approaches the pure granulated product of commerce. We have ourselves boiled a small quantity of sap in a porcelain kettle, producing a syrup almost as clear as melted cane sugar. It is not to be understood that such pure syrup lacks all the maple flavor, but it does contain a smaller percentage of ash and flavoring material than the old-fashioned, dark, tangy products produced by antiquated apparatus or careless methods. All the same, we prefer our syrup pure, and so do most consumers.

## Essays on Road Making.

In the February 8th issue of "The Farmer's Advocate" there appeared an announcement that three cash prizes of \$15, \$10, and \$5, respectively, would be given for the three best essays on "Bad Roads and Their Improvement." A fairly large number of writers responded, but few there were who stuck to the outline given in the announcement. Some took nearly all the space discussing the drawbacks, others dealt with remedies alone, and many failed to discuss the three methods of improvement suggested, viz., by local effort, by municipalities, and by Governments acting conjointly with municipalities or other organizations. Few illustrations were given, no photographs were submitted, and the results of practical experience which we had hoped to draw out were not cited to the extent we had anticipated. Few of the writers brought out any really new ideas. However, the essays, had they followed the outline, would have been, on the whole, very good, and the three prizewinners published in this issue, are very well written, and contain many good hints. A large number of the letters not winning prizes were well written, but, dealing, as they did, with only one or two phases of the subject, could not be placed in the money. Writers must learn to confine themselves to the outline in hand. Read the essays carefully, and pick out the good points.

Prizewinners.—First, C. M. Macfie, Middlesex Co., Ont.; second, Hugh Bertram, Wentworth Co., Ont.; third, A. Owen Price, Annapolis Co., N. S.

## Free Rural Mail Delivery Extension.

The popularity of the rural-mail-delivery system in Canada is attested by its rapid extension in response to calls for the service. When instituted by the former administration at Ottawa, as a preliminary expedient, the plan pursued was to give to petitioners purchasing the official mail boxes a free delivery along existing mail or stage routes, as they are called, the carrier receiving additional compensation. Persons living on other roads within reach of the former, if they desired the service, had to locate their boxes at the corners or points on the mail routes. It was soon realized that this would not long continue satisfactory. Farmers who comply with the regulations as to purchase of box, etc., and pay their due share to the support of the postal system which exists for all, naturally feel the injustice of being discriminated against because their homes happen to be located off the mail route, and, in consequence, have to go perhaps a mile or more to the corner, while the others have the boxes at their doors. As time goes on this dissatisfaction is certain to increase, unless an equitable system is put into operation. It will increase the outlay, no doubt, but through the well-settled portions of the country the postal authorities will see the necessity of departing from the position taken by their predecessors, and practically extending the service over all the lines where duly petitioned for. The expansion of the system will tend to increase the volume of postal business and the revenue of the department, and as the rural delivery is extended, the outlay for the country post offices will probably diminish, as there will be less for most of them to do. As a matter of fact, the original regulations have been already departed from. We have in mind a rural-delivery route, established in Western On-

tario, which traverses side-roads and concessions not previously traversed by any mail carrier or stage. Numbers of farmers in this case have boxes at their doors, while others, at no great distance, are denied the privilege. The time is opportune for a more systematic and general extension of the system, so that some farmers will not be placed at so serious a disadvantage as they now are, compared with others.

## Sowing by Faith.

"While the earth remaineth, seed time and harvest, and cold and heat, and summer and winter, and day and night, shall not cease."—Genesis viii : 22.

What a fine rainbow of promise is revealed to the farmer in that verse! Out through the ages it gleams, renewing the faith of the faltering, reflecting fresh hope and courage from the blackest thunderclouds of despair. No matter what the past year may have brought forth, there is ever hope in the future—hope, too, that is no mere illusion, but based on the fully-implemented divine assurance of a regularly recurring season which, while not always filling the horn of plenty, never leaves man's labor wholly unrequited. Crops are better some seasons than others, but seldom, indeed, does the thrifty husbandman, who works in harmony with nature's laws, fail to reap a moderate reward for his labor, and never since the deluge has Mother Earth failed to bring forth fruits sufficient, if equitably distributed, to sustain the human race. As it has been since the flood, so do we firmly believe it shall be always—seasons as regular as the years, harvests ample to supply all the real needs of mankind.

But the brightest hues in this rainbow of faith are for the diligent.

"To every thing there is a season, and a time to every purpose under the heaven.

"A time to be born and a time to die, a time to plant and a time to pluck up that which is planted."

The time to plant is near at hand, reminding us, once more, how fundamentally the farmer's operations are based on faith. No wonder he is by nature devout. Into the bare ground of the early spring time he casts precious seed, withholding it often from his cattle and sometimes from the mouths of his children, that it may grow and multiply ten, fifty or a hundred fold. Against frost, flood, drouth, hail, grubs, spores, fowl and divers other forms of adversity he risks it, troubled, perhaps, but confident in the eventual outcome of his toil. And in the harvest he reaps his reward.

Modern science, so far from lessening the need of faith, rather increases the demands upon it. By faith we manure and fertilize, rotate our crops and cultivate—some of them, like corn, till the mature stalk waves splendidly in the summer breeze. By faith we treat our seed for spores of scab and smut. By faith we inoculate our legumes. By faith we ditch and tile the land, laying good money beneath the surface, out of sight. By faith we spray our trees. By faith we invest in valuable improved stock, buying for it, maybe, expensive feeds to supplement our home-grown rations, and secure the best results. By faith we invest in labor-saving implements and buildings to shelter them. By faith we rod our houses to protect against lightning-stroke. Indeed, by faith we invest and labor all the year.

Sometimes the faith may seem to be misplaced. Crops are blighted, stock destroyed, and Profit



## THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL  
IN THE DOMINION.

PUBLISHED WEEKLY BY  
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all classes and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries 12s.; in advance.
3. ADVERTISING RATES.—Single insertion, 25 cents per line, agents. Contract rates furnished on application.
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vanishes into the devious recesses of Loss. But in the long run we win by faith—faith based on knowledge, and tending, therefore, to a satisfactory ultimate result.

Honor and courage, then, to the husbandman, by whose hand all men live! By faith he has labored, and by new and larger faith he shall yet more abundantly achieve—faith in the Scriptural promise, coupled with faith in the help and knowledge offered by modern science.

The opportunity of another spring time and the promise of future progress lie ahead. It is a season to toil diligently, cheered by an expanding hope.

### Read the Answers.

One of the largest departments of our editorial work comes under the "Questions and Answers" columns. We always endeavor to make this one of the most interesting and valuable departments to our readers. Many very good questions, of vital importance, are answered through these columns, but there is just one drawback, if such it may be called, and that is repetition. We do not mind repeating answers at intervals, but frequently we get several questions which have been answered through these columns in a very recent issue. It takes valuable time and more valuable space to republish replies. The way to avoid it is to read these columns more carefully, and, before asking the question, make sure that it has not been answered in a recent issue of the paper, all copies of which should be kept on file. We urge our readers to peruse our "Q. & A." columns more carefully. Much good practical information is given. It will pay to do so, and will, we hope, avoid an undue amount of frequent and unnecessary repetition in these columns, and thus make them of greater benefit. The careful reader does not care to be reading, week after week, replies to the same queries. There is plenty of fresh matter to be discussed. Remember, we are not wishing to curtail the questions.

They are too important for that, but we desire to make these columns of greatest advantage to every reader, and, to do so, needless repetition must be avoided.

### Public Speaking.

Every young man does well to try to excel in public speaking. There are public occasions when the rule that used to govern the public appearance of children, "You should be seen, but not heard," applies to old and young alike. One's wisdom is not made greater or more manifest by his much speaking. At the same time, there are circumstances when "words fitly spoken are like apples of gold in pitchers of silver." That one may prove equal to such an occasion, is worth all the training and the study involved. Some men are public speakers by instinct, but the great majority of those to whom the public delight to listen are men who have fitted themselves by hard self-discipline.

The young man, therefore, who would become an effective public speaker, will do well to attend gatherings where discussion, rather than long speeches, is in order. For instance, there is the Farmers' Institute, where familiar subjects are threshed out in an informal way. Everyone is asked to give his opinion upon some every-day topic, and in this lies the young man's opportunity. Let him aim to say one thing, to say all that he intended to say on that particular subject, and to stop when he is through. One of the best paragraph writers in Canadian journalism gave this advice to his staff: "Cut off the head and tail of your articles. Let us have the facts." The same rule applies to the first utterances of a public speaker. As the young man's range of experience widens, his opportunities for making longer speeches will grow. Let it ever be remembered that a man has influence not because of his wordiness, but because what he says is well heard, readily understood, well thought out, and suits the occasion.

It is well, too, for the young speaker to acquire the habit of doing his talking within a definite time limit. Private practice will greatly assist in this. Let a subject be chosen, and then let a time-limit be set. Then the speaker should turn away from the clock, treat his subject fully, and note the time occupied. In his next treatment of this topic he should aim to be briefer than he was in the first treatment, and so on, until he has reduced his treatment of the subject to the fewest words consistent with clearness and fullness. There should be no omission of what is essential. There should be no weakness due to the use of unnecessary words. Whatever was in vogue in the brave days of old, long speeches are very rarely effective or acceptable in these hurrying, practical times. The habit of brevity induces strength and dignity and influence. When the occasion comes, the man who has acquired the habit of clear, concise, pithy utterance will not be found wanting should longer speech be required. It must be remembered that public-speaking is a difficult art in which to excel. The beginner, therefore, should not be discouraged if his first efforts prove comparatively weak. Few men ever satisfy themselves by their public utterances. The chief satisfaction that comes to any public speaker arises from the fact that he has uttered a needed message, without injury to any, and with benefit to his listeners. O. C. York County, Ont.

Among the farm equipment to be overhauled before spring work commences, there is no more important implement or machine than the spraying outfit. Spraying is work that requires the greatest possible efficiency, and, to get this, every detail of the tank, pump, hose, nozzles and equipment must be in good repair. Test the pump, to see if it is working properly, and carefully examine all hose, and replace defective nozzles with new ones which have been tested, and see that the entire outfit is ready to take the orchard on short notice.

How many farmsteads have felt, during the past winter, the need of windbreaks? The scarcity of trees around the buildings is a matter of general comment in driving through the country, and there seems to be no reasonable excuse why this should be so. Nothing adds to the value of a place in proportion to cost, as does a well-set windbreak, and nothing adds more to the comfort of the family than a well-set windbreak. Now is the time to arrange for the planting of the needed trees and shrubs. No better plan of advice can be given than "Plant, plant, plant."

## HORSES.

Are your horses in good condition for the approaching spring work?

There is no better assurance of the value of a stallion than a large number of good colts. Where possible, see some of the horse's get before deciding to use him on your best mares.

Where the horses are not clipped, regular cleaning before the spring's work commences and during the season, will do much to keep their coats in good condition, and a good coat indicates a condition of health and fitness for the work required of them.

Where the mare is to foal before the warm weather sets in, a good box stall is a necessity. It is well to prepare the stall some time before the colt is expected, and get the mare accustomed to it. Keep it scrupulously clean and well bedded, and just prior to foaling have all the manure and old straw removed, and bed down with fresh, clean straw.

Overfeeding the mare just previous to and for a few days after parturition should be carefully avoided. Such practices often cause dysentery or other digestive troubles in the colt. It is far more advisable to cut the grain ration down a little than to increase it at this period, but as soon as the colt is strong, liberal feeding can be safely practiced.

The spring operations must be done in as short time as possible, consequently the fast-walking horse is most valuable. This is a good hint to those who are breaking colts. A good walker is greatly to be desired in any class of horse, but more particularly is this so of the draft animals. Teach the horses to walk at a brisk gait. It means a great saving of time, and the work is accomplished more quickly and with greater satisfaction.

It is not fair to expect the in foal mare to do as much heavy work during seeding as the geldings or mares not in foal. True, the mare accustomed to light work and regular exercise will do considerable work and not be injured, but she should get the lightest of the work, such as harrowing and drilling, in preference to the more strenuous labor of drawing the disk or cultivator. When working beside an able mate, an inch or two doubletree advantage can often be given, and relieves the mare of extra strain.

### A Prevalent Colt Trouble.

Each year many mares foal in the stable, and on dry feed; and each year throughout the country several foals are lost because of inability to rid their systems of the contents of the intestines at birth, known to veterinarians as the meconium. The dry food seems to provoke the trouble, but it is often seen where every precaution has been taken to avoid it. Undoubtedly, the most favorable condition for the mare is a free run on grass, but during the early season this is impracticable, so some precaution is necessary to keep her digestive organs in good condition, and at the same time make it easier for the foal's digestive tract to commence its normal functions after birth. The best way to prevent the trouble is by feeding the pregnant mare a considerable quantity of rather soft food, as scalded bran and oat chop. Raw roots, turnips, carrots or mangels, fed one or two daily, will be found beneficial.

The colt, under normal conditions, a few hours after birth, will begin to pass small, black, waxy lumps of material which are formed during the last months of fetal development, owing to the activity of the liver, which secretes bile, which mixes with mucons of the membranes of the intestines, the whole remaining in the small intestine until after the colt is foaled. A strong, healthy colt should relieve himself of all this material in about 24 hours after birth, at which time the feces evacuated should be of a yellowish color, indicating that the dam's milk is being digested and all intestinal obstruction has vanished.

The colt, suffering from inability to relieve himself of this putty-like substance, will be noticed in a humped position, with his tail elevated, and straining in an ineffectual endeavor to defecate. Repeated attempts are made, but nothing passes the bowels. The colt becomes restless and shows signs of colicky pains, which, if relief is not immediately found, become more severe, and delirium sets in, and death ensues.

The best preventive measure, as far as the foaling of the colt is concerned, is to get it to



take some of the "colostrum," or first milk, of the dam as soon as possible after foaling. Some mares "run milk" before parturition, and in these cases, as well as in nearly all cases of the trouble, the common belief is that purgatives are indicated. Giving purgatives, under ordinary conditions, for the expulsion of the meconium, is a serious mistake. A small dose of a mild laxative may be used where the mare has lost the colostrum by leaking, but even in such cases care must be taken, as the material which clogs the system is in the bowels in hard lumps not easily acted upon by purgative medicines. The lumps are lodged in the rectum and held there, because the colt's expulsive power is not strong enough to overcome the contraction of the anal sphincter muscles. It is readily seen that laxatives or purgatives administered through the mouth are of little use. Oil the first finger, after carefully trimming the nail to prevent scarification, and insert it into the rectum. It is surprising how much of the obstructive material can be removed by exercising care with this method. The colt will make strenuous efforts to relieve himself, and as lump after lump is removed, more will be forced back within reach. Follow this operation by an injection. Different substances are used. Warm water and linsseed-oil, warm water and soap (castile), and warm water and glycerine, are recommended. The entire operation should be repeated at short intervals, until the feces is noticed to be yellow. If the rectum appears to be empty, and more of the meconium is lodged just out of reach of the finger, a piece of heavy bent wire, with the blunt end inserted, may be found to do good service in dislodging the balls and clearing the passage. If these practices do not succeed, then try the purgative, keeping up the injections regularly. Give from one to two ounces of castor oil. When this has to be resorted to, the chances for recovery are slight. It is not bad practice to mechanically aid in removing the meconium from any colt, as it relieves the colt of a certain amount of strain and distress.

**Veterinary Prescriptions for Farm Use.**

While on general principles we think it wise and profitable for the farmer or stock-owner to employ a veterinary in all serious cases of sickness or injury to stock, there are many simple cases of sickness or injury that he should be able to treat successfully himself if he has an intelligent idea of the proper drugs to apply or administer for certain cases. The average proprietary medicine on the market doubtless has value for certain purposes, but the advertised virtues are so many and varied that a person is at a loss to know when and where to use it. Many of these preparations are highly recommended for both internal administration and local application. They are said to produce wonderful curative effects in cases of diseases of the digestive, respiratory, urinary and generative organs, promptly cure a case of indigestion, constipation, diarrhea, sore throat, dyspepsia, congestion of the lungs, brain trouble, kidney trouble, etc.; and, by local application, effect wonderful cures in cases of wounds, bruises, strains, skin disease, enlargements of all kinds, whether painful or not; bone diseases of all kinds, fistula, lump-jaw, etc. In fact, the same medicine, whether given internally or applied externally, is highly recommended for diseases diametrically opposite in nature and effect. In many cases such claims are backed up with testimonials by those who have used them. A little consideration should teach a man that the same preparation cannot be used as a cure for diseases that are essentially different in their nature, and of necessity should be treated with the idea of producing directly different results. For instance, a wound or raw surface requires a dressing that establishes an action different from one that would be serviceable for the reduction of a chronic enlargement or induration. For the former, an antiseptic, cooling, astringent lotion is indicated; while, for the latter, a stimulant, irritating dressing is required. In view of these facts, we take the liberty of giving a few of the standard prescriptions that are used in general veterinary practice for the treatment of simple cases, mentioning the cases for which they are useful, and the mode of application.

**WHITE LOTION.**

Acetate of lead, 1 ounce.  
Sulphate of zinc, 6 drams.  
Water, 1 pint.

This is an old preparation that has stood the test for many years. It is a gentle, cooling, astringent, and astringent. It is used by the hand, and is of great use. It is

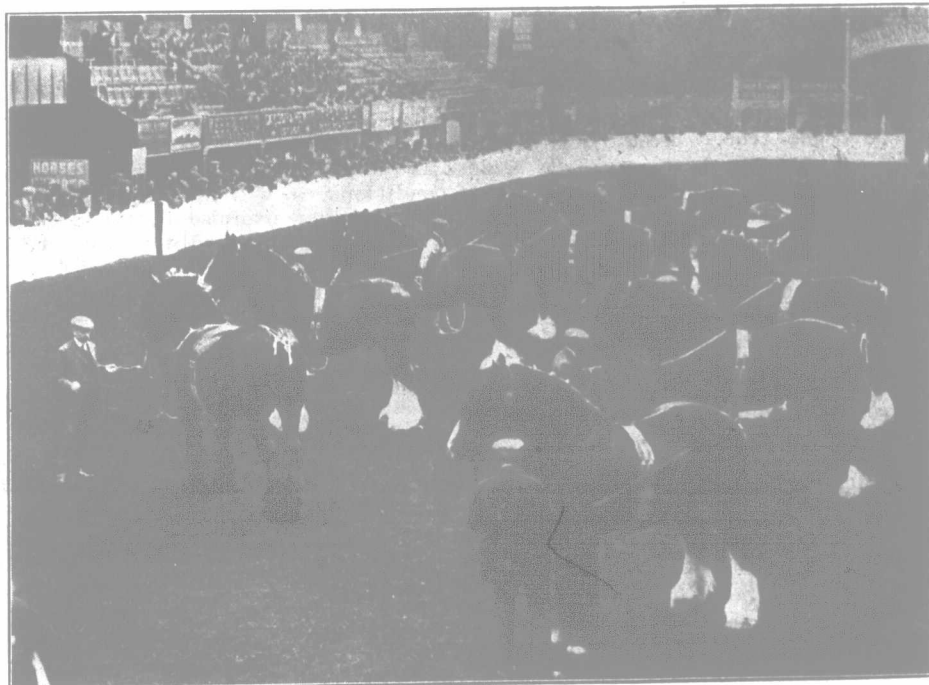
useful for fresh wounds, sore shoulders, sore necks or backs, scratches, mud fever, etc.; in fact, gives good results on any raw surface. In cases of scratches or mud fever, in cold, dry weather, the astringent action may in some cases be too great, and cause a tendency for cracks to re-open; hence, in such cases, the dressing should be alternated with an ointment or oil. This lotion also has the effect of checking itchiness, which makes it useful in some skin diseases where there is no raw surface.

**STIMULANT LINIMENT.**

Alcohol, 2 fluid ounces.  
Oil of turpentine, 2 fluid ounces.  
Liquor Ammonia Fortier, 1 liquid ounce.  
Water to make 1 pint.

The addition to this of 1/2 ounce gum camphor makes a camphorated stimulant liniment, which by many is preferred, but the addition of the camphor does not materially increase its usefulness, but gives to it a pleasant odor.

This liniment differs essentially from the white lotion. It is stimulant and irritant. It is applied by the hand, and, in order to get results, should be applied with smart friction (well rubbed in). It is useful in cases of sprains or bruises, after the acute inflammation has been allayed by heat and soothing applications. In cases of slight enlargements resulting from sprains, bruises or other causes, its application, followed by bandaging, tends to increase the activity of the absorbents and reduce the enlargements. In case bandaging follows its application, care must be taken not to repeat it too often, else it will blister. This liniment will mix with water in all proportions, hence the addition of water will weaken it, which is often advisable.



Judging Stallions at the London Shire Show.

and is indicated by too great an irritation to the skin. The attendant must be the judge of the action required, and make the liniment strong or weak, accordingly. Of course, a liniment of this nature should never be applied to a raw, irritated, tender or acutely-inflamed surface, except where the tenderness has been caused by the application of the liniment and a continuation of the irritation is desired to reduce enlargements or allay deep-seated irritation.

**CARRON OIL.**

What is known as "Carron Oil" is made by mixing equal quantities of raw linseed oil or sweet oil, and lime water.

Lime water is made by slacking a small lump of lime, say, the size of a goose egg, in a pail, filling the pail with water, stirring it thoroughly with a stick, and then allowing it to stand. The undissolved lime settles to the bottom, and the clear fluid on top is lime water.

This mixture is practically a specific for scalds and burns, especially serviceable in veterinary practice for what are called "rope burns," caused, usually, by an animal getting his foot over a rope, and in his struggles to get loose practically burning the posterior surface of his pastern by friction on the rope. This accident usually causes a severe case of scratches. In the early stages of this, as in cases of real burns or scalds caused by fire, coals, hot irons, etc., or by scalding water or other fluids, the free and frequent application of carron oil allays pain, soothes and prevents cracks and sloughing (where the burn is not too severe), and often effects an early cure of what otherwise would have been a serious and tedious case to treat.

(To be continued.)

**LIVE STOCK**

**The Lambs in Spring.**

Few better seasons for the ewes to yearn are found than the months of March and April, and it is during these months that most of the lambs are dropped in Eastern Canada. A few breeders there are who, for show-yard purposes, or for the early spring lamb trade have all or part of their lamb crop dropped earlier in the season, and still a few others, afraid of sudden dips of severe weather, or because of lack of feed, do not care to have the lambs dropped until about the time the ewes go on grass, late in April or early in May; but, as a general thing, the beginning of March sees few lambs in the pens, and the end of April few breeding ewes without lambs at foot.

Preparing ewes for lambing is not a difficult task. A clean, dry pen, liberal feeding, plenty of fresh water, salt, and regular and abundant exercise, are all that is required. During the yearning season, the attendant must be on hand to render any assistance needed, for the success of the season depends largely upon the care and attention during the crucial period.

Safely launched into the world, the young lamb usually gives little trouble, yet, to make the best gains it is necessary that careful attention be given to the details of the work required for best results. Assist the new-born lamb to suck, and see that it gets nourishment until strong enough to look after itself. It is always well to remove the ewe from the other sheep at time of parturition, and never should the ewes suckling lambs and those not yet lambed be allowed in the same pen. The ewe, just previous to partu-

rition, desires solitude, abhors the company of her kind, and it is necessary that she be placed in a pen where she can become thoroughly acquainted with her offspring. It is well, as yearning time approaches, to divide the pen by means of portable partitions into several small pens. When the lambs are a few days old, several ewes and their progeny can be run in the one small pen, and as the lambs become stronger the numbers running together can be increased, at the same time increasing the size of the pen by removing some of the movable partitions. Where it is desired to push the lambs—and, in

fact, this should be the desire of all owners—the ewes should be fed extra after the lambs are dropped. Give them all the clover hay they will eat, also a full ration of pulped roots, preferably turnips, and a liberal grain ration of from one to two pounds of whole oats, or oat and pea chop mixed, should be given. Be sure they have water at all times.

It is an easy matter to get the lambs to eat. Give them access to a small pen in which the ewes are not allowed, by means of a small opening in the partition, and keep in this pen a trough containing some fresh, clean oat chop, or perhaps a little pea meal might be added, but care must be taken that it isn't too strong. A very good method is to place the chop on a little finely-pulped roots, and the lambs will soon learn to eat. It requires very little of the feed, and the troughs must be cleaned from time to time to keep them sweet and wholesome, but this little extra feed makes a great difference in the lambs. It is impossible to raise good sheep from poorly-cared-for lambs.

Sheep are very often turned on grass early in the season, being allowed to eat around the fences of cultivated fields before the grain is up. The grass at this time is very tender and watery, and has only a small feeding value. Nevertheless, it stimulates the milk flow, and if a portion of the ration is composed of dry feed, the lambs will do better than when the ewes are in confinement, but this dry feed should always be given. A little clover hay and a fair grain ration should be given at this time, as it will tend to prevent scouring of both ewes and lambs, and is a good method of guarding against the too frequent folly of sudden changes of diet.

The operation of docking is sometimes fatal.



and is looked upon by many as a critical time for the lamb. All lambs should be docked at about ten days of age. Flockmasters differ as to the best methods of docking, but none better has been found than cutting from below upward against the thumb with a good clean, sharp knife at the second or third joint. In this way the knife slips between the vertebrae, with little injury to the lamb. The method of placing the tail on a solid block, and removing it by a sharp blow with a chisel, is more injurious, as one is likely to cut through the vertebrae, in place of between them. If bleeding is too profuse, tie a soft cord tightly around the stump for a short time. Some practice searing with a hot iron, but our Australian correspondent writes that this practice has been found to promote loss from lockjaw, in his country.

In the case of grade lambs, it is well to castrate the males at the time of docking. Wethers invariably sell higher for mutton in the fall or following winter than do bucks. The operation is simple, and no untoward results should follow. Simply clip off the end of the scrotum with a sharp knife or pair of shears, and draw the testicles. Keep the lambs in a clean pen for a few days. In docking and castrating, a reasonable precaution might be taken by dipping the knife and the parts to be cut in an antiseptic solution such as a five-per-cent. solution of carbolic acid.

Upon the care and management of the lambs depends to a large degree the improvement made in the flock from year to year. Remember, a good sheep seldom, if ever, results from a stunted, starved, ill-cared-for lamb.

### Stick to the Pig.

A season such as we have experienced during the past winter does much to change the aspect of the live-stock business on many farms. It has been said that this life demands as much change as possible, and in the case of the live-stock man it seems to be only too true. Feed has been scarce and high-priced, making it seem almost like throwing good dollars into a bottomless pit, to feed grain to any class of stock.

The pig is, without doubt, the worst offender when it comes to consuming concentrates, and when grains and meals are as high in price as they have been this winter, and pork selling at what most feeders consider a low price, in comparison to the cost of production, the average farmer loses his respect for this class of stock.

We must admit that it requires some skill to feed pigs at a profit, with feeds at prices which have obtained this winter, and with the prices of pork which have been paid during the past few months. Yet, it is not impossible, even under these conditions. J. H. Grisdale, Director of Experimental Farms for the Dominion, stated, in an address delivered in January, when feed was very high, and pork was rather low, being 7 cents per pound, pork could be produced at 5½ cents per pound. This requires some attention to breeding and feeding, but it can be done.

A season such as we have just passed through is always a "sickener" to the feeder, and invariably causes many to "bolt" and abandon the business as a losing game. We venture to say that this spring many will dispose of their brood sows, declare there is no money in pork, and determine to sell their grain next fall, rather than waste it, along with labor, on feeding pigs for their manure.

Now, let us see whether this is a logical proceeding. Last year was an uncommon one. Dry weather made short crops. Political campaigns caused market uncertainties, and pork prices dropped a little, while grain soared. This year may give large grain yields, then feed prices will tumble. The pork market is gradually assuming more strength and stability, and, with all kinds of live stock scarce, as they are to-day, and a rapidly-increasing population, prices of meat cannot but be high. Discard your breeding sows, and up goes the price of pork. The fellow who clings to the business makes the money in the end. There is nothing in changing from one business to another at every unfavorable market condition, and particularly is there nothing in growing grain for sale, without first manufacturing it into meat, returning the manure to the soil. Soil fertility is an important consideration, and to maintain it requires farmyard manure, the richest of which comes from the well-managed pigpen.

Keep the brood sows. Add to them. There is always a time to start or increase a business, and that time is when a large number are disgusted with it, and prices are comparatively low. With spring at hand, and a long summer, in which pigs can be fed most economically, close upon us, with prices of pork moderate, but on the increase, and with every prospect of a bountiful harvest, is there any reason why the pig business should not be more vigorously pushed than ever? None. We would say, "stick to the pig."

### Feeding Pigs,

1. How many young pigs will 500 bushels of roots and 150 bushels of barley chop keep growing well from first of December until first of May?

2. To get best results, should the pigs be kept in or allowed to run out?

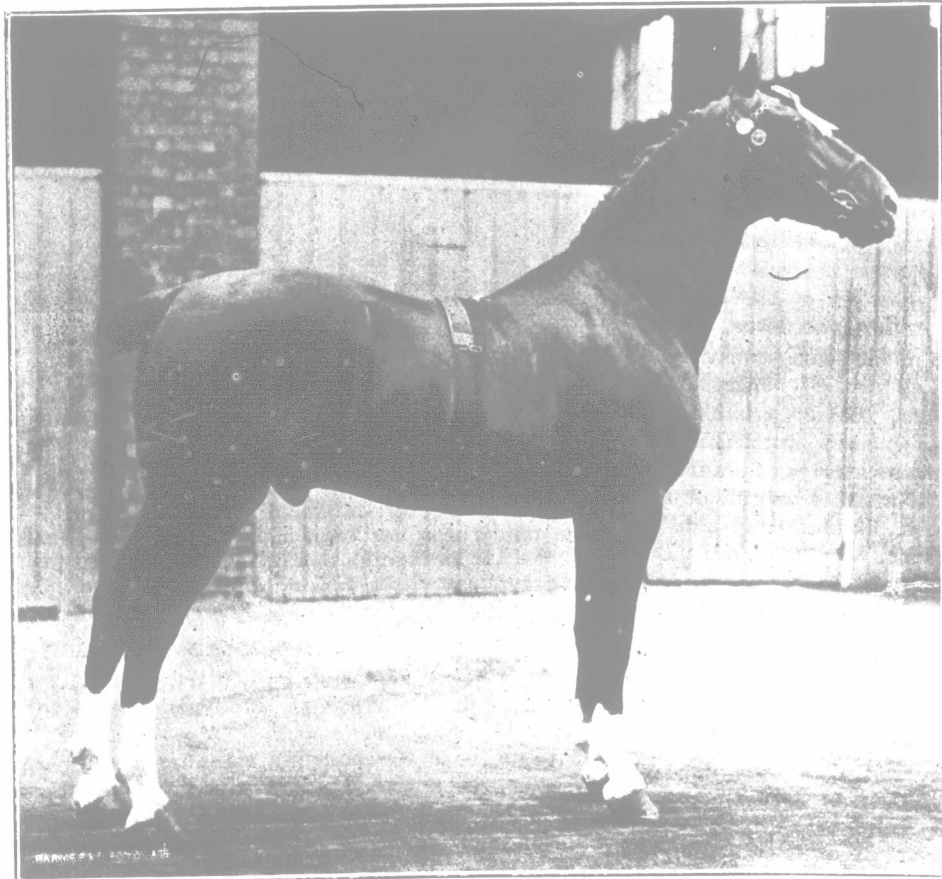
3. Are roots for pigs better pulped or fed whole?

4. How much corn in the ear should it take to make a pig gain 100 pounds, when the pig is running on grass, and starting to feed it corn at weight of 100 pounds?

5. To get pigs to make good gains on corn, when running on grass, should they get all they want to eat, or a limited amount? Please state the amount. J. H. S.

1. It is impossible to estimate exactly how many young pigs can be maintained on the amount of food mentioned. It will be found that there are marked variations in the amount of food consumed by different pigs in a given time. In our experience, it is seldom found advisable to feed a much greater weight of roots than is used of grain, in which case the proportions of roots and barley given here are not suitable, and there would be a surplus of roots at end of the feeding period. It is not stated how large these pigs are at the time the feeding commences. I presume, however, that they would be pigs recently weaned. In the beginning of the feeding period the pigs will not eat nearly so much food per day as they will towards the close. At first they would eat comparatively few roots, but the proportion of roots might gradually be increased as the pigs become accustomed to them, so that, towards the close of the feeding period, it might be possible to have the pigs eating at least two pounds of roots for every pound of meal. On an average, I should say that it would be fairly safe to estimate three pounds of grain and between three and four pounds of roots for each pig per day. Some pigs would eat more than this, and some might not eat so much; and, as I said before, it is impossible to make an exactly accurate estimate of the food required.

2. Unless these pigs are fed under rather extraordinary conditions, it will not be possible to give them much outdoor exercise in the winter. If there is a well-sheltered yard to which they can have access, it will be found beneficial for the pigs during their growing period. During the fattening period it will not be well to give much outdoor exercise.



King's Proctor 11102.

Hackney stallion; chestnut; foaled 1908. First and champion, London Hackney Show, March, 1912. Sire Mathias.

3. So far as the feeding value of roots is concerned, it does not make any difference whether they are pulped or fed whole, but sometimes a person can get pigs to eat roots more freely by pulping and mixing them with meal. In very cold weather, it is a good plan to moisten the roots with warm water, especially where a person is anxious to feed a fairly large proportion of roots.

4. It usually requires about seventy pounds of dry dent corn of good varieties to make one bushel, or fifty six pounds of shelled corn.

Extensive American investigations show an

average gain in weight per bushel of corn of ten and one-quarter pounds. Pasture, however, would effect a considerable saving of corn, but the extent of the saving would depend upon the kind and quality of the pasture. A good alfalfa pasture might nearly double the effectiveness of a bushel of corn, whereas an ordinary grass pasture might add anywhere from twenty-five to fifty per cent. to its effectiveness.

There are so many factors entering into problems of this kind that it is impossible to give anything like exact estimates. The figures given above, however, will serve as a general guide.

O. A. C., Guelph.

G. E. DAY.

### On the Right Track.

Editor "The Farmer's Advocate":

I wish to thank you for your good editorial on "Live Stock and Agriculture," in your issue of February 29th. I consider it one of the strongest and most timely articles I have ever read in any paper. You are on the right track. Just keep the good work going, and it will bring results. The economical production of beef is one of the most important problems before the farmers of both Canada and the United States. Unless something is done, beef is bound to be so high in price as to restrict its use.

Even in the State of Iowa, the leading beef-cattle State of the Union, we are facing this problem. This State has just appropriated the sum of \$7,500 to make a special farm-to-farm study of the beef business. Data is to be collected and given to the press of the State. During the fall months, special beef-cattle trains are to be run over all the leading railroads of Iowa.

I wish to congratulate you upon the most excellent paper you are publishing. I always read your editorial page, and find it very helpful.

W. J. KENNEDY.

Iowa College of Agriculture.

## THE FARM.

### Satisfactory Cement Silo.

In the summer of 1911 a cement-concrete silo was erected by James M. Carrothers, West Nisour, Middlesex Co., Ont., which has stood satisfactorily the severe test of the past winter. The story of this silo is well epitomized, as follows:

Dimensions, 40 ft. by 12 (nearly 13) ft.

Wall 9 inches thick at bottom, to 8 inches at top.

One ring is 2½ feet in the ground.

Foundation wall below floor, 18 inches wide.

Cement floor, 4 inches thick.

No drain.

Loads of gravel, 40.

Barrels of cement, 42.

Proportions, 1 of cement to 6 of coarse gravel.

Seven openings 24 x 30 inches, next feed chute; six would be sufficient.

Between each window were laid three coils of No. 9 wire, three twisted together.

Cement concrete mixed and used quite wet.

One ring laid in two days, so there was ample time for cement to set.

Inside of steel rings oiled each time.

No water used on walls after

wards, but they have set very hard and without any crack.

Scaffolding inside silo. Derrick or ginpole outside to hoist barrow with concrete.

Gasoline engine, 3 h.p., used to run mixer and hoist barrow.

Bolts and nuts, beams on north side to hold blower pipe.

Bolt set in place at top to hoist blower pipe.

Wall completed about June 20th.

Silo built by James M. Carrothers.

Reinforced concrete, 12" x 12" scantling and 1-inch board.



Sixteen rafters, 2 x 4 inches, and 10 ft. long; no braces. Covered with galvanized iron sheets cut to lap on rafters. Dormer window on north side for taking in blower pipe, and another over feed chute for light.

Openings for taking out silage covered with 2-inch Georgia pine, dressed with overlapping tongues.

Silage kept good. No waste whatever around walls.

Roof cost \$30, including labor. Total cost of materials and contract for laying walls, floor, and cement washing inside, about \$200.

No serious trouble with freezing, though silo very exposed on north side. About six inches froze, but all taken off and fed. In taking out, silage was kept well down around the edge.

**A Grain of Corn.**

The accompanying illustration is a reproduction of a large chart used by Prof. Klinck, of Macdonald College, Que., in a most instructive address at the Ontario Corn Show. To see the absorbed attention, for hours, of a roomful of men who have grown corn all their lives, while Prof. Klinck discourses on the constituents of a kernel of corn, the shape of grain most profitable, the form, size and proportion of ear most desirable, is to get an insight into the interest that can be aroused on a seemingly insignificant subject by one who is thoroughly posted and enthusiastic himself.

The illustration shows the ideal shape for a kernel of dent corn. It is headed "Low-protein Corn Kernel," in contradistinction to a grain of high protein content, in which a large amount of the crown starch would be displaced by horny starch.

It will be noticed that the greater part of this kernel is starch. At both crown and tip it is the substance most abundant. When open, it appears floury. The small amount of protein that is present is contained in the horny starch on

particularly in the layer of horny gluten which underlies the hull all around the grain.

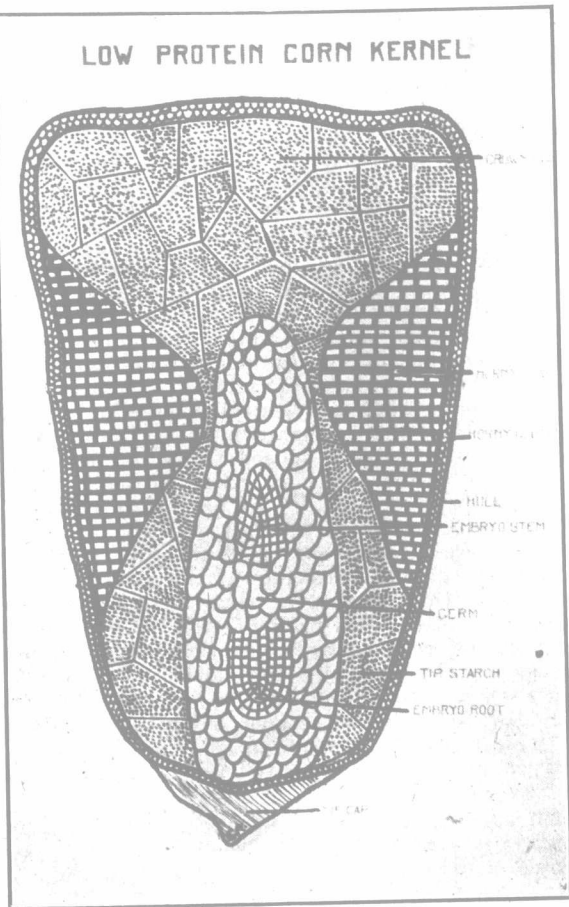
American breeders of seed corn have succeeded, by increasing the percentage of the parts in which protein is found, in developing corn considerably

either side (marked off into squares), and more richer in nitrogen than the ordinary varieties, and, therefore, more palatable, and a better-balanced food.

The lower central portion is the germ, and in the center of this the embryo corn plant is seen. Expert judges, by examining the germ, can be reasonably sure whether the corn is vital or not. If, on cutting it with a knife, the germ is seen to be plump and of a fresh creamy color, and cuts cleanly like cheese, good germinating power is indicated. On the contrary, if the germ is shrunken, is of a dark or a soapy dead color, and draws under the knife, instead of being cut into easily, the life has gone out of it. In all likelihood it has been frozen before it was dry. If seed corn is dry, thoroughly dry, and kept so, frost will not injure it. But even where dryness is well assured, it is well to keep it where extremely low temperatures are not reached. The germ is the most nutritious portion of the grain, being rich in oil. Mice know this, and that is why they eat out the germ first, leaving the other portions for a time of greater need.

The tip cap, which covers the lower end of the kernel is but a chaff. When corn has not been thoroughly matured, the tip-cap may adhere to the cob when the grain is being shelled, and the grain then shows black at the lower end. This black layer is present in all corn, but is unseen if the tip-cap be not removed. Corn is not necessarily lacking in vitality when it shows black in this way. Immaturity only, with but slightly-weakened germinating force, may be indicated. But such seed is more likely to be injured by a cold wet spell after being planted. The germ lacks the protection which the tip-cap is intended to give for a time. If conditions at planting-time are favorable, however, germination takes place more quickly, as the moisture more readily affects the germ.

The thin lines running through the crown starch and extending from the upper end of the germ to the shoulders, are intended to show how far up the horny starch extends in high-protein corn.



**BAD ROADS AND THEIR IMPROVEMENT.**

**First Prize Essay.**

It is scarcely necessary, in considering the question of road-improvement, to give more than passing notice to the social drawbacks and economic losses to the farming community because of bad roads. These disadvantages have been before the experienced public for so long, and they have been expressed and repeated so often, that they have taken shape in the agitation for road improvement, which, let us hope, may soon materialize in some scheme of greater assistance and more effective effort than any time in the past has seen.

How few farmers have not realized the "splendid isolation" which they suffer in social life because of impassable roads at certain seasons of the year; heard the murmurings of their young people for conditions which afford greater social intercourse, such as the easier distances urban life offers; experienced the difficulty of punctual and regular attendance of children at school, and of the family at church or social gatherings?

And, economically, who does not know that good roads afford access to markets at all times, give us advantage of best market prices, are economical of time, save wear and tear of vehicles and strain of horse-flesh, and place our purchases at our doors at a minimum of cost for transportation? Every carrying company, from the business standpoint, to reduce cost of transportation, reduces its railway grades, or increases the capacity of its carriers, or both, to give to its motive power the greatest possible effect; and the men who use the roads must get this result in the same businesslike way.

In any scheme of road improvement that is suggested we must consider certain factors that enter into the cost and practicability of any method adopted. The cost and accessibility of road metal, and the extent of travel on the road, are the principal of these factors. Some sections are entirely without road metal. What is used must be hauled in by railway, if metalling is to be done; and one of the matters which should have the concerted attention of municipalities is an effort to seek a reduction of freight rates on road metal, that the cost of hauling for moderate distances shall not exceed the first cost of the material hauled.

Another factor which has checked progress in road-building is that all our municipalities are now, and for a few years will be, confronted with the problem of replacing the old wooden bridges with new, permanent ones, costly in construction. Few municipalities will permit their councils to incur the indebtedness caused by a heavier, permanent structure for this purpose, or a heavier, immediate tax. Both public bodies have signified their desire to assist in the liberal man-

ner from the Federal and Provincial Treasuries, in road-building. We know of no more valued assistance that can be given municipalities than immediate and substantial grants to the reconstruction of these bridges according to approved plans. The removal of these costly annual outlays from every municipality's treasury will be one of the best sources of encouragement to the improvement of our bad roads that can be undertaken.

The division of responsibility for construction and maintenance of highways seems to be a serious barrier to procedure. None deny the need for better highways. Few say we should not have State aid, either Federal or Provincial. More—and, we believe, the great majority—believe that the control of the roads should remain with the municipality, and State aid be granted to these, rather than that the Provincial and Federal Governments should assume and be responsible for a system of highways. In a country so thinly populated as Canada, and even in old Ontario, Provincial highways are scarcely practicable.

In any scheme of organization for better road management, in which the municipalities retain control of and liability for their highways, a classification is necessary, and this classification can best be made according to the travel thereon. The most expensive roads to maintain are usually the most heavily travelled, and the cost of maintenance decreases as travel is lessened. In Denmark, the amount of average daily vehicular traffic is the determining factor in classification, as first, second, third, or fourth class. First-class roads are those near towns or larger villages, with a daily passage of at least 100 vehicles, including heavy traffic, and built according to a standard specification based on the requirements of travel. Second-class are generally subsidiary to or extensions of number one, and are those frequented by from 50 to 100 vehicles of less heavy goods transport, and consequently built according to a lighter standard. Third and fourth classes are those with less travel. Cannot Canadian roads be subject to a similar classification, giving us first, second and third-class highways? Roads of the first class will be the most costly to construct and maintain. The roadway must be wider and of heavier wearing surface, because of the travel, and our suggestion is that, on these roads of the first and second class, the Provincial Government make grants for both construction and maintenance, on the following basis, viz.: 40 per cent. of the cost of bridges and culverts, drainage, grading and metalling with gravel, and 50 per cent. of the cost of metalling with crushed stone, rolled and finished according to the specifications of the Provincial Highway Department. The matter of the classification of the highways may be determined by the Department of High-

ways in each Province, which will also prescribe regulations under which these assisted roads shall be constructed and maintained, in order that its grants may be participated in. In this scheme we suggest that any Federal assistance given shall come through the Provinces.

Roads of the third class shall still be wholly maintained by the local municipalities. The matter of maintenance will be determined by local conditions. Where gravel deposits are convenient this is not a matter of such serious concern, but where gravel is scarce and earth roads are the rule, a judicious use of the split-log drag, both in shaping and maintaining the grade, will be the most modern and practicable method of improvement. Where gravel roads are to be maintained at least cost, the use at the proper season of a drag which has been "bitted" with steel will give effective results, as will also the use of the light two-horse grader. The center of the road is kept filled, the water allowed to run off quickly, and the durability of the road thereby much increased. With these methods, the commutation of the statute labor yet in existence in many townships, will maintain in a much more passable condition than at present the roads, which would wholly devolve on the township.

The merits of the proposition, as to classification and improvement, suggest themselves. The assistance covers all the main features which make road-building costly. The percentage of assistance for metalling first and second-class roads takes into consideration natural advantages as to location of gravel, and the cost to some parts of the country where stone or metal has to be imported; for, where metal must be hauled into any locality, the 50 per cent. grant will induce the use of the better material. Then, the general public throughout the Province are contributing to the construction and maintenance of roads that all use and are feeders of the towns and cities. The local grievances as to the arbitrary designating of highways to be assisted is removed. The travelling public unconsciously do this, and no interest or locality can claim assistance to which it is not entitled, if a proper classification is made.

The advantage of this proposition over that of a Provincial system of highways connecting country towns, as suggested, is that this assumes that the object of our highways is to serve as feeders of our railways, can be used by all to serve all, and will give every municipality assistance from the General Treasury in constructing and maintaining roads that have been a burden to the local municipality, if they have been improved at all.

The one other question which arises is whether the county or township municipalities should assume management of these assisted high-



ways. At present, assistance is only given to county systems, the Government claiming uniformity in construction and facility of inspection. The township should not be hindered in obtaining assistance if its county council does not assume a county-road system, and there should be no objection on the part of the Government to dealing with any municipality which is willing to construct and maintain roads under the conditions subject to which the grants are made. County systems at present in existence may be extended to include mileage, which should receive assistance, but no township should be penalized because of the neglect or refusal of its county to adopt a system under which it will receive governmental assistance for its highways.

Middlesex Co., Ont. CHAS. M. MACFIE.

### Second Prize Essay.

Good roads and good schools are a township's greatest assets.

Never before in the history of this Province of Ontario has there been such an awakening as to the value of good roads as there is at the present time.

In almost every municipality the question of better roads is being urgently pressed upon the council by the ratepayers, who are at last alive to the fact that good roads are no longer a luxury to be enjoyed only by those who are fortunate enough to live along some of the well-built country roads, but that they are an absolute necessity to the social and industrial life of every community. Because one lives remote from the city, is no reason why he should suffer the loss and discomfort of bad roads for many months in the year. The further one lives from market, the greater is the need for better roads to cut down the time, labor and expense incurred marketing the crop.

It is a fact, proved by investigation, that, where you find bad roads, schools are but irregularly attended, with a consequent backwardness in the progress of the pupils, which, in the end, reflects itself in the life of the community, for we must not forget that the pupil of to-day becomes the citizen of to-morrow.

We are all too prone to follow the line of least resistance, and when that resistance happens to be mud, axle deep, is it any wonder that we find the most populous and progressive districts where the good stone and gravel roads are to be found?

Each mile of stone or gravel road, properly built and maintained not only adds to the comfort and convenience of the people living near it, but it also puts an added value on every piece of property that lies near it, in some cases adding \$1,000 to the value of a 100-acre farm, and sometimes even more. So, from whatever point we view it, social or economic, it pays to build the very best roads that our resources will allow.

Good roads are as much benefit to the cities and towns as they are to the townships; in fact, to a very great extent, they owe their very existence to the roads leading into them. Who has not heard the oft-repeated remark of the city merchant, "Business is dull; the farmers can't get in to the city, owing to the state of the roads," and how often do we read in the fall and spring months market reports, "Very few farmers were on the market to-day, owing to the almost impassable state of the roads, and prices, accordingly, were much higher"? Thus, it can easily be seen how the city would benefit.

Toronto is showing the way in this respect, by expending \$100,000 on the roads adjacent to it, and will, without doubt, receive good returns on the

expenditure by increased business for its merchants.

The county roads are getting more and better care than the township roads. Especially is this the case in the counties where they have taken up the work in a systematic way, and receive the Government grant each year. But the Government does not go far enough, in my way of thinking. If the Federal and Provincial Governments would together grant a sum of money each year, a certain percentage of which was to be paid to all counties and townships where roads had been built during the year up to a certain standard, I think they would do more towards checking the depopulation of our rural districts than all the commissions they could appoint.

As to the relative cost and maintenance of a well-built stone or gravel road, so much depends upon local conditions, nature of soil, proximity to road-making material, etc., there may be a wide divergence of figures in different municipalities. In this township (Saltfleet) we have built some stone roads, and gravelled others. About ten years ago the township built its first stone road, on what was supposed to be at that time one of the worst pieces of road, through a very flat, low piece of land. This particular piece was almost impassable in the fall and spring. The ditches were cleaned out on both sides, and the road well graded, leaving a shoulder of loose earth on either side of a track eight feet wide, which was filled with broken stone to a depth of eight inches, crushed by the township crusher, and hauled on the road by the farmers' teams—the larger stones being put in the bottom and the screenings on top, the grader being used on both sides after it was finished, so as to leave the road in a shape to allow all surface water to drain off quickly.

This road was built with a great deal of misgiving, but, after having stood the test of ten years' hard wear, it has proved to be an unqualified success and a wise expenditure of public money, its cost being about \$1,000 for 1½ miles. Last year it was top-dressed with quarter-inch stone, at a cost of \$500 for 100 cords, crushed, hauled and spread. Before it was built, the traffic on it was very irregular, depending on the state of the road. It was a common occurrence in those days to see two teams on a load. Now, at all times of the year, unless when blocked with snow, the heaviest loads go over it with comparative ease; and, where at one time it was only indifferently used, it is now the main-travelled road in this district.

Since then the township has built about eight miles of stone road, at an approximate cost of \$8,000, paid out of the general fund.

It has often seemed to me that it would be a wise move, in the case of a township like this one, with no debenture debt, to inaugurate a good-roads scheme; have a by-law prepared to raise by debentures a sum of money sufficient to cover all expenditure in connection with the proposed new roads; advertise it well, so that the ratepayers would vote intelligently on it, and in the event of its carrying, appoint the best qualified man they could find as superintendent, to see that the ratepayers got value for money spent. In that way we could at least have some of the main roads built, and the comfort, convenience and economy that would accrue from it would more than repay the interest and sinking fund each year.

Nearly all townships in this part of the country have commuted their statute labor, at so much per day. This township is divided into four divisions, with a commissioner in each,

each having a road-grader for his use. The statute labor is commuted at 50 cents per day, and although we all think it sufficient to pay when the tax bill appears, it is not enough to keep the roads and bridges in a proper state of repair. We pay for all bridge material and work in building bridges, and for all material for culverts, out of the general fund. This doesn't seem to me to be the best way. I think the statute-labor rate in every township should be high enough to pay for all work done on roads and bridges during the year.

We are differently situated here from the average township, as part of it lies on the mountain, and part below the mountain, bordering on Lake Ontario, where we get all the gravel used on the roads below the mountain. The county road runs through this part, which, of course, enables us to use the statute-labor fund of the property owners living along it on the other road in the division, to their advantage. I have not said very much about the improvement of the mud roads that can't be stoned or gravelled.

I think we are all aware of the great benefit it is to them to have them well graded, with good ditches and culverts wherever needed.

The automobile is perhaps the greatest destroyer of our roads, and as such, I think the owners should be made to pay their share of the keeping up of the roads. They are a benefit to every taxpayer in the country, and everyone of us should be willing, in a greater or lesser degree, to share our responsibility in making our roads the best part of our transportation system, instead of leaving them the worst part, as they are now.

If it is right for the Government to assist, by grants of various kinds, in building the railways and waterways of our country, surely it is necessary for it to assist in building the roadways, for, without the latter the two former would be useless. While each forms an important part in the country's transportation system, by far the most important part is that of our roads, and yet it is the most neglected. Why is this the case? Simply because the farmers generally have remained passive on this subject. Just so long as we are willing to travel along in the same old rut, just so long will we be allowed to do so.

It behooves us, therefore, to impress strongly this great necessity upon our township, county, provincial and federal representatives, that they may do all in their power to bring about this long-delayed but much-needed improvement of our highways.

HUGH BERTRAM.

Wentworth Co., Ont.

### Third Prize Essay.

You have very opportunely called for suggestions on the road problem of Canada in the same number of "The Farmer's Advocate" in which you publish "Where the Money Goes." I trust your readers will see the connection, and use their influence in opening up new and better channels for the public expenditure. With the advent of the mechanically-propelled road vehicles of the present day, it is a question worthy of the attention of all thinking men, whether the money bestowed so lavishly on railway companies to develop their systems, might not be more wisely and profitably expended, in giving not only the rural population, but the whole community, public highways which, if properly and permanently built, would enable rural and city life to co-mingle, to the undoubted advantage of both, socially and economically. Of course, our railways have their place, and are essential to the development of the country, but why should \$600,000,000 of the people's money go to assisting private enterprise, while the hardest-working class in the country are struggling through the same mud as we had before confederation? A railway is a close corporation, while a public highway is for the good and benefit of all who use it.

From the social standpoint, the muddy impassable road need no comment to those of us who live more than a mile from town. The impossibility of keeping oneself, the carriage, the harness and the horse clean; the long, slow, tedious drag through a mile or two of slough, or the equally trying and, to the gentler sex, agonizing bumping and jolting over frozen ruts and lumps; the wear and tear and racking of the wheels and springs; the chafing, bespattering and soiling of nice clothes—who can wonder that the farmer's wife, after the return of a hundred and one things to be done during the day, cannot muster up courage or strength for such a mode of reaching social relaxation?

Perhaps the economic side appeals more forcibly to the farmer. In spring and fall, the two seasons when the farm wagon is more in requisition than at any other season of the year, for procuring lime, manure, manure, building material, seed, fertilizer, and grain, etc., in the spring, and the disposal of the products in the fall—two seasons when the farmer is more than at any other time, in need of a mode of reaching social relaxation.

These are the times when



A Contrast in Roadsides.

The left side has been ploughed and the soil prepared for seeding. The other has been allowed to grow up to the top of the trees, and has become a dense thicket, and prevent the road from drying out after heavy rains.

The right side has been ploughed and the soil prepared for seeding, roadside improvement is one of the crying needs.



the farmer has to urge his horses, soft after the idleness and shedding of winter coat, or tired and thin after a long, hot summer's work, with less than half an ordinary load, through axle-deep mud to the market town. Besides this, the heavy wear and tear on the axles, harness, horse-flesh, and patience of the owner.

What is the remedy? Macadamized roads. How can it be accomplished? By co-operation of farmers and Government.

Let farmers haul stone to central point of highway section, instead of statute labor; municipality furnish stone-crushing plant, to be used in turn by sections of highway to be macadamized, trunk roads be first to be thus treated; government put in all culverts and bridges, through motor-car tax or otherwise.

Estimate of material and cost, varying with locality (Annapolis Valley, Nova Scotia):

15 tons broken stone per sq. rod ; 4,800 tons per mile, at 50c. per ton.....	\$ 2,400
Cost of hauling from crusher and spreading 48 tons, at 25c. per ton.....	1,200
Digging and levelling road-bed, at \$1.00 per rod .....	320
Culverts and bridges by Government.....	

Construction cost per mile .....\$ 3,920

Average of ten farms to a mile; average road assessment now \$8; equals interest on Government or municipal expenditure, at 5 per cent., on \$1,600.

Very few farmers but would readily be taxed double this amount for the benefits of a permanent, firm, hard road all the year round.

Advantages Gained.—Statute labor abolished; six or eight days saved at a busy time of year; mud and dust gone; safe, solid road winter and summer, night or day, rain or shine; one horse doing the work of two; enormous saving of time, gear, wagons, axle-grease, and good-temper. Annapolis Co., N. S. A. OWEN PRICE.

[Note.—These are the three prize essays on "Bad Roads and Their Improvement,"—prizes given according to announcement in our Feb. 8th issue. See, also, editorial in this issue.—Editor.]

**On the Seed Corn Trade.**

Editor "The Farmer's Advocate":

There is nothing in connection with corn production more important than good seed. If one is dependent upon buying seed, he should use every precaution to be sure of the reliability of that seed.

There is only one way to buy seed corn, and that is buy it on the cob. The old "scoop-shovel" method of handling seed corn is fast becoming obsolete, and it is right that it should. It has no redeeming features from a farmer's standpoint, and few from a dealer's. In handling corn in this form, however, unscrupulous dealers may easily substitute one variety of corn for another very similar yet undesirable variety, and furnish the farmer with something which, although it might be good seed, would be entirely unsuitable for his conditions.

On the other hand, buying on the cob has every advantage in its favor from a farmer's standpoint. In the first place, the purchaser is more sure of getting the variety true to name, as the variety characteristics are more easily perceived in the ear than in the grain alone; besides, if he is at all familiar with varieties, and what constitutes good seed corn, he can tell what kind of corn he is likely to harvest from the seed he plants. Besides, corn handled, cured, shipped, and kept on the cob until near planting time, possesses stronger vitality and will produce a larger percentage of germination than shelled corn. Shelled corn may be the product of either desirable or undesirable, or both types of ears, and yet we have no guide to show to which it belongs; while, corn purchased on the cob, if it does not come up to the grower's standard of what seed corn should be, can be discarded, without great loss or depreciation in the crop.

Some of the awards of recent corn shows have been rather misleading, varieties having won the premiums which produce a fine type of ear when they can be properly matured, yet, one year with another, are far too late maturing for average Ontario conditions.

Having been in the seed-corn business for several years, and coming in touch with farmers of all parts of Ontario and Quebec, I find that a majority of intending purchasers inquire for those varieties which win at the shows, and in many cases those varieties are altogether unsuitable for their climatic conditions. For instance, on the strength of the recent Ontario Corn Show awards, one customer from Northeastern Ontario asked for a quantity of Reid's Yellow Dent, a variety entirely unsuitable for his section, yet, when properly matured, in Essex and Kent, which is about once in five years, and under forced conditions, it makes and has been an outstanding winning variety of that section. Their growers should take immediate action, their

requirements and their climatic conditions, and select a variety with a view to its suitability for both. The corn growers of Essex, Kent and Elgin Counties have great possibilities before them, and a broad field to cater to in the greater portions of Ontario and Quebec, and they must produce the goods, and put on the market something that produces for the dairy farmers and feeders of the Eastern counties the greatest amount of feed of the best quality, if they want to retain their trade.

To accomplish this result, a few, early-maturing, heavy-producing varieties should be selected—varieties that meet the needs of the dairymen and feeders of Eastern Ontario. At the present time we have too many varieties on the market, and our energies should rather be spent in improving our standard varieties, by way of selection, than in creating new varieties.

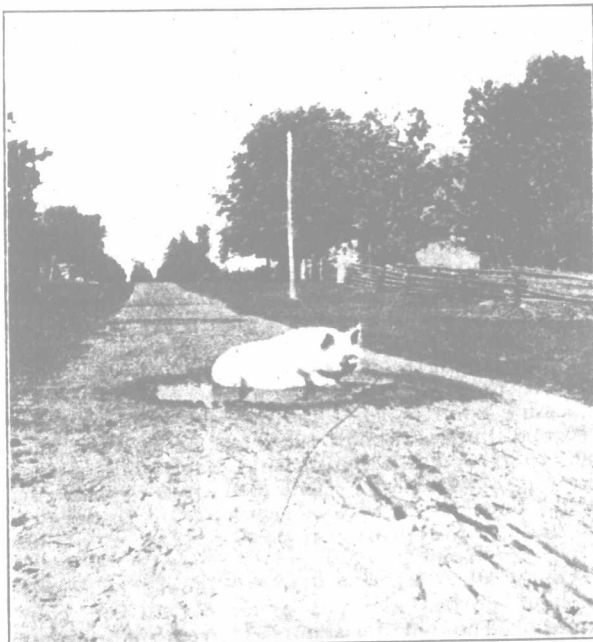
L. D. HANKINSON.

Elgin Co., Ont.

**Hog Wallow on the Highway.**

Editor "The Farmer's Advocate":

I am sending you a snapshot, taken in the summer time, almost at the gate of a poundkeeper. This is a fair sample of the roads, county and otherwise, of our neighborhood, and a very good indication of how the by-law prohibiting the run-



Her Impudent Majesty.

ning of hogs at large, is enforced. Is it not time that our township "fathers" got their heads together and devised some scheme whereby the festive hog can be kept off the highways? The weeds would dwindle and die for want of a proper seed-bed, and the roads become much safer for the travelling public. ERNEST NELSON. Simcoe Co., Ont.

**A Massachusetts Judging Problem.**

Something quite "nobby" in the way of a live-stock judging pavilion has been provided at the Massachusetts Agricultural College. Our readers will be the more especially interested in the picture published on another page, by reason of the fact that Prof. J. A. McLean, a Canadian by birth, and for some time connected with "The Farmer's Advocate," is at the head of the Animal Husbandry Department, which is developing rapidly. The new pavilion is a brick structure, 50 ft. by 80 ft., permits the holding of large classes of students, being capable of seating 400 persons. It was opened during Farmers' Week, which this year surpassed all records in attendance and interest, attracting in the neighborhood of 1,100 people from Massachusetts and other States.

**The Trade in Bulk Seeds for 1912.**

Editor "The Farmer's Advocate":

The season for heavy seeds has fairly opened. In some parts of Ontario buying has already been quite heavy. In other parts it is just nicely opening up. Owing to the scarcity in the local production of red clover seed, there is much English seed put on the market by the wholesale houses. Much of it is a very superior seed, judged by appearance. It isn't the first time, however, that English clover seed has been used by the Canadian farmer. Some express the fear that the plants from English seed may not be very hardy in this country. There may be some cause for fear just here, but we shouldn't be unduly alarmed, as the season will have much to do with the future prospects, as well as the seed.

One thing is reflected by the supplies which are ordered, that the price is having a lot to do with the demand. Dealers generally are not stocking up with more than one-half the quantity that they usually do.

It seems a great pity that red clover seed should go so high in price, when clover is such a useful plant in maintaining soil fertility. In some cases alfalfa is selling more readily than red clover, as the price is more within reach of the pockets of the average farmer.

Many farmers grew their own timothy seed this year, and it is claimed that a good deal is changing hands from farm to farm. The price of timothy seed is unprecedentedly high, and much seed that in an ordinary season wouldn't find its way into the market is selling readily. In the Eastern part of Ontario much of the hay was so well advanced that the seed was formed. They are threshing this and selling the seed. Fortunately, much of this seed is finding a market outside of Canada—fortunate for Canada, at any rate—as much of it is contaminated with ox-eye daisy seed, a weed seed which cannot be wholly separated from timothy seed.

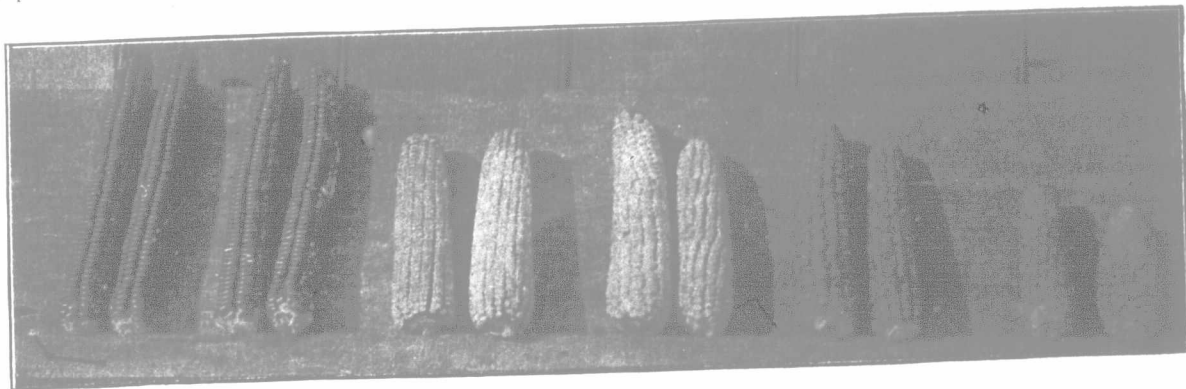
It was refreshing information to hear that in one town in Eastern Ontario, a dealer said that, since the inspection of seed had taken place, the farmers of that locality wouldn't buy any local seed from neighboring farms. By the use of purer seed they have been able to grow cleaner hay for which they reaped a good reward in the price they got for it this year.

The Department of Agriculture, through its inspectors, is endeavoring to impress the dealers with the necessity of labelling their seed with the grades, so that a farmer, when he comes in a store, can see at a glance what grade the seed is which is being offered for sale. Knowing the grades, he can at once determine pretty well the seed to buy. It is a matter for congratulation that rarely is any No. 3 seed seen in the hands of the retailers. They are finding it easier, from year to year, to sell No. 1 grades, as they are in greatest demand, even when the price is so very high. This should be a lesson to the producers to try and furnish this kind of seed in larger quantities each year.

So far as purity is concerned, the higher grades of No. 1 are all comparatively free of both noxious and common weed seeds, and have become more so from year to year.

To meet this growing demand for No. 1 seed, farmers must be prepared to produce it, by sowing pure seed on clean chances. Such seed will always be in good demand. The idea advanced by one seed-buyer is a splendid one, and worthy of imitation—i. e., to induce the growers to do their best in producing clean seed, he said he was intending to divide \$100 into four prizes for the growing of alsike in a district in Western Ontario. The farmers who were able to offer him the cleanest and best alsike seed would reap a handsome reward. This is legitimate work for our agricultural societies to follow up, as well, in each of their districts, in order to improve the seed production of their localities. There is much to be done to promote the production of good pure seed of all kinds.

The thirty, sixty and hundred fold idea de-



A Study in Types.

Note the even, well-filled cobs, as compared with the uneven, open-kerneled ones of the same variety. Long-fellow is seen on the left, White Cap Dent in the center, and Stowell's Evergreen on the right.



pends much on the good seed, so that the young plants may get off to a good start, with as few handicaps as possible. T. G. RAYNOR.

## THE DAIRY.

### Milking.

Milking is one of the most important operations connected with dairying, and should receive its due amount of care and attention. It is the final operation, as far as the cow is concerned, in the production of dairy products. Milking is almost a trade in itself, and, while the best dairymen lay considerable stress upon all matters connected with it, a large number do not realize its importance to their business.

Kindness is essential. The cow must not be at any time in fear of the milker. No loud-talking, rough, boisterous person should be allowed to milk the cows, if largest returns are to be expected.

When cows' udders are dirty from mud or mire or other filth collected in the stables, fields and pastures, they should be washed before milking; and a thorough brushing off of the legs, udder and adjoining parts should never be omitted.

Regularity in milking is as necessary to heavy yields as regular feeding. The milking must be systematically done. Milking at five o'clock one morning and eight the next is not in the best interest of the milk business. Let each milker take the same cows day after day. Changing milkers, while not as great a mistake as irregularity, has a marked effect on the flow of many sensitive cows, and the heaviest producers are usually very sensitive, so nothing is gained, and generally there is a loss from the practice.

There is almost as great a difference in milkers as there is in the cows to be milked. Some milk fast, others take more time; some are rough, others are gentle; some wet the teats, while others milk dry. As a general rule, it is always better to milk with dry hands. Any person can do better work this way as soon as he becomes accustomed to it. Milking should always be done as rapidly as possible, without injury to the cow. Some experimental work, carried on at the Wisconsin Experiment Station, and cited in Gurler's American Dairying, showed that, when cows were milked in from three to four minutes, and in twice that time, the yield of milk was not materially affected; but where the cows were milked fast, and especially those cows giving large flows, richer milk was given.

Twice per day, under ordinary circumstances, is sufficient to milk even the heaviest producers. A newly-calved, heavy-producing cow may be milked three times per day to relieve her udder, but long-continued milking more frequently than twice per day does not increase the yield.

The pails used for milking should be specially constructed, so as to prevent dirt from entering into the milk. A small-topped pail is advisable. Wooden pails should never be used, and seamless tin or galvanized iron makes the best receptacle for the milk.

### English Shorthorn Milking Record.

Some interesting milk records have recently been issued by H. E. Crawford, of his dairy herd in Kent County, England. Last season was poorer than usual by about 15 per cent., owing to the drouth causing shortness of feed. The cows were fed largely on green crops, having but little pasture. The winter rations consisted of cut hay and straw, dried grains (brewer's), cabbage and mangels. The concentrated feed was from three to eight pounds of cotton and soyabean cake, in equal quantities.

The milk record was of 41 cows, and very various are the results recorded. The best record for the year was made by a Shorthorn cow, "Snowball," which was 50 weeks in milk, and gave a yield of 1,192.2 gallons. Another Shorthorn, in 55 weeks gave 1,030 gallons, while still another gave 1,025 gallons in 44 weeks. A cross-bred gave 943.5 gallons in 40 weeks, and another cross-bred 907 gallons in 46 weeks.

The Jersey "Granny," yielded 734.5 gallons in 46 weeks, while a Jersey grade gave 814.7 gallons in 44 weeks. The best Holstein in the herd gave 755 gallons in 35 weeks.

Amongst the low yielders was a fine Shorthorn cow, which, by appearance, should have been a good milker. Her yield in 32 weeks was 147 gallons; compared with the average cow, this is not a bad yield, but Mr. Crawford says that she will go to the butcher.

The average yield for the 41 head was 692 gallons (about 6,900 pounds) of milk—an excellent showing, considering that there were many heifers in the herd. The milk is retailed direct to the consumer at 32 cents a gallon. At this price, the milk from the best yielder was worth \$381.50, and the average per cow just over \$221. Such figures show that it paid Mr. Crawford to keep milk records. P. DEWHIRSE.

## GARDEN & ORCHARD.

### Tomatoes for the Canning Factory

The first important factor in the growing of any crop is the seed. There are at present on the market over thirty varieties of tomato seed, and it is up to the packer of canned goods to select for his growers those seeds which yield the most and best in quantity and quality from the particular soil in his locality. Tomato seeds are classified under three divisions: Early, medium and late. From experience, we have found that the varieties best adapted to the land surrounding Essex are Chalk's Early Jewel and Bonny Best for the early varieties. The Earliana, perhaps, is the earliest tomato seed on the market, but it is not adapted for canning purposes, and is more particularly grown by gardeners for the early market. It is a medium-sized tomato, and yields about three hundred bushels to the acre under favorable conditions. The fruit is never solid, but the first two or three pickings are firm enough to be salable. After this the fruit becomes soft and watery, and if you puncture the skin, the whole contents of the tomato will run out. Consequently, this variety is justly condemned by the majority of canners.

The medium varieties of tomatoes grown here are Royal Red, Greater Baltimore, and Success; and the later varieties, Ignatum and Stone.

When purchasing your supply of tomato seed, do not pin your faith to only one variety. Each grower should purchase at least three varieties; then he is in a position in the spring to plant the varieties that will fit in with the weather conditions at time of planting.

The hot-bed for the reception of the seed should be made ready about April the first, and the farmer should plant at least one ounce of seed for every acre he intends growing. If the season is a little late, or if you are late in sowing, you can gain a little time by soaking the seed before planting. When the tomato plants are up about an inch, the hotbed should be thinned out, so that the strength of the earth will not be sapped out by overcrowded numbers, and it would be a very good thing if the farmer would prepare a second hotbed about ten days later than the first, to receive the plants that he is obliged to take out of the first. This will insure plenty of plants, and, if more than required for the grower's use, he can readily dispose of them at about \$3 per thousand.

About May 5th the plants should be taken from the hotbed and put under cotton or cold frames. The cotton should be removed during the warmest part of the day to give the plants light and air. If you propose raising a number of tomato plants for market, for convenience, it is a good idea to run the water pipe so you can connect with hose to give the plants a shower-bath. If plants are growing well, do not water at all, and remove the cotton when it is safe to do so, without freezing the plants. This will stop the growth of the stem and develop the root, and this is exactly the part of the plant that needs to be well developed. Once you develop a good root, the stem will take care of itself.

It is a good idea, while the plants are in the cold-frames, to sprinkle them with a sprinkling can with a mild preparation of Bordeaux mixture, and this will kill any germs or fungus that may have started to develop.

Transplant plants at least once, and the oftener the better, as this retards the growth of the stem and strengthens the root. If you wish to raise tomatoes for the early market, pot your plants and leave them in the pots until about the middle of June, and by the last of June they will have good-sized green fruit, and give you ripe tomatoes about July 12th.

An important point I wish to emphasize is to set plants in the field just as early as weather conditions will allow. Plants should be set from May 20th to June 1st, but in the month of May, not the middle of June. If the spring is cold and backward, or very wet, so as to prevent early planting, do not plant late varieties, such as Ignatum and Stone. And this is where the wise farmer, who has planted plenty of seed of different varieties, wins over the farmer who trusts to one variety under all conditions. If the spring is favorable, and a farmer wishes to plant four or five acres, he should plant at least three varieties, one of late, so that he will be sure to strike a splendid crop from one variety, and very little from all. If he is able to pull all the late variety, he will have a crop which will satisfy both himself and the canner, both in quantity and quality.

Now, in setting plants, if you intend to set by hand, and you are sure there are no cutworms in the soil, the best way is to take a small trowel and lift plant, earth and all, and place in a stone-boat; and when the plant is set in the field it will not wilt down, but go right on growing, without any setback. However, if you are, nowadays, set plants with a tomato planter,

which is a much faster way, although results may not be quite as good. Tomatoes should be planted on gravelly soil, as found along the ridge, or they do well on black-sand ridges, as found in the Elford district, or on clay. I would leave the loam for the sweet corn and pumpkins, and the extra-heavy clay for peas and beans. Fall plowing is better than spring plowing, and tomatoes should never be planted on an old pasture field or sod field, for first crop, as the soil is likely to be full of cutworms, which will eat plants about as fast as they can be set out, and perhaps right here it would be well to state just how to protect the plants and get rid of Mr. Cutworm.

The surest way is to wrap each plant in paper. This looks like a lot of work, but the women-folk at the house can put the cone-shaped papers on the plants and keep two men busy setting in the field. This is the surer way of protecting plants, and then you derive the benefit of early setting, with no time lost; and time in the spring means everything to the plants. Another way to deal with the cutworm is to take bran, molasses and Paris green, mix and make balls, and set these among the plants. But this is rather a dangerous practice if your tomato field is near the barn, as the hens are very apt to find the bran balls first—and mistake them for "high-balls."

Tomato plants should be planted at least five feet apart each way. This looks like a waste of ground, but when the crop starts to mature, you will find the branches of the plants fall over and will meet those of their neighbors. The plant must have circulation of air and sunlight, which is denied it if planted four feet apart, and rotten tomatoes or blight-stricken plants result.

Blight is first noticed by a brown spot on the leaf, which spreads over the leaf, causing it to curl up at the edge, dry, and blow away. Just as soon as this is noticed you should treat the whole field of plants promptly, as this disease spreads rapidly, and will ruin your crop. The treatment is Bordeaux mixture, which you use on your fruit trees, known as 4-4-40—4 pounds copper sulphate (bluestone), 4 pounds lime, 40 gallons water; spray. It is a wise precaution to spray your tomato plants about ten days after you set in the field. The mixture used is very cheap, does the plants no harm, and insures you against loss in this respect.

Another pest which may give trouble is the grasshopper, particularly if your potato field lies close to a pasture field. In case it does, it is a good idea to plant about four rows of corn on the outside of the tomato field and next the pasture field. The grasshoppers will feed on the corn, and leave the tomatoes alone.

In regard to cultivation, keep on cultivating until the fruit is well formed, then cease, and do not disturb the plant while fruit is ripening. If the plant grows huge vines and stays green past the time it should be drying up, it is a good idea to take a sickle and clip the terminal branch and bud.

All tomato crops on any soil can be hastened to maturity by ten full days by the use of a fertilizer particularly prepared. This fertilizer is known as Guano, contains phosphoric acid, nitrogen and ammonia, and costs about two cents a pound. It takes from three hundred to three hundred and fifty pounds to the acre, and should be put in the ground before the plant is set. It is very strong, and if the young plant comes in contact with it, death results. A hole should be made just where the plant is to be set, a tablespoonful or a very small handful of fertilizer be put in, then the earth pulled over it, and the plant set on top of this earth. This fertilizer contains just the food the plant requires to mature the fruit quickly, and no barnyard manure will do the same work.

Tomatoes begin to ripen here about August 20th, and the season usually lasts until the middle of October.

The early varieties yield from two hundred and fifty to three hundred bushels per acre, so that the grower realizes, at 30 cents a bushel, from \$75 to \$150 dollars per acre. As the crop is off in October, and the grower gets his money November 1st, tomato-growing for a canning factory is a quite profitable and satisfactory venture.—Address before Essex Farmers' Club, by W. R. Gray, Manager Essex Canning Factory, reported by G. B. C.

Although home-grown seed potatoes are selling at high prices, foreign-grown potatoes should not be despised for them, warns the United States Department of Agriculture. The following statement on the danger of the American potato crop from the use of imported seed potatoes is issued by the department.

"The general potato diseases not now prevalent in America, which, if introduced, would cause losses of greatly reducing the annual production of potatoes. Should these diseases become prevalent throughout the country, the cost of producing potato crops might be very greatly in-



# SPRAY CALENDAR.

REVISED UP TO DATE FOR "THE FARMER'S ADVOCATE" BY L. CAESAR, O.A.C., GUELPH.

PLANTS AND PEST.	1st APPLICATION.	2nd APPLICATION.	3rd APPLICATION.	REMARKS.
<b>APPLE.</b> Scab or black spot, canker, leaf spot, codling moth and other biting insects, scale insects, blister mite and aphids.	Shortly before the buds burst. Use A1 or B.	Just before the blossoms open. Use A2 or D, with 2 or 3 lbs. arsenate of lead.	Immediately after the blossoms have all, or nearly all, fallen, and before the calyces close. Use A3 or D, with 2 lbs. arsenate of lead. This is the application for codling moth.	Cut out, disinfect and paint or cover with coal tar, cankered areas on trunks and large branches. In moist climates, or if the weather is wet or foggy, give a 4th application with A3 or D for Scab about two weeks after 3rd. See if aphids are present just before leaf buds burst; if so, spray at once with Black Leaf 40 or kerosene emulsion or whale-oil soap.
<b>PEAR.</b> Scab or cracking, blight, codling moth, other biting insects, scale insects, blister mite, psylla and slug.	Shortly before the buds burst. Use A1 or B.	Just before the blossoms open. Use A2 or D, with 2 or 3 lbs. arsenate of lead.	Just after blossoms have fallen. Use A3 or D, with 2 lbs. arsenate of lead.	Cut out and burn blight as soon as seen, cutting always one foot or more below diseased areas. Disinfect tools after each cut. In moist or in foggy or wet weather give a 4th application of A3 or D about two weeks after 3rd. For Psylla, spray thoroughly with A1 or B just after buds burst, or with Black Leaf 40 just after leaves open. For slugs spray with arsenate of lead or dust fresh air-slaked lime over the leaves.
<b>PLUM AND CHERRY.</b> Black-knot, brown rot, leaf blight or shot-hole fungus, curculio, slug and aphids.	Just before the buds burst. Use A1 or B.	Just after fruit is set. Use A2 or D, with 3 lbs. arsenate of lead.	About two weeks later. Use A3 or D, with 3 lbs. arsenate of lead.	Watch for black-knot and whenever seen cut out well below diseased area and burn. If leaf blight is troublesome, give a 4th application with A3 or D as soon as fruit of cherry is picked. Destroy mummied plums in autumn. Look for aphids just before buds burst, and if present spray at once with Black Leaf 40 or kerosene emulsion or whale-oil soap. Treat slug as on pear.
<b>PEACH.</b> Leaf-curl, scab or black spot, yellows, little peach, curculio, borer, San Jose scale, shot-hole borer.	Before the buds begin to swell. (All must be done before any sign of bursting of buds.) Use A1 or B.	Just after fruit is set. Use 2 lbs. arsenate of lead alone with water for curculio.	About one month after fruit is set. Use C.	If brown rot is likely to be troublesome use C again about one month before fruit ripens. Destroy mummied fruit in autumn. Remove at once and burn any tree attacked by yellows or little peach and also all suspected trees. Dig out borers at base of tree with knife in May and again in October. For shot-hole borer cut down and burn before April all dead or dying trees or branches, and leave no brush heaps near orchard.
<b>GRAPES.</b> Black rot, powdery mildew, downy mildew, anthracnose, flea-beetle, thrip or leaf hopper.	When 3rd leaf is appearing. Use D.	Just before the blossoms open. Use D.	Just after fruit sets. Use D.	Spray again whenever wet weather threatens. It should always be done before, not after rain. At first sign of powdery mildew dust with sulphur or spray with C. For flea-beetles use poison whenever they appear. For leaf-hoppers or "thrips" use Black Leaf 40 or kerosene emulsion or whale-oil soap in July to destroy nymphs. Clean cultivation is very important, and destruction of all old mummied grapes and prunings.
<b>CURRENT AND GOOSEBERRY.</b> Mildew, leaf-spot, currant worm and aphids.	Shortly before buds burst. Use A1 or B.	Just before blossoms appear. Use A2, with 2 lbs. arsenate of lead.	Just after fruit is formed. Use A2, with 2 lbs. arsenate of lead.	For worms when fruit is ripening, use hellebore. Look for aphids just before buds burst; if present spray with Black Leaf 40 or kerosene emulsion or whale-oil soap. Of little use to spray for these after leaves curl.
<b>RASPBERRY AND BLACKBERRY.</b> Anthracnose, red rust, crown gall.	Before growth begins. Use D.	When shoots are 6 or 8 inches high. Use D, and add poison if caterpillars are present.		If anthracnose is very severe, set out new plantation of healthy shoots. If disease begins, cut out old canes as soon as fruit is picked, also badly-attacked new ones, and burn. For red rust, remove and burn plants at once. No other remedy. For crown gall set out plants in fresh soil, rejecting any plant with a gall on root or crown.
<b>STRAWBERRY.</b> Leaf-spot and white grub	For leaf-spot set out only healthy plants with no sign of disease. First season spray with D before blossoms open and keep plants covered with mixture throughout the season. Second year spray before blossoming with D and again soon after picking; or mow and burn over after picking. Don't take more than two crops off. Plow down at once after second crop. For white grubs dig out as soon as injury is noticed. Do not plant on land broken up from old meadow or pasture for at least three years after breaking.			
<b>BEAN.</b> Anthracnose and bacteriosis.	Get seeds from pods showing no signs of disease. Do not work among the plants if they are wet with rain or dew. Spraying scarcely pays as a rule.			
<b>CABBAGE AND TURNIP.</b> Flea-beetles, caterpillars, root maggots, aphids.	For flea-beetle on turnip sow after June 21st, or dust plants as soon as they appear above ground with Paris green, or spray with Bordeaux and a poison and a sticker. Repeat in two or three days. For caterpillars dust with Paris green until heads begin to form on cabbage and cauliflower, then spray with pyrethrum, 1 ounce to 2 gallons water. For root maggots use medium thick tarred felt-paper discs, putting on as soon as plants are set out, or set out plants after July 1st. For aphids use kerosene emulsion as soon as they appear.			
<b>POTATO.</b> Tip burn, early blight, late blight, scab, Colorado beetle, flea-beetle.	Keep foliage covered with D from time plants are about 5 inches high. Take special precautions to see this is well done if weather is at all damp after about 15th July, as late blight begins about this time. Add a poison to each application when necessary. For scab, soak tubers before cutting 2 hours in formalin solution, 1 pint of formalin to 30 gallons of water. Spread out on grass to dry. Wash all boxes, bags or other vessels to be used in same liquid. Plant none but perfectly healthy tubers.			
<b>TOMATO.</b> Leaf blight, black rot, flea-beetle.	Spray plants in seed-bed with D. Keep foliage in field covered with D until danger of staining fruit. Add a poison if necessary for flea-beetles.			
<b>ASPARAGUS.</b> Rust, beetles.	For rust, let no plants, not even wild ones, mature during cutting season. Late in fall when growth is about over, cut and burn old plants. For beetles, let poultry run in the plantation. After cutting season is over spray with arsenate of lead; repeat in two weeks. May add sticker and a little lime.			

NOTE.—A1—Concentrated lime-sulphur, strength 1030 specific gravity (1032 for San Jose scale) = commercial lime-sulphur diluted 1 to 8 or 9.  
 A2—Concentrated lime-sulphur, strength 1009 specific gravity = commercial lime-sulphur diluted 1 to 33.  
 A3—Concentrated lime-sulphur, strength 1008 specific gravity = commercial lime-sulphur diluted 1 to 39 or 40.  
 B—The old home-boiled lime-sulphur, 20.15.40 formula.  
 C—Self-boiled lime-sulphur.  
 D—Bordeaux mixture, 1:1:40 formula.

### FORMULAE FOR INSECTICIDES

POISONS (for biting insects only).  
 1.—ARSENATE OF LEAD—2 or 3 lbs. to 40 gallons liquid spray; 2 lbs. for potato beetles.  
 2.—PARIS GREEN—at 1 or 1 lb. to 40 gals.; 1 lb. for potato beetles. If used with water alone,

add 1 or 2 lbs. fresh lime. (b) 1 lb. mixed with 50 lbs. land plaster, air-slaked lime or some similar substance, for dusting on plants. (c) Poisoned bran, mix 1 lb. Paris green with 50 lbs. bran moistened with sweetened water. Scatter in evening on soil by plants for cutworms.  
 3.—ARSENITE OF LIME—Boil 1 lb. white arsenic

and 1 lb. sal. soda (crystals) with stirring for about 15 minutes in 1 gal. water till all the arsenic is dissolved, then add 2 lbs. stone lime and let slake in boiling liquid. Add water to make up for what has evaporated. One quart of this when well stirred is sufficient for 40 gals. spray liquid. Arsenite of lime can be made in



large quantities and stored. Label barrel "poison," and be careful to keep white arsenic itself labelled "poison." Keep barrel covered to prevent evaporation. Stir well before using.

N.B.—With Bordeaux, 1, 2 or 3 may be used; with lime-sulphur, 1; the others cause burning.

- 4.—WHITE HELLEBORE.—1 oz. to 2 gals. water, or dust undiluted over the plants. For root maggot dust close to plants, or pour around roots.

## II.—CONTACT POISONS (chiefly for sucking insects).

### 1.—KEROSENE EMULSION—

Kerosene (coal oil) .....	2 gals.
Rain water .....	1 gal.
Soap .....	½ lb.

Dissolve the soap in water by slicing and boiling; take from fire, and while hot pour in kerosene and churn vigorously for five minutes. For use dilute with 9 parts of water, so that the above 3 gals. of stock emulsion will make 30 gals. of spray mixture.

- 2.—WHALE-OIL SOAP—For brown or black aphids, 1 lb. in 4 gals. For green aphids, thrip and leaf-hopper, 1 lb. in 6 gals.

- 3.—TOBACCO WATER—Steep 1 lb. refuse tobacco in 2 gals. of water for 1 hour, make up for water that evaporates.

- 4.—Black leaf 40, sold by Tobacco Product Co., Louisville, Kentucky.

### 5.—PYRETHRUM (or insect powder).

Pyrethrum Powder .....	1 oz.
Water .....	2 to 3 gals.

Dry mixture. Mix thoroughly 1 part by weight of pyrethrum with 4 of cheap flour, and keep in air-tight vessel for 24 hours before dusting over plants.

Note.—Pyrethrum is useless if left exposed to the air.

### 6.—LIME-SULPHUR WASH—

(See under fungicides.)

## FORMULAE FOR FUNGICIDES.

### I.—BORDEAUX MIXTURE—

Copper Sulphate (Bluestone).....	4 lbs.
Unslaked Lime .....	4 lbs.
Water .....	40 gals.

Dissolve the copper sulphate in a wooden or brass vessel with hot water, pour into a barrel and add cold water to make 20 gals.; slake the lime, preferably with hot water; add cold water to make 20 gals. Stir both barrels well, and pour lime into the copper sulphate barrel. (Never mix concentrated milk of lime and copper sulphate solutions.)

A stock solution of each may be made and kept indefinitely if not mixed. Dissolve 40 lbs. copper sulphate in 40 gals. of water by suspending just below the surface of the water in a coarse sack. Each gallon of the liquid will now contain 1 lb. copper sulphate. Slake any desired quantity of lime and put into a box or barrel in shaded place, or sunk in the ground. Keep covered with small amount of water to exclude the air. Calculate how much is required for 4 lbs. lime if well stirred.

To test Bordeaux mixture, let a drop of ferrocyanide of potassium solution fall into a little of the mixture in a saucer, when ready. If this causes it to turn reddish brown, add more lime until no change takes place.

### II.—LIME-SULPHUR WASH.

#### 1.—HOME-BOILED (for use on dormant wood only).

Fresh stone lime.....	20 lbs.
Sulphur (flour or flowers).....	15 lbs.
Water .....	40 gals.

Slake 20 lbs. of lime in about 15 gals. boiling water in a kettle or other boiling outfit. While slaking add the 15 lbs. sulphur made into paste by the addition of a little water. Boil vigorously, with stirring, for 1 hour. Dilute to 40 gals. with cold or hot water. Strain and apply at once.

HOMEMADE CONCENTRATED LIME-SULPHUR—This may be used as a substitute for commercial lime-sulphur, but is only about ½ as strong as a rule.

Sulphur (a fine grade).....	100 lbs.
Fresh stone lime, high in percentage of calcium.....	50 lbs.
Water .....	40 or 50 gals.

Put about 10 gals. water in the boiling outfit, start fire, add sulphur, stir to make paste and break lumps, then add remaining water, and when near boiling put in lime. Stir frequently while slaking and till all the sulphur and lime are dissolved. Add water from time to time to keep up to 40 or 50 gal. water. Boil 1 hour, then strain through a screen of 20 meshes to mesh into storage barrels. Measure enough at once for season's work. Cover well to keep out air, or pour oil of any kind over surface to depth of 1 inch for same purpose.

To determine how much to dilute for different applications, use a hydrometer with specific gravity readings, and apply the following rule: Put the hydrometer in the clear liquid when it is

cold and the sediment has all been settled for a day or two. Note the number to which it sinks. Suppose this is 1240. The strength for use before the buds burst should be 1030, or slightly stronger. To determine how much to dilute a strength of 1240 to get 1030, divide the three figures to the right in 1240 by 30, that is 240 divided by 30=8. This means that each gallon of such a wash must be diluted to 8 gals. with water to give us a strength of 1030, the proper spring strength. For the second application 1009 is about the right strength. To get it divide the 240 by 9, which gives 26⅔, or roughly speaking, 27. This means that each gallon of a wash of the strength of 1240 must be diluted to 26⅔ or 27 gals. to make the right strength for the second application. For the third application and any later ones 1008 is about the right strength, and to get this we proceed in the same way and divide 240 by 8=30, so that each gallon must be diluted to 30 with water for this application. If the strength of the concentrated were 1212 or any other number, you would in the same way divide the three figures to the right by 30, 9 and 8, respectively, to get the proper dilutions for each spraying.

TABLE FOR CHANGING BEAUME READINGS INTO THEIR EQUIVALENT SPECIFIC GRAVITY READINGS.

Beaume.	Specific Gravity.	Beaume.	Specific Gravity.
18.....	1.141	27.....	1.230
19.....	1.150	28.....	1.240
20.....	1.159	29.....	1.250
21.....	1.168	30.....	1.260
22.....	1.178	31.....	1.271
23.....	1.188	32.....	1.282
24.....	1.198	33.....	1.293
25.....	1.208	34.....	1.305
26.....	1.219	35.....	1.317

Note.—Commercial lime-sulphur should be tested with the hydrometer and diluted according to the same rules as the homemade concentrated form.

### 3.—SELF-BOILED (chiefly for use on peach foliage).

Fresh stone lime.....	8 lbs.
Sulphur (flour or flowers).....	8 lbs.
Water .....	40 gals.

Best prepared in quantities of 24 lbs. at a time to get sufficient heat. Place 24 lbs. lime in a half barrel, add enough cold water to start it, slaking well and to keep the sulphur off the bottom. Dust the 24 lbs. sulphur over the lime, having first worked the sulphur through a screen to break lumps, then add whatever further amount of water is necessary to complete the slaking. Stir well with a hoe to prevent the lime caking on the bottom. As soon as the slaking is over, add enough cold water to cool the whole mass and prevent further combination. Strain into spray tank. Keep well agitated while spraying.

### III.—DISINFECTANTS (for pruning tools and for wounds on trees).—

- 1.—One pint formalin diluted to 2 gals. with water.  
2.—Corrosive sublimate, 1 part to 1000 by weight = 1 tablet to 1 pint of water. Apply with a swab on end of a stick.

Caution.—Corrosive sublimate is a deadly poison to man or beast if taken internally. It will also corrode iron or metal, so use in a glass or wooden vessel and be sure to wash these out very thoroughly when through using them.

- 3.—Lime-sulphur about twice spring strength, or bluestone, 1 lb. dissolved in about 14 gals. water, may be used to disinfect wounds or cankers, but is not satisfactory in case of pear blight.

#### STICKER.

Resin .....	2 lbs.
Sul Soda (crystals).....	1 lb.
Water .....	1 gal.

Boil together till a clear brown color, which takes from 1 to 1½ hours. Cook in an iron kettle in an open place. Add the above to 40 gallons Bordeaux for use on smooth foliage like onions, cabbage or asparagus. If used with arsenate of lead, Paris green, or arsenite of lime, add 1 or 2 lbs. of fresh lime to every 40 gallons of spray.

## Spraying Fruit Trees.

It is admitted by all who have looked into the matter carefully that there are few occupations to-day that are so profitable as fruit-growing, especially apple-growing. Old orchards, in many parts of the Province, that a few years ago were considered almost worthless, are to-day netting their owners from \$50 to \$150 per acre—a much greater return, as a rule, than they can obtain from any other part of the farm. The reasons for this change are to be found partly in the establishment of co-operative fruit associations, with the consequent businesslike method of picking and packing of the fruit, and of the selling of it in the best markets; partly in new and much-improved methods of pruning, cultivating and fertilizing, and partly in the discovery of compar-

tively easy and economical methods of keeping under complete control the numerous insects and diseases that, if neglected, render all other efforts of no avail.

There is scarcely any doubt that our present method of spraying has done as much as anything else to forward the fruit industry. When any person goes into a well-sprayed orchard at picking time, and sees tree after tree of beautiful fruit, in many cases from 95 to 99 per cent. absolutely free from worms or disease, and then visits a neglected, unsprayed orchard near-by, with most of the fruit on the ground, and from 40 to 90 per cent. of it wormy, scabby or deformed, it is enough to make him a convert at once to the great value of spraying.

### SPRAYING OUTFITS.

It is very important, when spraying, to have a satisfactory outfit. If the orchard is small, say, not more than five or six acres of large trees, an ordinary barrel pump will do very well. These cost about \$25 on an average, including hose, rods and nozzles. For orchards of from 6 to 10 acres, a double-acting pump, costing from \$45 to \$65, is fairly satisfactory. For larger orchards, it is advisable, as a rule, to purchase a gasoline outfit. These, with pump, tank and wagon, cost from \$250 to \$350. Most of our growers find that a 2½ horse-power gasoline engine is more satisfactory than a weaker one.

Each outfit should have two lines of hose, one for the man on the ground, and the other for the man on the tank or the tower. The hose should be of good quality, and should be about 35 and 15 feet, respectively, in length, the 35-foot hose being used by the man on the ground.

As a rod for the man on the tank or tower, I like a bamboo pole about 10 feet long, with an aluminum rod inside. This is much lighter than the brass rod. The rod for the man on the ground need not be more than about 7 feet long, and may be a plain, uncovered iron rod. A long rod on the ground is awkward to use.

Good nozzles are very important. On the whole, the most satisfactory kind is the large angle disc brass nozzles. These are about 1 inch in diameter, and, as extra plates are supplied, some with small holes, others with large. One can regulate the coarseness of the spray by using a large or small hole, as desired. It is well to have four nozzles, two for each rod, and also a V, to which they can be attached. With the barrel pump, it is seldom possible to get sufficient pressure to use all four nozzles, and frequently it is better to have only one on each rod, or two on the longer rod used by the man on the tower, and one on the other. The angle on these nozzles enables a man to send the spray in any direction he desires.

The barrel pump is used in a barrel, and has an agitator of its own, but the double-acting pump has no agitator with it, and should be used on a fairly large tank with a rounded bottom, and holding from 120 to 200 gallons. These larger tanks save much time that otherwise must be spent in frequent trips to fill up. One can easily make an agitator for such a tank out of four or five small pieces of inch board about 5 inches wide at center, and 12 or 14 inches long, and rounded on the lower side so as to fit the bottom of the tank. Several holes should be bored through these, and the boards distributed along the bottom of the tank. To keep them in place, they must be nailed to a narrow board, running lengthwise, but a couple of feet shorter than the tank, to allow of motion. To move this agitator, a stout handle runs down through a small opening on top of the tank, and is fastened in the narrow long board. This handle swings on a bolt that passes through it just above the opening into the tank, and that is firmly fastened there by two wooden supports. Gasoline outfits always have agitators supplied with them.

### MIXTURES TO USE.

The mixtures to use, and the most desirable strength for each application can be seen by consulting the spray calendar in this issue. In determining the strength of lime-sulphur, one should always have a hydrometer. These little instruments can be purchased from several of the spray companies and wholesale druggists. One with specific gravity reading from 1.000 to 1.350 or 1.400 is the most convenient. They cost about 75 to 85 cents. The method of using them is given clearly in the lower part of the spray calendar.

Remember that, arsenate of lead, being a paste, should, after the right amount has been weighed out, be stirred up in water until it is like milk, and then thrown into the diluted lime-sulphur or Bordeaux mixture in the tank; otherwise, it will not mix up in the tank quickly enough to give a uniform strength.

### WHEN TO SPRAY.

The spray calendar also shows the proper time and place to spray. Some wish to know



whether they could omit the second application safely if their orchard is fairly clean. I should strongly urge against doing so. There are occasionally seasons like last year, when this might be done safely in a few orchards, but one never knows ahead of time what the weather is going to be like, and, had it turned out wet last year just as the blossoms were opening, those who omitted the second spraying could not have kept susceptible varieties free from scab. Furthermore, in many orchards, biting insects, such as canker-worms, bud-moths, case-bearers, leaf-rollers, Palmer worms and tent caterpillars, are very abundant, and some of them feed on the fruit, as well as the foliage. The codling-moth spray is too late to catch most of these insects, and so, by omitting the spray just before the blossoms burst, we give them a chance not only to injure both foliage and fruit, but also to increase next year. But there is another matter of equal importance: We spray heavily for codling moth; now, if the leaves have been injured by insects or by apple scab through the omission of the second application, the spray gets through the skin or epidermis of the leaves at these places, and, if the weather is favorable, causes burning. So, to prevent burning and to insure a clean crop, it is very important to omit none of the first three applications. Our best growers regularly give them.

As to whether we shall give a fourth application or not, is a matter for debate. It does no harm, and sometimes does much good, especially if the weather is damp, and so is favorable for scab, or if the codling moth has not yet been brought under control. If given, it should be between two and three weeks after the third application, and with the same mixtures.

The time for making each application, as given in the spray calendar, should be strictly adhered to, with the exception of the first application. The best time for this is just before the buds burst, but if the orchard is free from scale insects and blister mite, or, if it is much more convenient, this spraying may be done two weeks or so earlier. Again, there is very little danger of burning, even when the buds are actually bursting or have just burst. Many persons each year have to finish at least a few trees under these conditions. As for the second and third applications, too much importance cannot be given to their being done promptly at the right time; otherwise, the results will be disappointing.

#### SPRAYING OF YOUNG TREES.

As one of the main objects of spraying is to keep the trees healthy and vigorous, by warding off insects and diseases that attack the trunk, branches, twigs and foliage, it clearly follows that every tree, no matter how young, should be sprayed carefully. Young orchards not yet bearing should receive the same applications as the older orchards, but in the case of the second and third applications the bearing orchards should receive attention first. It takes a very short time to spray small trees.

#### PREPARATION OF TREES FOR SPRAYING.

It is advisable, but not always necessary, to scrape the loose bark off the trunks and larger branches of old apple trees. This can be done in winter or spring. An old, worn hoe is about the best implement to use. Once every four or five years is often enough to scrape. The scraping improves the appearance of the trees greatly, and enables the spray to get into contact with any insects on the bark. Scraping is especially important if the trees are attacked by San Jose scale insects.

All trees should be pruned before spraying, and if the trees are very high, it is wise to head them back considerably, always taking care to cut close to a side branch that is running in the right direction to keep the center of the tree from being too open and exposed to the sun. Cutting close to a side branch also enables the wood to heal over. Younger trees should never be allowed to grow very high, never more than twenty feet at most. All prunings should be burned and large wounds covered with white lead or coal tar, to keep out moisture and prevent rot.

#### HOW TO SPRAY.

If the trees are very high, it will be necessary to use a small tower a few feet high, in order to do thorough work. The frame of this can be built of 2 x 4-inch scantling. Spray with the wind. It will help to drive the spray more forcibly through the trees. For large trees, the harder the wind blows, the better. Keep up as hard a pressure as your machine will conveniently give, especially for the codling moth spray. If you can manage to do so, never let it be lower than 100 pounds, and, if you have a gasoline engine, keep it at from 150 to 200 pounds. When approaching a tree, spray as far as you can on the side nearest you as you can, then move opposite the tree and spray that part; then, next, move a little past it, and spray it on the other side, also, as far as you can. By the time two-thirds of

the tree will be done, and even if the wind does not change to the opposite quarter soon, it will nearly always change sufficiently so that you can manage to do the remaining third in a satisfactory manner.

The man in the tower, with his ten-foot rod, should do a little more than half of each tree, leaving the man on the ground the lower branches to spray, and time enough to touch up any twigs or branches in the inner part of the tree that could not be reached from the tower or without getting in very close to them. The 35 feet of hose this man has will enable him to finish the last half of one tree while the man on the tower is spraying the nearer part of the tree in front. Then, when the team steps on, he can finish the nearer part of this tree while his companion is spraying the farther part of it. In this way the man on the ground will escape being drenched by his companion.

In the first spraying, every part of the tree—trunk, branches and twigs—should be thoroughly covered to control scale insects, blister mite, or other insects or diseases that lime-sulphur is a remedy for. If San Jose scale is abundant, give an extra application for it either in autumn, as soon as most of the leaves have fallen, or in spring, a few days earlier than the regular application, and of the same strength as it.

The second regular application, which should be given as soon as the pink begins to show on the blossom buds of the early varieties, should be made with small or medium-sized holes in the plates of the nozzles, so that the spray will be in the form of a fine mist. The foliage this time should be well covered, and the branches and trunks of younger trees. The trunks of old trees need not be sprayed.

The third spraying must be given immediately after about 90 per cent. of the bloom is off. If there are many early-blooming varieties, these may be sprayed first, and then the later ones afterwards; but, if there are only a few early varieties, wait until the bloom is about 90 per cent. off the orchard as a whole, and then go ahead. The bees will be through feeding by this time. (It is unlawful to spray in full bloom or when the bees are feeding.) Too much care cannot be given to getting this application on as soon as possible after blooming is over, because this is the spray for the codling moth, and, as a large majority of these insects enter the apples at the calyx end, we can only control this pest by thoroughly poisoning every calyx before it closes. If you watch the calyx or little tops of the young forming fruit, you will see these close up in about a week after the blossoms drop, and after that it is impossible to get any poison in; but, if it has been put in before they closed, it remains there all summer, and kills the worms whenever they try to enter.

The codling-moth spray must be most thorough, and not a single young forming fruit should be missed. Plates for the nozzles with the larger holes should be used, and the poison driven right into the calyx end. A large tree that has had an abundance of bloom will require from six to eight, or even more, gallons of spray to do it thoroughly. I frequently find it impossible to get every calyx thoroughly sprayed without literally drenching the trees. Of course, a tree that has had very little bloom will require very little spray mixture—just enough to wet each of the calyces and to cover the foliage. Trees that have had no bloom may be left till the rest of the orchard has been finished, and then be given a fine mist spray to keep the leaves healthy.

As a rule, we find that trees 30 years of age and upwards require about 4 gallons for the first application, 4 or 5 for the second, and from 6 to 10 for the third.

It is very important to keep the mixture well agitated, especially when arsenate of lead is added to lime-sulphur, as this forms a new chemical change, and much of the poison will, unless well and frequently stirred, settle to the bottom, and thus some trees will receive a great deal of poison, and others scarcely any.

The spray pump should be kept well packed, and all the attachments should be tightly fitted, so that there may be no leaking. Each night, when spraying for the day is over, pump a couple of pails of water through the machine, until all the mixture has been pumped out. This should never be omitted, as it prevents the clogging of pumps and nozzles, and saves time in this way.

In conclusion, remember that there is no miracle about spraying. If it is done in a thoughtless, haphazard way, it is simply a case of throwing away money; but if done intelligently, and that means thoroughly, it will pay many times over, and you will be delighted with the results. The more you study what is known about the insects and diseases that attack your trees, the more clearly you will understand the reasons for each step in the spraying, and the better the work you will be able to do. L. CAESAR.

O. A. C. Guelph.

## Topical Fruit Notes.

### LIME-SULPHUR.

Most of us are now busily engaged in the serious consideration of the problem of lime-sulphur spraying. This spray, which acts both as a fungicide and an insecticide, has become one of the most valuable aids to the fruit-grower, whether he be an apple or a tender-fruit man. As a winter spray, it has no equal. It will absolutely control the San Jose scale and oyster-shell bark-louse; it will literally nip in the bud the curl-leaf of the peach, the blister mite and the bud moth; it will considerably check the pear psylla, and many aphidæ. As a summer spray, it is also becoming important, and for many purposes is displacing the Bordeaux mixture. But just now we are thinking of the winter spray. By winter spray, of course, I mean the full strength of the mixture (sp. gr. 1.030), as applied to the trees whilst dormant, or practically so.

The first thing required is some sort of an outfit for boiling the mixture. This may be a small and cheap plant, such as an iron pot or galvanized iron pan, which could be used for preparing small quantities; or it may be a more expensive steam-boiling outfit for preparing large quantities at one time. Typical and successful outfits of both kinds were described in "The Farmer's Advocate" for April 1st, 1909.

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Then, there are only three materials required—lime, sulphur, and water. The lime should be fresh stone-lime, and its value lies in the amount of calcium oxide which it contains, as this is the chemical compound that unites with the sulphur to give us the valuable calcium sulphides that are required in the final product. For instance, the Beachville and St. Mary's limes, as found by analysis at the O. A. C., are practically pure calcium oxide, whilst the Guelph limestone does not contain 50 per cent. of the oxide. Other limestones, such as the Colborne and Hamilton ones, range between these two limits. It is advisable, then, to get limestone analyzing high in calcium oxide; and if one is not sure of one's lime, an analysis should be obtained from the Chemical Department of an Agricultural College or Experimental Station. The Beachville lime costs about 30 cents a bushel at plant, freight extra.

Sulphur costs us, in the Niagara district, about 1½ cents per pound, delivered at the station, in carload lots. This is pure and finely-ground flour of sulphur, which is the cheapest and most satisfactory form to use.

There are four forms of the lime-sulphur mixture that are being used at the present time: the homemade unconcentrated, the homemade concentrated, the commercial concentrated, and the self-boiled.

The first of these has often been described in the columns of this paper. Many slightly-varying formulae are used, but a good average is 20 pounds lime, 15 pounds sulphur, and 40 gallons water. This is applied soon after being made, whilst warm and fresh.

The homemade concentrated and the commercial concentrated are practically the same, the formula used being 100 pounds sulphur, 50 pounds lime (Beachville), and 40 gallons water, and the only difference lies in the fact that the latter is made by a commercial company, who have a complete plant and employ experienced help, and consequently are able to make a more regular or consistent mixture than the fruit-grower who makes only a batch or two with an improvised plant. The difference in strength of these two will vary, even as two commercial batches may vary, or as two homemade concentrates may vary. By analysis it has been found that the specific gravity of the commercial, on an average, runs from 1.300 to 1.330, whilst the homemade runs from about 1.200 to 1.240.

In this difference in strength lies an important point, namely, that one must know the strength of the concentrate before one knows what amount of dilution is required. To ascertain this, it is absolutely essential to use a hydrometer, a graduated glass instrument employed to find the specific gravity of liquids, and obtainable for 80 cents, postpaid. For an explanation of the use of these, consult your District Representative of the Department of Agriculture, or write the Department at Toronto for their latest bulletin on lime-sulphur. The value of this little instrument lies herein: Suppose your concentrate reads sp. gr. 1.210, then, for your winter strength of 1.030, you would have to dilute six times (i. e., use 6 gallons water to 1 gallon concentrate), and one barrel of the concentrate would make about seven barrels of spray. But suppose the concentrate reads sp. gr. 1.300, then, for winter strength of 1.030, you would have to dilute nine times (i. e., use 9 gallons water to 1 gallon concentrate), and one barrel of this concentrate would make ten barrels of spray. The latter would be three-tenths more valuable than the former, so that, by the



use of the hydrometer you can determine the exact strength and value of your mixture. All the hydrometer readings should be made in a cool liquid, as free from sediment as possible. The more sediment, the higher and more incorrect will be the reading.

The fourth form mentioned—self-boiled lime-sulphur—is used as a summer spray for controlling brown rot and scab of peaches. It is not very extensively used as yet in this country, but can be highly recommended for the above purpose, as, if properly prepared, it can be safely used on the tender foliage of the peach.

At present, get busy with your winter spraying of lime-sulphur as favorable conditions appear. Spray peaches before the buds begin to burst; apples, at the greening of the bud; pears, after the buds have opened, but before leaves have developed too far; and cherries, plums, etc., between these other fruits. W. R. D. Wentworth Co., Ont.

### Vegetables in the Young Orchard

Address delivered by A. H. MacLennan, O. A. C., at Short Course in Fruit-growing, O. A. C., 1912.

The growing of vegetables in young orchards is merely a problem of market gardening, except that the welfare of the young trees must be borne in mind, and the crops not allowed to encroach upon them.

The first thing to consider is the market for the vegetables and the facilities to reach that market. When that is decided, one may plant what suits his conditions the best.

**Early Potatoes.**—The seed should be selected the year before, and only those hills chosen that are still green and vigorous at time of digging. This should then be stored in a light cellar, so that the potatoes may get green, and the temperature maintained at 38 degrees F., or as near to it as possible. About six weeks before planting, the temperature should be raised to 70 degrees F., and the tubers set upright, with the eye-end up, so that the best and strongest shoot may grow; the others should be rubbed off. The system of allowing only one shoot to grow will produce fewer potatoes, but all of them will be of marketable size.

The ground should be thoroughly prepared. Three or four days before planting the furrows should be run, twenty-eight inches apart, and four inches deep. This will permit the soil to warm up more quickly and deeper. If one is using commercial fertilizer, it should be placed in this furrow and covered one-half inch with soil. The sets are then carefully placed in the furrow, nine inches apart, sprouts up, and then covered with a hand rake or single-horse cultivator. Care must be taken not to break off the shoots, or one will lose more than the time gained.

**Varieties.**—Early Ohio (earliest, but not a heavy cropper); Early Eureka (a week later and a heavy cropper); Empire State, Green Mountain, Davies' Warrior (main crop potatoes).

**Late Cabbage.**—The young plants must be started in a seed-bed that can be covered, because of the cabbage fly that appears in late May and early June. A plot 8 ft. by 12 ft. will hold enough plants to set an acre. The large-headed types should be planted about 36 x 24 inches, and the smaller early types 24 x 18 inches. When transplanting to the field, about half of the larger leaf-surface should be pruned off to reduce transpiration, and a batter of clay and cow manure should be made, in which the roots of the young plants are immersed and carried to the field. They should be taken from this and planted direct. This treatment will give the plants a start in the ground, because they have both moisture and fertilizer at hand in the shape of a film of this batter adhering to their roots.

**Onions.**—The soil for onions should be worked down very fine and level, and rolled, because the onion grows on the surface of the ground, and the seed requires to be barely covered. First of all, the seed should be tested for germination power.

There are two methods of getting the crop into the ground:

1. The seed may be sown with a drill in rows 12 to 14 inches apart, which will require four to five pounds per acre. The seed drill should be tested, and the sowing done accordingly, so as to be sure of sowing enough and not too much. This will save much tedious work of thinning later on. This system is suitable for all the medium-sized onions. If the sowing is done properly, no thinning will be necessary, as the small percentage of smaller onions may be used for pickling.

2. The seed is started in a hot bed or greenhouse in February, and later transferred into the field. This will give a large onion, and is suitable for the onions of the G. S. type.

## POULTRY.

### Eggs for Hatching.

Editor "The Farmer's Advocate":

Now that the time of year is at hand when the poultryman is considering the problems of replenishing his flock, it is well that he should consider a few of the factors which are of importance in regard to the selection of eggs for hatching purposes. A great deal of the failure experienced in poultry-raising may be directly attributed to carelessness in the selection of eggs. What uniformity of results could be expected when eggs are selected indiscriminately from a large flock of mixed breeding, from an egg-gatherer, or from a grocery store—eggs of all ages, shapes and sizes!

One of the problems of the poultryman is, "Shall I set eggs from my own flock, or shall I get new stock?" It has been demonstrated time and again that, on the whole, pure-bred fowl are more profitable than are those of mixed breeding. At any rate, the appearance of the flock and the results are more uniform. At the present time, when there is so much good stock in the country, there is no excuse for anyone keeping a flock of nondescript breeding. If you have not good stock, now is the time to set about getting stock, or eggs, for the nucleus of a new flock. Securing eggs is usually the cheaper method.

Some of the factors worthy of consideration in the selection of eggs are size, shape and color. These characteristics, though more or less similar for all members of the same breed, vary with individuals, and are very easily influenced by selection. The size of the eggs produced by a flock can be very materially increased by selection of the larger eggs. Contrary to popular opinion, the size of the egg does not influence the sex of the chick produced. Eggs for hatching should weigh at least two ounces each.

Shape and color of eggs are transmittable qualities, also. Only eggs of normal shape should be set, as eggs of extreme type tend to produce abnormal chicks. This also varies with individuals. Eggs set should be of uniform color, as the color of the eggs set will be reproduced in the eggs of another generation. White eggs are constant in color, but of tinted eggs, the medium brown is preferable.

Eggs with thin, porous or ridged shells should not be set, for, as a rule, they will not hatch, and, if broken, will injure the other eggs in the nest.

Besides the external qualities mentioned above, there are certain internal qualities, which are of more importance, and which are very difficult to determine, viz., fertility and hatchability. By fertility is meant the existence in the egg of a fertilized germ; and by hatchability is meant the power of this germ to develop into a strong chick, able to leave the shell. Hatchability is an hereditary quality, while fertility is not.

Fertility is directly dependent on the two parents, male and female, but is influenced by several factors—age, exercise and condition, and time of year. Infertility is caused by placing too many or too few females with one male. The number may vary from ten to twenty-five, with good results, depending on the male. In some cases the male is known to be sterile. Eggs from young and immature stock are likely to be low in fertility. In this connection, yearling hens are usually better breeders than are pullets. Cockerels, if used, must be well matured. Low fertility often results from great disparity in vigor of the male and females.

Confinement, though tending to force egg production, is not conducive to strong fertility. Similarly, stock which is extremely high or low in condition is not satisfactory to breed from. Strong fertility may be secured only from properly-mated, mature stock, in good condition, having abundance of exercise. In the winter and spring months the fertility is not as high as in the summer.

Hatchability, or "the ability of the egg to hatch," is transmitted chiefly through the female line, and can be determined only by hatching the eggs from each individual hen. However, this quality is influenced by several external factors. Eggs from pullets which have laid heavily during the winter season do not, as a rule, hatch as well as eggs from pullets which have not had this drain upon their systems. Any forcing foods, as wet mashes; stimulants, as mustard and pepper, and especially animal foods, excepting milk by-products, appear to have a detrimental effect on the hatching power of the egg; whereas green foods have, as a rule, a beneficial action.

In pedigree-breeding, two factors are of utmost importance—high egg production, and hatchability of the egg. To determine these, trap-nests are required for at least two years. The pullets are forced for egg production during their first year, to secure the highest possible record. Only the best layers are kept the second year,

when they are used as breeders, and their eggs are tested for hatchability.

In addition to the foregoing, eggs for hatching must be fresh—not over one week old, if possible—and must not have been subjected to extremes of temperature, and also must not be seriously jarred in any way.

"What is worth doing at all is worth doing well," surely applies to the poultry business. As chickens are much more cheaply produced from good eggs than from inferior ones, how important it is that the greatest of care should be exercised in the selection of eggs for hatching.

O. A. C., Guelph. H. B. WEBSTER.

### Winter Poultry Problems.

Editor "The Farmer's Advocate":

After reading about hens that lay 258 eggs each in a year, I feel almost ashamed of my hens, in sending in a report of their year's performance. The following account is from November 1st, 1910, to October 31st, 1911. The flock consisted of 95 pullets, hatched in April and May, 1910; 5 year-old hens, and 5 male birds.

#### RECEIPTS.

Eggs .....	\$216.09
Day-old chicks .....	8.50
Five male birds .....	4.80
Old hens .....	34.95
Pullets .....	18.20
Cockerels .....	61.96

Total .....

I have 100 pullets and 5 male birds left to replace those sold. I always kill or sell all hens before the first of November, as I think the pullets are the only ones that pay for their feed and leave a good margin of profit for care, work, etc.

January was the most profitable month, \$39.10; December showed the best price for eggs, 40c.; March, the greatest number of eggs, and November the least. The eggs were all sent by express to Montreal once a week, and eggs were all non-fertile after the 15th of May. Average price for the year, 22c.

The cockerels were sold alive, at about 3 pounds in weight, and realized from 16c. for early, to 12½c. for the late ones.

The chickens were all hatched by hens, and moved to coops in the orchard when about a week old; each hen was given 30 chicks. They were extra healthy, and grew into fully-matured pullets by the first of November, when they were moved into the henhouse for the winter.

I always send away for eggs for hatching the male birds I want to keep, as nothing runs out a flock as fast as inbreeding. I think, for the average farmer, the Orpingtons or Rocks are the best for winter layers, are a good table fowl, and look well either alive or dressed.

If you want winter eggs, there are three things you must have, viz., well-matured pullets, a clean, dry house, well ventilated, and plenty of suitable feed.

Is it not better to sell one dozen eggs for 40c. than two for the same money? If you don't like hens, don't keep them. Keep something you like; but if you do keep them, use them as well as you can, and they will pay you as well as any other stock kept on the farm, and are not half the hard work. T. W. L.

Bruce Co., Ont.

### An International Poultry Organization.

Four years ago, the Poultry Instructors and Investigators of the United States and Canada formed an association for mutual co-operation and interchange of observations and experiences. At the last meeting, held at Orono, Maine, in 1911, a resolution was adopted in favor of an association embracing poultry workers in all the countries of the world. The growth of poultry work in nearly every country has been phenomenal during recent years, and conditions warranted the undertaking. A provisional committee, consisting of representatives of the various countries, has been formed. Canada is represented by Prof. W. R. Graham, Ontario Agricultural College, Guelph, and F. C. Elford, formerly Poultry Professor at Macdonald College, Ste. Anne de Bellevue, Quebec. Prof. James E. Rice, of Cornell University; Prof. Leon J. Cole, University of Wisconsin; and Dr. Raymond Pearl, Maine Experiment Station, are the United States representatives; while England is represented by Edward Brown, P.L.S.; Prof. F. V. Theobald, M. A., and C. E. J. Walkey. Scotland and Ireland have each one representative on the committee, viz., Prof. Will Brown, Kilmarnock, and Percy A. Francis, Belfast.

Arrangements are being made for holding the first meeting of this committee in London next July. Edward Brown, F. L. S., is the first president, and Dr. Raymond Pearl is acting honorary secretary, pro tem. It is hoped that much valuable information will be broadcasted amongst poultry keepers and fanciers the world over as a result of this movement.



**Egg-laying Contest.**

In the International Egg-laying contest at the Storrs Experiment Station, 100 pens of five hens each competing, the English pen of White Leghorns led, with 369 eggs, at the end of the 19th week. A pen of B. C. Rhode Island Reds were second, with 315 eggs. The English pen laid 25 eggs during the 19th week. The highest record for the week was 30 eggs, by a pen of Dark Cornish hens. For the nineteen weeks, the grand total of eggs laid was 17,780.

**APIARY.**

**Robber Bees Spread Foul Brood.**

Beekeepers who within recent years have had foul brood in their apiaries should be particularly careful to prevent robbing during the warm days of spring. All hives where bees have died must be taken indoors, away from all possible robbing. It is not enough to close them, because robbers will often gain an entrance when least expected. All entrances of live colonies should be made quite small, especially where the bees are weak in numbers.

Use every precaution and watchfulness to prevent robbing. Do not under any circumstances leave combs of honey out for the bees to clean up. Any honey you have is likely to contain germs which would scatter disease in your healthy colonies. On account of the prevalence of disease, in unexpected places throughout the Province, it is never wise to feed honey to bees, and, where disease is known to exist, it is the worst of folly.

Every beekeeper should understand fully the symptoms and cure of foul brood, then he can be his own doctor. Those who do not should drop a card to the Ontario Department of Agriculture, Toronto, and a bulletin with description and full instructions will be sent.

Particular attention is called to Sec. 4 of the "Act for the Suppression of Foul Brood of Bees," which reads as follows:

"The inspector shall have full power, in his discretion, to order the owner or possessor of any bees dwelling in box or immovable frame hives, to transfer them to movable frame hives within a specified time, and, in default, the inspector may destroy, or order the destruction of such hives and the bees dwelling therein. 10 E. 7., c. 27, s. 4."

Anyone keeping bees in hives of this description will render a service to the beekeeper's business by making preparations now to do this transferring early in the swarming season.

Further information can be had from Morley Pettit, Provincial Apiarist, Ontario Agricultural College, Guelph, Ont.

**Beekeeping Hints for the Beginner.**

A correspondent wishes to know what are the best books to read on beekeeping, how much is the usual cost of a hive of bees, and what is the best kind of hive and bee; also, how many hives should a beginner start with to make it pay.

The best books for a beginner are "A. B. C. & X. Y. Z. of Bee Culture," and "Langstroth on the Honey Bee." The former may be ordered through this office at \$1.75 postpaid, and the latter at \$1.60. The cost of a hive of bees varies quite as much as the cost of a cow. They have been bought as cheaply as \$1.50, and some have paid as high as \$10 for single hives. I would advise a beginner to buy locally, and, if possible, secure the services of an inspector of apiaries, or some other well-qualified person, to examine the bees, and see that they are free from disease and in good condition. It is preferable to get them in Langstroth hives, but if they are bought in other kind of hives, they can be transferred. Any person expecting to keep any quantity of bees should have them in ten-frame Langstroth hives, if possible. These hives should be fitted for taking extracted honey, as the production of honey in sections requires far too much skill for the average beginner on the start.

Italian bees are better than other races in almost every respect, but if black bees are bought they can easily be Italianized, by hunting out the black queens, and introducing untested Italian queens, secured from some reliable breeder, in their place.

A beginner should not start with more than five hives. These should be secured in May, or early in June, so as to get a whole season's experience before the difficult matter of wintering comes on. After having a year's experience in managing this number of colonies, one can easily increase them by natural swarming, or by artificial division, just as rapidly as one's experience allows.

MORLEY PETTIT.

**THE FARM BULLETIN.**

**The Most Trustful Man on Earth.**

By Peter McArthur.

Having always prided myself on my faith in human nature, you can imagine what a shock I got when I discovered that, compared with a majority of the best citizens of Canada, I am mistrustful and suspicious. It is hard to have to describe oneself in such terms, but the truth must be told. I took some pride in the fact that I had reached a point where I could trust another man with my umbrella, and I have even loaned my favorite books, with a simple faith that they will be returned to me after many days. I am so used to believing everything that is said that practical jokers among my friends are giving up trying to fool me. It is so easy, there is no fun in it. But I have been looking into some matters lately that make me feel that I am really a cold, cynical man of the world. The country is full of people who are fairly bubbling over with a simple confidence and faith in their fellow men that makes me ashamed. Strange to say, it was in the business world that I found these guileless people. And it all came from trying to find out the meanings of certain words and phrases that are used in the newspapers almost every day. It is really a long story, but I shall make it as short as possible.

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For some time past the editorial writers have been talking about the "Big Interests" in a way that attracted my attention. I had no definite idea of what a "Big Interest" really is, but I relished the articles about them. In fact, my attitude was much the same as that of the good woman who said she "always enjoyed the minister's sermons because of the way he spoke that blessed word, 'Mesopotamia'." It was a fine, mouth-filling word—but not a bit more satisfactory than "Big Interests." And the way the editors used it was particularly fetching. They seemed to suggest that, if they would, they could tell just who the "Big Interests" really are, and what they are up to. But, as far as I have been able to see, they have never yet told. When I started to find out what the phrase meant, I had a lot of trouble, but I finally got a working definition.

A BIG INTEREST is a business institution which is enabled to exist because of certain privileges it receives from the Government. The biggest of the big is the Bankers' Association. The list of its privileges is long, and the business it has to handle is the most important in the country; but I am not going into that any further than is necessary in this article. The human side of great affairs interests me more than the technical, and it was while investigating banking from this point of view that I discovered the most trustful class of men I have ever heard of—the Canadian bank depositors. That is a strong statement, but just listen to what the Toronto Globe of February 6th allowed George Gilmore, of Fingal, to say on its editorial page:

"The Bank Act of Canada affords not an iota of security to the man or woman who is fool enough to place earnings in the keeping of soulless chartered banking institutions."

The Globe is not given to allowing reckless statements in its columns. If that statement were not absolutely true, as far as actual security goes, The Globe would not dare to publish it. That it is true is beyond question—as the depositors of the Framers' Bank are finding out.

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But it is hardly fair to say that the bank depositors of Canada are so innocent and knowingly trustful that they are lending all their hard-earned money at three per cent., without a particle of actual security. They simply do not know that they are doing it. No later than yesterday I was talking to a well-informed, solid farmer who has money in the bank, and he "poo-pooed" the statement that he had no security for his money.

"Why, the Government is back of the banks," he said, almost angrily.

Well, if it is, it is so far back that you can never find it after a bank has failed. My friend said, further:

"The banks do business under Government inspection."

Neither of his statements had any foundation in fact, and yet I find that they are almost universally believed. From talks I have had on the subject, I feel convinced that, if a poll could be taken of the readers of "The Farmer's Advocate," at least nine-tenths of them would say that I am entirely mistaken. But, if you are a depositor in a bank, just ask the manager when the Government inspector was around to go over his books. Be sure that you say Government inspector. He will be forced to tell you that he has never seen such an official, and has never heard of one. Of course, the banks are inspected

regularly—by their own inspectors. But that is another matter. That their own inspectors do not make much trouble for a reckless management is proven by the record of the Canadian banks. Listen to this, from H. C. McLeod, ex-Gen. Manager of the Bank of Nova Scotia. He compared the banking system of the United States where there is Government inspection, with that of Canada, in a letter published in The Globe of Nov. 22nd, 1906. Taking up the United States banks first, he said:

"For the forty-three years during which the National Bank Act has been in operation there have been established 7,966 banks. Of these, 460 have failed, the failures being equal to five per cent. of the whole number for that period. As for the banks other than National, with a more imperfect system of inspection, or no system at all, the failures reached 17½ per cent. The comparison of the percentages appears as follows:

"National banks failed in forty-three years, 5 per cent.; other—U. S. banks failed in forty-three years, 17½ per cent.; Canadian banks failed in twenty-six years, 25 per cent.; National banks (U. S.) failed in twenty-six years (same period), 5 per cent."

He certainly made clear his argument that our banking system would be safer if we had an outside audit of the banks. It was for that form of inspection he was fighting at the time. He was unsuccessful in his campaign, and there is no inspection to this day. If he had succeeded, we would probably have been spared the disaster of the Farmer's Bank, for I have been assured that a competent inspector would have discovered the real state of affairs in a few hours, and could have called a halt before affairs became hopeless. I believe everybody outside of the Bankers' Association agrees that the depositor is entitled to Government inspection of the banks that have the use of his money. More amazing still, most of them believe we have it. We have not.

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Now let us take up the question of security for deposits. Ask your bank manager about that, too, when you are at it. He will, in all probability, feel so sure of the soundness of his bank that he will tell you that you are amply secured. Put the question to him in this way:

"Suppose there was a panic that involved both your bank and my business; which of us could count on the money I have on deposit as an asset?"

He would be obliged to confess that, not until after the preferred creditors of the bank were all paid would you get your money, or part of it—if any was left. But the usual experience is that, after a bank has failed, all of the deposits have to be used in paying the preferred creditors. Until they are paid, your money is an asset of the bank.

Of course, the bank manager will be certain that there is no danger of his bank failing. Its management is too competent and honorable for such a thing to happen. They will not play fast and loose with your money. Of course, not, but do not forget that 25 per cent. of our banks failed in twenty-six years, and two others have failed since Mr. McLeod made that statement. The only security the depositor has is the integrity of the bank management. In order to make clear what this amounts to, let us suppose a case where the man who is going to deposit his money is approached by the most honest man in his neighborhood.

"I have a great scheme," says the honest man. "I have some money here, and if you will lend me all yours, I will use it in ways that you must not ask about, and will pledge my personal honesty that I will not misuse it or make any mistakes of judgment. I will pay you three per cent. interest while you leave it with me, but if I should fail or make mistakes, I will use your money to pay my debts."

Do you think any depositor would lend his money to the most honest man in his neighborhood on those terms? Certainly not. He would laugh at the honest man, and ask for a mortgage that would look after his interests day and night. Yet, that is what every bank depositor in Canada is doing when he puts his money in a chartered bank. Do you wonder that I am surprised at their trustful simplicity?

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Now, I do not want to give the impression that the Canadian banking system is wholly bad. As a matter of fact, it is one of the most wonderful banking systems in the world. It simply has a screw loose in it. If banking operations were open to Government inspection and supervision, as such operations are in other countries, there would be far less danger of bank managers making the mistakes of judgment or yielding to the temptations that are so disastrous.

Our banking system gives us perfectly sound currency, and that is invaluable. The Bankers' Association will see to it that every bill put into circulation by a bank that has failed will be redeemed—even though



they have to use the last cent of the depositors' money to do it with. This kind of public spirit may remind some readers of the patriotism of Artemus Ward, who was willing to have the war go on so long as there was one of his wife's relatives left who could be sent to the front. A system of currency that can be entirely depended upon is the most important thing we can have for the orderly conduct of business, but why its soundness should be guaranteed by the money of the depositor, as it practically is, because the paid-up capital of the bank that fails is usually hopelessly involved, is not quite clear to me.

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Now, there is no need for anyone to get much excited about the loose screw in the banking system. Just get excited enough to make your Member of Parliament understand that he has got to have it attended to when the Bank Act comes up for revision within the next year. I have before me letters from both sides of the House, both English and French, in which they say they are getting ready to force a revision of the Bank Act which will give a thorough inspection of the banks, and prevent the kind of operations that enable men to get rich "On-the-Side." See to it that your member will do the same. When Government inspection is assured, the Canadian banking system will perhaps deserve to be called what they call it now, "the greatest in the world."

**Forester's Dispersion Sale.**

The dispersion, on March 14th, of the Holstein herd of George Forester, Gormley, Ont., was largely attended by farmers interested in dairying, and, while no sensational prices were obtained, the bidding was quick and keen, and the cattle, which were a very useful offering, brought uniformly good prices, and yet were good bargains for the buyers, the highest price for an animal being \$215, while the twenty-four highest averaged \$144. Following is the list of those sold for \$100 and upward:

**FEMALES.**

Cash Mercedes De Kol, born 1909; Frank Boyle, Richmond Hill .....	\$215
Myrtel Hengerfelt De Kol, 1910; Frank Boyle .....	175
Ina Belle De Kol, 1907; F. W. Tamblyn, Orono .....	165
Wax Myrtel, 1907; J. C. Bates, Lansing.....	135
Susan Ann, 1904; Len Summerfelt, Unionville .....	180
Susan Ann's Plum, 1907; J. W. Campbell, Unionville .....	165
Locust Hill Myrtel, 1903; E. R. Castator, Woodbridge .....	130
Butter Girl Beets De Kol, 1907; O. D. Bates, Lansing .....	150
Kitty of Pleasant View, 1904; F. W. Tamblyn .....	145
Modest Girl Pietertje, 1908; O. Bates, Lansing .....	145
Wax Myrtel De Kol, 1909; J. A. Cerswell, Bond Head .....	195
Tutesy, 1907; J. S. Goodhall, Plumville.....	160
Inka Belle Abbekerk De Kol, 1909; O. S. Bates, Lansing .....	185
Kitty of Pleasant Valley 2nd, 1910; A. J. Tamblyn, Orono .....	105
Kitty of Pleasant View 2nd, 1910; A. J. Tamblyn .....	120
Susan Ann's Plum 2nd, 1910; A. J. Tamblyn .....	110
Wax Myrtel De Kol 2nd, 1910; A. J. Tamblyn .....	110
Modest Girl Pietertje 2nd, 1910; Barney Grady, Oak Ridges .....	105
Happy Molly's Pet, 1910; A. J. Tamblyn.....	115
Inka Belle Abbekerk De Kol 2nd; A. Sherrick, Ringwood .....	110

**BULL.**

Salvador Cornelius Posch, 1908; John Nigh, Almina .....	105
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**Grey Co. (Ont.) Agriculture.**

Eleven Grey Co., Ont., Farmers' Clubs, at a meeting in the Department of Agriculture Office, at Markdale, decided to consolidate their efforts by organizing a County Board of Agriculture, composed of two representatives from each Club. The executive for 1912 consists of the following: Nelson, Perdue, Massie; W. C. Gibson, Goring; L. F. Bowes, Strathnairn; D. H. Shaw, Chesham; J. E. Dolphin, Tarragon; H. J. King, Markdale. The co-operation of the County Council will be sought in making arrangements with the Provincial Horticultural Society for prizes for amateurs at the Guelph. Publicity is also to be given to the did agricultural advantages of

**Montreal Cream Prices Raised.**

The semi-annual meeting of the Montreal Milk-shippers' Association was held in Montreal on March 16th. Milk and cream shippers were present from every section surrounding Montreal from which these products are shipped. So large was the crowd that it was with difficulty all got into the large hall. Undoubtedly, it was the largest gathering of shippers since the Association was formed, 12 years ago. The president, W. E. McAlpine, presided, and the secretary, W. F. Stephen, of Huntingdon, Que., presented a favorable report of the work of the Association during the past six months. The membership stood the highest in the history of the Association, there being about 350 paid-up members already this year.

The price of milk was raised two cents per gallon, and was fixed at 17 cents for the five summer months commencing May 1st, and not less than 22 cents per gallon for the seven winter months, commencing October 1st, next.

The price of cream was raised to 3½ cents per cent. of butter-fat for the summer, and 4½ cents per cent. butter-fat for the winter months. Thus, the price for cream testing 30 per cent. butter-fat will be \$1.05 in the summer, and \$1.35 for the winter months. This raise in price was unanimous, and is essential, owing to the high prices of milk cows, feed and labor; and, also, the regulations of the city are more exacting than formerly, causing farmers to go to greater expense in fitting stables and dairies to comply with the law regarding sanitary milk production.

The organization of a Producers' Association met with favor, and will be further discussed at the annual meeting in September.

**A Satisfactory Cement Tank.**

Editor "The Farmer's Advocate":

As you have invited subscribers to give experience re construction of cement cisterns or tanks, and as the experience of others in many lines, conveyed through your paper, has many times benefited the writer, we will give our experience in the cement-tank line, hoping there may be some point which may be of use to someone.



The New Massachusetts Judging Pavillion.

A spacious building in which students are taught animal husbandry. (See article on another page in this issue.)

The bottom of our tank is sixteen feet above the level of the stable floor, and to make a sub-structure to support the tank filled with water, was our first care.

We built in the north-west corner of the barn, as our well was close to that location, and we placed two rows of studding on the stable floor to support the barn floor above. On the barn floor we set three rows of studding, two of these rows directly over those below, and the third was set about 12 inches from the outside boarding of the barn, and bearing on the stone wall of the stable. On the top of each row of studs we placed a plate 5 x 4, and across these plates we put 2 x 8 joists, and on these joists we laid planks, making a platform about 7 x 9 feet, on which we commenced our tank, 5 x 8 x 5 feet. On this platform we first laid two inches of sloppy concrete (about 1 to 6); on this we put a piece of coarse, woven wire (about No. 13), covering this with three inches concrete. This completed the bottom. To reinforce the sides, we had gathered all the old scrap (principally wrought iron), and from a retired horse rake we got our best scrap. We took the old teeth, put them in a vice, and, when heated, straightened them first, and bent them to a right angle. These we placed at the angle in the bottom, and worked them upwards, where the sides were to be built. At the corners we put a bent rod every four feet, and some old tires were placed around the tank for extra strength.

The tank is built two feet from the wall of the barn, and into this

smaller compartment the pipe from the well is led, and when this division is full the water runs into the larger division. From the larger division the water is led down to the stable and across same to drinking trough, 90 feet from tank.

At threshing time we attach 40 feet of ½-inch pipe to the above pipe, and supply the boiler.

From the smaller division of tank, and directly from the well we take our water supply for the household.

All walls are 4 inches in thickness, and tank is covered with a sheet of galvanized iron. We have had no trouble from frost, although built within twelve inches of an outside board wall, without battens; the warmth from stable strikes on the bottom. In severe frost, we found it best to pump every day, as the temperature of the water melted the ice. The well is over 250 feet in depth, and the newly-pumped water is about 47 degrees F.

We used about four barrels of cement in building and plastering. Three men tried to build it in one day, but failed; it was more like a two-day job. For overflow, we set a pipe in the bottom of tank. This pipe runs within about an inch of the top, so that when the tank is full it runs over into a trough below.

Bruce Co., Ont.

SUBSCRIBER.

**Notes from Essex.**

Editor "The Farmer's Advocate":

Not only are our American cousins actively engaged in securing a foothold in the fertile lands of Western Ontario, but also our relations from the Old Land are turning their footsteps thitherward. A syndicate of English capitalists are acquiring a tract of several thousand acres in South-eastern Essex, upon which they intend placing settlers from their native land who are acquainted with market-gardening. To further their enterprise, a large canning factory is about to be erected in the beautifully situated and flourishing village of Wheatley. Prices being paid for said property are far in advance of anything anticipated or expected ten years ago.

Changes are occurring all over the county, and property is changing ownership very rapidly. The scenes witnessed at some of the small railway depots remind us of those frequently observed in Western Canada.

Loads of settlers' effects may be seen piled up, awaiting removal to their new home in our great corn belt. Some of our most prominent corn-growers are deserting this locality, having disposed of their farm land at high prices, and purchased elsewhere. Others are subdividing their property into five or ten-acre lots, retaining only a small portion for themselves.

There are several problems requiring solution before permanency in farming can be secured. One is the labor question,

both as to quantity and quality, and the other is a higher price for certain products suited to our soil and climate, which ought to be possible, owing to the wide margin in price of the raw product and the manufactured article.

The Dominion Canners Co. are apparently securing the big share of profits along their line of business, since the increase of prices for farm produce—i.e., peas, corn, tomatoes, etc.—is not in keeping with that received for the finished product. A co-operative association similar in many respects to the fruit and grain growers' associations, if properly conducted, would certainly prove a blessing.

Mr. Duke, of Olinda (Essex's Corn King), is extending his sphere of action, having leased several farms of choice corn land, upon which he purposes planting choice varieties, with a view to securing the best grade of seed corn possible. He is likewise contracting with a number of farmers, who agree to produce but a single variety, so that danger of incontinuation will, as far as possible, be eliminated.

Mr. Duke's business, as fruit farmer, purchaser and dispenser of grass seeds, corn, etc., required an outlay approximating \$50,000 during the past year. Several farmers are following his example, and no doubt before many years are past Essex will produce and distribute a much larger amount of graded corn than at present. The annual corn exhibits, together with prospective competitive exhibitions for tomatoes, celery, onions, etc., are not only encouraging, but supply a stimulus which must prove helpful. And yet there is much



room for improvement along all lines, both on large and small farms.  
Essex Co., Ont.

A. E.

**New Brunswick Farmers and Dairymen.**

What proved to be the largest and most enthusiastic meeting ever held in the history of the thirty-six years of existence of the New Brunswick Farmers' and Dairymen's Association opened in the Opera House, Fredericton, on March 18th, under the Presidency of Col. Montgomery Campbell, of Apohaqui, who was supported on the platform by several of the leading agriculturists of the Province.

In his opening address, the President referred to the large number present, testifying to the increased interest being taken in agricultural matters. He reminded them that about \$20,000,000 was about to be spent on public works in the Province within the next year or two, and a large share must find its way into the pockets of those who provide the means of subsistence for the large army of workers who would be employed in the undertakings, and it behooved them all to capture their share of that money. Very few people realize how much that is now imported into the Province could easily be produced by New Brunswick farmers. Referring to farming conditions generally, the President thought that farmers were not growing the amount of crops they ought, consequently a lot of money went in feeds. If more grain and roots were grown, it would save considerable expense. With regard to agricultural education, he felt the time had come when a chair of agriculture should be established in the University of New Brunswick, where opportunities could be afforded farmers' sons to thoroughly learn the principles of the industry.

The President next referred to the great advances made in horticultural matters in the Province within the last year or two, and strongly recommended that more attention be paid to this profitable branch of their industry.

Co-operation was the thing most needed if farmers would attain their full measure of profit. Lack of this co-operation resulted in the markets being glutted with produce, sometimes with a consequent drop in prices, and at others there would be little or none of certain things for sale. He suggested that, if the directors of the various agricultural societies would meet once a month to talk over prices and other matters pertaining to markets, it would be a step in the right direction.

**FRUIT AND CANNED GOODS.**

C. N. Vroom, of St. Stephen, president of the Fruit-growers' Association, spoke of the enormous strides fruit-growing was making in the Province. No fewer than 40,000 apple trees had been planted in the Province last year, and 60,000 more would be planted in the coming season; but these figures only showed a small portion of the work accomplished. The Provincial Government was doing a grand work in supplying farmers with good nursery stock, and every farmer should have at least five acres of orchard, and should confine his attention to those varieties which experience had proved to do best in his particular locality.

W. W. Hubbard, Secretary for Agriculture, said that all the stores in the Province had their shelves loaded with canned goods and vegetables grown and put up in the other Provinces, when there were such excellent opportunities for preparing the same thing at home. He concluded by introducing C. S. McGilvray, the Dominion Inspector of Canned Goods, who gave an interesting review of the history of the canning industry, explaining the possibilities of the business, and stating that canned fruits and vegetables to the value of no less than \$1,591,393 had been imported into Canada in ten months. He had just returned from a trip to British Columbia, where he was told there were 7,000,000 fruit trees, but he had seen districts in New Brunswick where just as fine apples could be grown as in British Columbia. In conclusion, he told the meeting that the East possessed opportunities quite equal to any the West had to offer, if people would only make up their minds to work as hard here as they would have to do there.

**HORSE-BREEDING.**

Tuesday morning was taken up by a lecture by Dr. Standish on judging light horses, and a good deal of valuable practical instruction was given. Horse-breeding was the theme of discussion again at the evening meeting, when Morris Scovil, of Gagetown, read an interesting paper on the draft horse of New Brunswick and its possibilities, pointing out that, while not so easy to raise as the lighter breeds, it never failed to bring a higher price. Farm labor is scarce and machinery has to be used, for which horse-power is essential. For this and other farm purposes the heavy horse alone can serve, whereas the market for medium and light horses is limited. New Brunswick, with careful breeding, establish a reputation for horses such as was held by Prince Edward Island; and as the country develops, the demand

will increase. The speaker deplored the prevalence of scrub stallions and mares of mixed breeds, and declared that the good effect of importations of Clydesdales and other pure-bred horses was thereby lost; and he expressed a desire to see such legislation passed as would put an end to the scrub sires to be found in the country.

In the absence of F. de H. Clements to speak on potato culture, W. W. Hubbard, Secretary for Agriculture, was called on. No part of the Dominion was better adapted, as regarded its soil and climate, for raising potatoes than New Brunswick. Last year the Province produced over 3,000,000 barrels, and it had achieved such a reputation for this product that it was advisable to retain it by producing only the best grade and marketing it in the best way. The most satisfactory results could only be attained by using a carefully-selected fertilizer and giving careful cultivation. The commercial fertilizer had proved satisfactory, but the natural farmyard article had scarcely achieved the same amount of success. Mr. Hubbard declared that there was an unlimited market for New Brunswick potatoes if the same high standard of quality was maintained, and he instanced the case of one farmer whose whole crop was contracted for for the next five years by a Montreal firm. A careful rotation of crops had not only proved of great benefit to the soil, but had had a marked effect on the quality of the crops. The most effective rotation for the Province had been found to be potatoes, followed by wheat and oats, and then clover.

Following on Mr. Hubbard's remarks, a discussion ensued on fertilizers, and it was pointed out by several speakers that the present price of fertilizers was such as to prohibit most farmers from being able to take proper advantage of them, and ultimately a resolution was passed, urging the Government to obtain and furnish to the farmers the constituent materials of fertilizers as nearly as possible at manufacturer's prices.

Mr. Hubbard replied that the Government had had the matter under consideration a couple of years ago, but found an insufficient number of farmers willing to co-operate.

At the Wednesday evening session a paper was read by Mr. Fawcett, of Sackville, on the necessity of co-operation and organization among farmers. In the course of some strong criticisms of present conditions, he asserted that the farmers were little better than hewers of wood and drawers of water for about every other class in the country. Practically every other industry was organized, and, by co-operation, could make themselves heard; and the laborers all had their several unions to maintain their rights. Farmers stood alone. The speaker made many caustic references to the interest professed to be taken in the farmer's business by politicians, who always were ready with some remedy for all the ills that the farming classes suffered from. "Partisan politics is the curse of this country, and no class is so injured by it as the farmers," said Mr. Fawcett, "and just so long as farmers are more concerned for the success of a political party, so long will present economic conditions continue." Mr. Fawcett read the resolutions passed at the meeting of the Dominion Grange at Toronto in January last, and commended them to the consideration of the Maritime Province farmers.

J. K. Flemming, Premier of the Province, spoke of the measures the Government hoped to bring in to improve present conditions, which he said was one of the most important problems of the day. In particular, he referred to the increased grants to agriculture made in late years, and to the live-stock importations, and foreshadowed an early importation of Shorthorn bulls of a milking strain to meet the demand for that class of animal.

**RESOLUTIONS.**

The Resolutions Committee brought in the following report:

That a number of Shorthorn bulls and beefers be imported from England and sold at auction at two places in the Province.

That compulsory veterinary inspection of stallions be provided for.

That, at the next Provincial election, steps be taken to have at least one farmer nominated on each ticket in each county.

That steps be taken whereby the Government will deliver at the farms the constituent materials of commercial fertilizers at prices as near as can be to the actual cost; that a system of state loans to farmers be endorsed, and that the Provincial Government adopt a system whereby the same may be put into practice; also, that a land settlement commission be appointed to deal with such a system.

Subsequently, a committee was appointed to wait on the Government and lay the resolutions before it.

The election of officers then took place, and resulted as follows: President, Lewis H. Smith, of Coverdale, Albert; Vice-President, Ashley George, of Sackville; Recording Secretary, G. Dickson, of Chatham; Corresponding Secretary, Morris H. Scoville, of Gagetown, and Treas. H. H. Smith,

of Hoyt, Sunbury, all of whom delivered short addresses.

A committee appointed to wait on the Government with the resolutions passed at the previous evening's meeting, did so, and were very cordially received. After listening to the delegation, Premier Flemming expressed himself as being thoroughly in sympathy with the farmer's needs, and, on behalf of his Government, promised earnest consideration of his wants. The Government, he said, was already considering the importation of some Shorthorn cattle, and personally, while he was in sympathy with the idea of supplying fertilizer ingredients at cost, there were several difficulties in the way of carrying it out. The land commission and farmer's bank proposals would receive attention, but the matter was too important and far-reaching to be dealt with lightly, and without considerable deliberation.

This was the first time an Association had sent a delegation of their members to interview the Government, and the reception its proposals met with will probably prove an incentive to similar action on future occasions.

**Harmonized.**

Editor "The Farmer's Advocate":

I am pleased to learn that I have been able to pen a sentence which meets with your approval, and to know on your authority that it will act as a balm to the wounds of those advocates of reciprocity who happen to read it.

In a letter which appeared in your issue of December 14th, I, "in my haste," quoted, as from the Bible, a statement which was made by the Psalmist David. For incomplete quotation you reproved me. And now, later, in an attempt, on my part, to show that farmers themselves may not be wholly free from a responsibility for the high cost of living, and necessarily questioning the accuracy of your statement that the responsibility was on "those who left the ranks of food producers to become food consumers," I used the sentence you quote and on which you base your charge, that, to oppose reciprocity, and later endorse such a principle, is inconsistent. Is it not true that those who are leaving the ranks of food producers to become food consumers are themselves assisting to create that very condition so necessary to success in agriculture—a large and varied consuming population?

It will be admitted that tariff protection was a big factor in creating and holding together the consuming centers of the United States; that Canada was forced to adopt the same policy in a modified form; that, after thirty-three years under such a policy, the development of new business, the general expansion of trade, and the prosperity of the country, as shown by the purchasing power of the people, were, when set forth in figures, simply staggering. Not only so, but a national spirit of self-reliance was being created. In view of these facts, being a Canadian, as well as a farmer, I decided that it were better that this policy be continued, in order to build up great consuming centers in Canada, and thus give to the Canadian farmer a chance of "catering to a large and varied consuming population" of Canadians. Therefore, the principle of which you so heartily approve, and which I re-affirm is not an argument in favor of reciprocity, unless the conditions necessary to success in agriculture are impossible of fulfilment within Canada. It would also appear that, under certain conditions the principle involved has a limitation. The late Edward Blake defined that limitation in that famous letter declining to be a Liberal candidate in West Durham in the elections of 1891. "Assuming," says Mr. Blake, "that absolute free trade with the United States, best described as commercial union, may and ought to come, I believe that it can and should come only as an incident, or, at any rate, as a well understood precursor of political union, for which, indeed, we should be able to make better terms before than after surrender of our commercial independence." J. N. CHAMBERS.  
Oxford Co., Ont.

**Rural Mail Improvement.**

As the last forms of this issue of "The Farmer's Advocate" were being made up, newspaper despatches from Ottawa state that plans are under way for improvement in the rural mail service, with a probable appropriation in the supplementary estimates of some \$200,000 to that end. At present the Free Rural Delivery Service is under the Railway Mail Service Branch, but it is understood that it will be re-organized and placed under a special superintendent. With the experience already gained under the tentative rural-delivery system, the pressing needs in all the well-settled sections of the country for a more satisfactory, equitable and comprehensive system have become apparent, and there are now large opportunities in all directions for early and vigorous administration on the part of the Rural Delivery Branch.



### Dominion Dairying Service for 1912.

The Cow-testing Movement will be considerably extended during 1912. There is a marked increase in the number of requests for assistance in the organization of associations, and for the blank forms which are supplied to every applicant. Seven new Dairy Record Centers have been started in Eastern Canada, and a supervisor has been appointed for New Brunswick, leaving Mr. Mitchell free to devote his whole time to Nova Scotia and Prince Edward Island. The dairying industry is showing signs of new life in the Maritime Provinces, especially in Nova Scotia, where the marked success of the Scotsburn Creamery has given a decided impetus to the creamery business. The Scotsburn Creamery was operated and brought to a successful stage by the Dominion Dairying Service. It is now operated by the shareholders.

A Cow-testing Association somewhat on the lines of the Danish system, is being started in British Columbia, where the Department has a Danish expert employed.

### THE NEW DAIRY STATIONS.

The contract has been let for the erection of the new building for the Dairy Station at Finch, Ont. It is to be a combined cheese factory and creamery, with provision for experimental work. The cheese factory will be equipped with a cooling room, facilities for pasteurizing the whey, etc. The buttermaking department will be equipped for winter work, with all the latest improvements.

The building will be constructed of cement blocks, with a galvanized iron roof, and cement-concrete floors throughout. A septic tank will provide for a sanitary disposal of all sewage.

This new establishment will serve the patrons of two small cheese factories which have been in ruinous competition for several years, about a mile apart, and both of which were purchased by the Department.

Plans are now being prepared for the new station at Bromé, Que. This station, which will replace the old Bromé Creamery, will be a creamery only, equipped with all the best apparatus for handling whole milk, skimming station cream and hand-separator cream. It will afford excellent facilities for investigation into the problems which arise in connection with creamery buttermaking.

These stations are expected to serve as model establishments in respect to construction, equipment and operation. They will illustrate the advantages of a modern factory, erected on sanitary and permanent lines, with due regard to cost and appearance.

New methods and new apparatus can be thoroughly tried for the benefit of the industry at large.

J. A. RUDDICK.

### Belmont Dairy Interests.

A correspondent writes that a decided impetus to dairying in the eastern portion of Elgin and Middlesex Counties is anticipated from the establishment of a milk-powder factory, to employ about twenty-five hands, at Belmont, Ont., by the Canadian Milk Products Co., Ltd., who have been successfully operating a similar enterprise at Brownsville, Ont., for several years. Some 2½ acres of land for the Belmont project has been secured from C. O. Luton and the C. P. R., near the station and tracks of which it will be located, with a siding. A well for a water supply will be commenced at once. Belmont is at the intersection of four fine townships, North and South Dorchester, Yarmouth and Westminster, especially well adapted to the growing of corn, clover, alfalfa and all staple crops. A large number of farms are now equipped with silos, and many new ones will be erected this season. This section has been one of the strongholds of cheese-factory dairying, which will doubtless continue to flourish, owing to its special advantages and the good prices (over 14 cents) with which the season is opening. At Brownsville, the cheese enterprise has continued alongside the Powder factory, both contributing to the prosperity of the district. In the Belmont country it is expected that the keeping of cows and the production of milk will be greatly stimulated, so that there will be an ample supply for both, in addition to that going out in the cream and butter trade. If profitable, there is little question about the capability of the farms and the men conducting them to produce the milk. At a later date the company propose starting an egg-powder factory on their premises at Belmont.

Dr. Harvey W. Wiley, Chief of the U. S. Bureau of Chemistry, Washington, famous for his pure-food campaign, has resigned, for the reason, it is said, that he did not receive sufficient official support.

### A Commendable Campaign.

A timely and praiseworthy campaign of publicity has been undertaken by the London Advertiser on behalf of the outstanding natural advantages of Western Ontario from a farming point of view. This is a wholesome display of enterprise that should be emulated generally by the newspaper press of Eastern Canada, the light of which has too long been "hid under a bushel" of self-satisfied apathy, while people were drifting away in shoals with the hope of "bettering themselves" in newer regions. It is not necessary to "knock" the States or the West, but rather to awaken in the minds of men, young and old, a sensible appreciation of the priceless privileges lying undeveloped about their immediate doors. People are apt to forget even the cash advantages of an equitable climate, capability to produce with certainty fruits and all sorts of field crops, opportunities of marketing, transportation privileges, electrical power, schools, churches, etc., while dreaming of something that seems cheap and easy in the distance. It is doubtful if anywhere in the world can farming be pursued with more success and satisfaction than in scores of regions like Western Ontario scattered all over the Eastern Provinces of Canada, the privileges and the lands of which have all along been held too cheaply. It may require plenty of ability and knowledge to farm well, but it will pay. There is every opportunity for intelligent capacity in a choice of farm pursuits, and The Advertiser is doing the country, the people, the towns and itself a valuable service in thus breaking fresh journalistic ground. It beats all the sensational "yellow" newspaper schemes that ever were tried.

### Aid Continued.

The Federal Department of Agriculture has decided to continue, during 1912, the policy initiated in 1911, of granting, under certain conditions, aid to the owners of Thoroughbred stallions. The policy has met, and is meeting, with approval, and is accomplishing in part, at least, what was expected of it. Persons owning eligible horses should apply to the Veterinary Director-General and Live-stock Commissioner, Department of Agriculture, Ottawa, for the necessary forms. Conditions under which assistance will be given will be published in our issue of April 4th.

### GOSSIP.

#### STOCK SALE DATES CLAIMED.

March 28th.—Fred. Abbott, Harrietsville, Ont.; Holsteins.  
April 3rd and 4th.—Holstein-breeders' Club; consignment sale, Belleville, Ont.  
April 4th.—At Market Square, Sarnia, Ont.; Clydesdales, Joseph J. Martin, Fourth Line P. O., Ont.

The Canadian National Horse Show will take place in the Toronto Armories from April 30th to May 4th, both dates inclusive. Upwards of \$8,000 will be distributed in prizes, besides many specials. There are some eighty classes in all provided for in the prize lists. Lists are now ready, and can be obtained along with any information desired, by addressing Captain Douglas Young, 123 Bay street, Toronto.

Gerald Powell, Nogent-le-Rotrou, France, selector and shipper of Percheron and Belgian horses, commission agent and interpreter, writes: I shipped the last week of February, from Antwerp to St. John, N. B., fifteen Percheron mares and two stallions, all coming two years old, and two Belgian mares and one stallion. They are all for M. W. Hunter, of Olds, Alberta. They are a highly-bred lot. Some of the fillies are by Fier a Bras. At the last Chicago International, in the two-year-old class of 157, five of Fier a Bras' colts were in the first seven, including the winner and junior champion.

#### THE BELLEVILLE HOLSTEIN SALE.

The catalogue of the great consignment sale of 157 head of high-class registered Holsteins, about 25 of which are young bulls, and 130 cows and heifers, to be sold by auction at Belleville, Ont., on Wednesday and Thursday, April 3rd and 4th, as announced in the advertisement, makes a splendid showing of their breeding as to productive backing and individual records of capability as milk and butter producers. Judging from the pedigrees of the offering and the records quoted, it is questionable whether ever a better, if an equally desirable offering of dairy cattle has been contributed to one auction sale in Canada. The dairy cow

in these times is conceded to be the most profitable feature of farming.

As stated in an advertisement in this issue, Peter Arkell & Sons, of Teeswater, Ont., importers and breeders of Oxford sheep, will, as usual, import again this summer, and will accept orders to select and bring from Great Britain sheep of any of the breeds desired. They are expert judges, having had long and large experience in handling sheep. They are also open to purchase Oxford rams of any number.

As advertised in this issue, an auction sale of Clydesdale stallions, bred from imported stock, also a number of well-bred geldings and fillies, property of Joseph J. Martin, Fourth Line P. O., Ont., will be held on the market square in the town of Sarnia, on Thursday, April 4th. One of these stallions, Pride of Warwick, is a bay son of Imp. Miltonhill, a grandson of the famous Prince of Wales (673). Another, General Bruce, is a grandson of the renowned champion, Baron's Pride (9122).

Volume 21, of the Canadian Ayrshire Herdbook, compiled and edited in the office of the Canadian National Live-stock Records, Ottawa, and published by the Ayrshire Association, of which W. F. Stephen, Huntington, Que., is Secretary, has been issued from the press. This volume, well printed and substantially bound, contains pedigree records of 3,806 animals, numbering from 32134 to 34191, also creditable records of performance of a large number of Ayrshire cows. A portrait of Past President John McKee, Norwich, appears on the fly sheet, followed by fine pictures of over a score of typical animals of the breed, which is rapidly gaining popularity because of its practical dairy qualities.

At an auction sale of Percherons by F. J. Ayscough, of London Springs, South Dakota, March 27th, four stallions averaged \$1,123, the highest price, \$2,500, being realized for the six-year-old, Raymond. Forty-three mares averaged \$333, the highest price being \$725, and the 27 head sold for an average

of \$631.70. At Beloit, Kansas, February 29th, R. G. McKinnie and H. G. McMillan & Sons sold at auction seven stallions for an average of \$637.85. The black imported horse, Hardi, brought the highest price, \$1,595, being purchased by B. H. Bunny, of Bassano, Alberta. A pair of gray mares, weighing over 4,200 lbs., sold for \$1,620 to a Kansas buyer.

At an auction sale in the present month, at Snelgrove, Peel Co., Ont., the grade Holstein cows all sold for over \$100 each, while one brought \$152, and her calf at foot sold for \$25.

### TRADE TOPICS.

The price of Stewart No. 9 Ball-bearing Sheep-shearing machine, advertised in this issue by the Chicago Flexible Shaft Co., Chicago, should read \$15.75, instead of \$11.50, as incorrectly stated in the advertisement this week, but the price (\$15.75), means complete at your dealer's only. Send for free treatise on how to shear sheep, and large catalogue. There are many advantages in early shearing if unwashed sheep are in good condition, and warmer weather may be expected soon. Address Chicago Flexible Shaft Co., 110 La Salle Ave., Chicago, Illinois.

A. G. Hall & Son, of the Central Nurseries, St. Catharines, Ont., advertise in this issue an attractive list of small fruit plants of the most approved varieties, together with some new ones highly spoken of, including the Giant Humber, a horticultural wonder, having the nature of a tree or a grape in that the wood does not die down every year, but continues to grow from year to year, withstanding the coldest weather, and fruiting from August to October. Send for advertisement and send for catalogue.

A newly patented horse-drawn hay rack, adapted to the horse-drawn hayrack, advertised in this issue by the firm of Ryckman's Garage, Sarnia, Ont. The principal feature of this rack is that the front end is hinged, and can be raised to the height of the hayrack or lowered and tilted to any angle.

the other part being then loaded in the usual way, and unloaded readily with horse fork or slings. See the advertisement and write for particulars. Anyone wishing to buy the right to use this rack in Canada or the U. S. should apply to the advertiser.

THROUGH TRAINS TO THE WEST VIA CHICAGO AND ST. PAUL.—Personally conducted Grand Trunk special train will leave Toronto 10.30 p. m., Tuesday, April 2nd, for Camrose, Edmonton, and points in Manitoba, Saskatchewan and Alberta, stopping at all points on Grand Trunk Pacific west of Winnipeg. Pullman tourist sleepers will be carried fully equipped with bedding and porter in charge. Berths may be secured in these cars at a low rate. This is an exceptional opportunity for those wishing to take advantage of the remarkably low one-way settlers rates, or round-trip Homeseekers' excursions, through the American cities. No change of cars. Secure tickets, berth reservations, etc., from any Grand Trunk Agent, Toronto City Office north-west corner King and Yonge streets (phone Main 4209), or write A. E. Duff, District Passenger Agent, Toronto, Ont.

The Onward Manufacturing Co., of Berlin, Ont., are placing on the market two very useful appliances, tending to greater ease in keeping the home clean. Advertised in another column in this issue is the "Onward" Automatic Hand-power Vacuum Cleaner, which may be operated by one or two persons, is durable, easy to empty and easy to carry from room to room. Also the "Onward" Triumph Electric Vacuum Cleaner, which is said to be the lightest, most powerful, practical electric vacuum cleaner made. These machines are fully guaranteed by the manufacturers, who also have placed in the trade the "Onward" foot-scraper, a practical, useful article, which prevents dirt, sand, snow or slush from being tracked into the house. They are easily attached to a door-step, are durable, and reasonable in price. See the company's advertisement in this issue, also in the issue of April 14th.



## THE CANADIAN BANK OF COMMERCE

ESTABLISHED 1867

Capital paid-up, \$11,000,000.  
Reserve, \$9,000,000.

The Canadian Bank of Commerce extends to farmers every facility for the transaction of their banking business, including the discount or collection of sales notes. Blank sales notes are supplied free of charge on application.

Accounts may be opened at any branch of The Canadian Bank of Commerce to be operated by mail, and will receive the same careful attention as is given to all other departments of the Bank's business. Money may be deposited or withdrawn in this way as satisfactorily as by a personal visit to the Bank.

## MARKETS.

### Toronto.

At West Toronto, on Monday, March 25th, receipts of live stock numbered 124 cars; quality of cattle good to choice; trade fair; prices, considering quality, steady. Exporters, \$6.75 to \$7.20; one load of Easter cattle, 1,300 lbs., sold at \$7.40; butchers' best, 1,100 to 1,200 lbs., steers, \$6.75 to \$7; prime steers, 1,000 to 1,100 lbs., \$6.50 to \$6.75; good, \$6 to \$6.25; medium, \$5.60 to \$5.90; common, \$5 to \$5.50; inferior, \$4.50 to \$4.90; cows, \$3 to \$5.50; bulls, \$4.50 to \$5; milkers, \$4 to \$6.5; calves, \$5 to \$5.80. Sheep, \$4.50 to \$5.50; yearlings, \$7 to \$7.75. Hogs, \$7.85 fed and watered, and \$7.50 f. o. b. cars.

The total receipts of live stock at the City and Union Stock-yards last week were as follows:

	City.	Union.	Total.
Cars	194	174	368
Cattle	2,423	2,149	4,572
Hogs	5,143	2,864	8,007
Sheep	452	205	657
Calves	404	55	459
Horses	—	292	292

The total receipts of live stock at the two markets for the corresponding week of 1911 were as follows:

	City.	Union.	Total.
Cars	187	137	324
Cattle	2,276	2,116	4,392
Hogs	4,927	1,182	6,109
Sheep	1,128	347	1,475
Calves	344	69	413
Horses	11	168	179

The combined receipts at the two markets for the past week show an increase of 44 carloads, 180 cattle, 1,898 hogs, 46 calves, and 113 horses; but a decrease of 818 sheep, compared with the corresponding week of 1911.

It will be seen that the receipts of live stock still continue to be moderate. Trade was none too active, and prices for cattle at the close of the week were not any higher than at the commencement. There was no demand for export cattle, and the bulk of the heavy steers were bought by the Montreal buyers, with a few going to the local abattoirs.

Exporters.—Or, rather, cattle of export weights, sold at \$6.80 to \$7.05 for steers, and \$5.25 to \$5.50 for bulls.

Butchers'.—Best heavy steers for butchers' purposes sold as high as exporters, \$6.80 to \$7.05, and one prime three-year-old steer, 1,950 lbs., bought for Easter trade, at \$8.25, and another 11-months-old Shorthorn steer, 950 lbs., also for Easter purposes, brought the same money, and was afterwards re-sold at \$10 per cwt. Prime picked lots, butchers' weights, 1,000 to 1,100 lbs., at \$6.25 to \$6.65; good, \$6 to \$6.25; medium, \$5.40 to \$5.90; common, \$5 to \$5.30; inferior, \$4.35 to \$4.90; cows, \$3 to \$5, with extra quality cows, \$5.30 to \$5.75; bulls, \$4 to \$5.25.

Feeders.—A very few steers, 800 to 900 lbs., sold from \$5 to \$5.25.

Milkers and Springers.—Trade in milkers and springers was dull all week. Too many common, inferior, and medium

quality cows were on sale. The market was dull and draggy, at \$30 to \$60 each, few reaching the latter figure.

Veal Calves.—Receipts were liberal. Good calves, firm. Prices for good to choice ranged from \$6 to \$8.50; medium, \$4 to \$5; while "bobs," that should not be allowed to come on the market, sold at \$2.75 to \$3 each.

Sheep and Lambs.—Ewes were firm, at \$4.50 to \$5.50; rams, \$3.50 to \$4; lambs sold at \$6.50 to \$8, with a few select lots at \$8.20, \$8.30, and \$8.40.

Hogs.—Receipts being light, prices kept advancing all week, the market closing firm, as follows: Selects, fed and watered at the market, \$7.75, and \$7.50 f. o. b. cars at country points.

### BREADSTUFFS.

Wheat.—No. 2 red, white, or mixed, 95c. to 96c., outside points; Manitoba No. 1 northern, \$1.13; No. 2 northern, \$1.10; No. 3 northern, \$1.06; track, lake ports. Oats—Canadian Western extra No. 1 feed, 50c.; No. 1 feed, 49c., lake ports; Ontario No. 2, 45c. to 46c.; No. 3, 44c., outside points; No. 2, 47c. to 48c., track, Toronto. Rye—No. 2, \$1 per bushel, outside. Buckwheat—68c. to 70c. per bushel, outside. Peas—No. 2, \$1.15 to \$1.25, outside. Barley—For malting, 93c. to 95c. (47-lb. test); for feed, 63c. to 73c. Corn—American No. 3 yellow, all rail from Chicago, 75c., track, Toronto. Flour—Ninety-per-cent. Ontario winter-wheat flour, \$3.95, sea-board. Manitoba flour—Prices at Toronto: First patents, \$5.60; second patents, \$5.70; strong bakers', \$4.90, in jute; cotton, 10c. more.

### HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, \$16 to \$16.50 for No. 1, and \$14 to \$15 per ton for No. 2.

Straw.—Car lots, baled, track, Toronto, \$8.50 to \$9.50.

Brans.—Manitoba, \$25 per ton; shorts, \$27; Ontario bran, \$25, in bags; shorts, \$27, car lots, track, Toronto.

### HIDES AND SKINS.

Prices for hides and skins at Toronto for the past week: No. 1 inspected steers and cows, 11c.; No. 2 inspected steers and cows, 10c.; No. 3 inspected steers, cows and bulls, 9c.; country hides, cured, 11c.; green, 10c. to 10 1/2c.; calf skins, 13c. to 16c.; sheep skins, \$1 to \$1.35 each; horse hides, No. 1, \$3.25; horse hair, per lb., 33c. to 35c.; tallow, No. 1, per lb., 5 1/2c. to 6 1/2c.

### COUNTRY PRODUCE.

Butter.—Market for butter slightly easier, the supply of farmers' dairy being larger. We also know that New Zealand butter is being sold on the Toronto market, one dealer receiving two carloads, which cost 34c. laid down at Toronto. We bought some to try it, and found it nearly, if not quite, equal to the Locust Hill brand of creamery butter, which is regarded as the best on the market. The New Zealand butter retailed at 40c. to 42c. at the city stores. Prices are quoted as follows: Creamery pound rolls, 37c. to 39c.; creamery solids, 35c.; separator dairy, 34c. to 35c.; store lots, 32c. to 34c.

Eggs.—Case lots of new laid quoted at 23c. to 24c.

Honey.—Extracted, 13c.; combs, per dozen sections, \$2.50 to \$3.

Cheese.—Twins, 17c.; large, 16c.

Potatoes.—Car lots of potatoes, track, Toronto, \$1.60 to \$1.70.

Beans.—Market very firm. Broken lots, primes, \$2.40 to \$2.50; hand-picked, \$2.60 to \$2.70.

Poultry.—Receipts light. Fresh killed, prices rule as follows: Turkeys, 23c. to 25c.; geese, none on sale; ducks, none on sale; chickens, 18c. to 20c. per lb.; hens, 14c. to 15c.

### TORONTO SEED MARKET.

Following are the prices at which re-cleaned seeds are being sold to the trade: Alsike No. 1, per bushel, \$15 to \$15.50; alsike No. 2, \$13 to \$14; red clover No. 1, per bushel, \$15 to \$15.50; red clover No. 2, per bushel, \$13.50 to \$14.50; alfalfa No. 1, per bushel, \$11 to \$12; alfalfa No. 2, per bushel, \$9.50 to \$10.50; timothy No. 1, per cwt., \$18 to \$19; timothy No. 2, per cwt., \$16 to \$17.

### FRUITS AND VEGETABLES.

Apples.—Sais, per barrel, \$2 to \$4.50; Baldwins, \$2 to \$3.50; Greenings, \$2.50 to \$3.50; Russets, \$2.50 to \$3.50.

Onions, per bag, \$2.25 to \$2.50; parsnips, per bag, \$1.35 to \$1.50; turnips, per bag, 40c. to 50c.; carrots, per bag, \$1.15 to \$1.25; cabbage, per barrel, \$2.50 to \$2.75; beets, 75c. to \$1.

### Montreal.

Live Stock.—In the local live-stock trade, the tone of the cattle market was firmer, and prices were probably 1/2c. higher. Sales of choice steers took place as high as 7 1/2c. per lb., buyers having demanded about 7 1/2c. This was in lots, and it is likely that fully 1/2c. more was paid for single animals. Fine stock sold at 6 1/2c. to 7c.; good at 6c. to 6 1/2c.; medium at 5 1/2c. to 6c., and common ranged all the way down to 4 1/2c., while canners sold as low as 2 1/2c. per lb. Choice milkers brought \$65 each, and common ranged down to \$45, while springers sold at \$30 to \$40 each. Lambs sold at 7c. to 7 1/2c. per lb., and ewes at 5c. to 5 1/2c., while bucks and culls brought 4 1/2c. to 4 3/4c. per lb. Hogs were in very good demand, and prices advanced still further, being 8c. to 8 1/2c. per lb., for select hogs, weighed off cars. Supplies were none to large, and demand keen.

Horses.—The roads in Montreal are now in process of breaking up, the week before last having removed the snow from portions of the down-town streets. This makes it almost impossible for the sleighs to be used much longer, and in many instances the wheels have already been resorted to. This is the case with many coal carters, etc. Meantime, the snow lies deep in the less-used streets up town, where there has been none carted away. The result is that it is very hard work delivering, and this affects business considerably. One might think that it would cause a more active demand for horses, but the opposite effect is experienced. The market is steady, as follows: Heavy draft, weighing from 1,500 to 1,700 lbs., \$300 to \$350; light draft, 1,400 to 1,500 lbs., \$225 to \$300; light horses, 1,000 to 1,100 lbs., \$100 to \$200; broken-down animals, \$50 to \$100, and choice saddle and carriage animals, \$350 to \$500 each.

Dressed Hogs.—In sympathy with the market for live hogs, that for dressed advanced, and abattoir-dressed sold at 11c. to 11 1/2c. per lb., and country-dressed sold at 10c. to 10 1/2c. per lb.

Poultry.—Very little change, and not much activity. Turkeys continue to sell at 19c. to 20c. per lb.; geese, 18c. to 14c.; fowls, 10c. to 12 1/2c.; chickens, 16c. to 20c.; ducks, 17c. to 17 1/2c. This is for choice stock.

Potatoes.—Market rather easier, although potatoes are certainly scarce, and good quality is hard to get. Green Mountains are quoted from \$1.50 to \$1.60, on track, carloads, per 90 lbs., but a report has been received that potatoes have been offered here at considerably under these prices without finding a taker. Small lots, however, certainly bring a very high price.

Honey and Syrup.—It will not be long now till new syrup will be offering. Meantime, syrup in wood is 7c. to 7 1/2c. per lb., and in tins 70c. to 75c.; sugar is 8c. to 9c. per lb. White clover comb honey is 10 1/2c. to 11 1/2c. per lb., dark grades being 7c. to 8c.; white extracted, 8c. to 10c.; dark, 7 1/2c. to 8c.

Eggs.—Dealers are trying to get prices down here, and are succeeding but indifferently. However, production is increasing all the time, and this is having its effect. Round lots of fresh eggs are available at 25c. to 26c. per dozen, while single cases may be had at about 27c. Prices vary from day to day, according to the quantity arriving. Dealers are trying to buy at 20c. in the country, but are not succeeding, so far, it is believed.

Butter.—Some new-milk butter is arriving, but it will be quite a while before there will be sufficient to affect the situation greatly. Meantime, prices are 33c. to 34c. per lb. for choicest, and 1c. less for seconds.

Grain.—The market for oats showed very little change. No. 2 Canadian Western oats were quoted at 53c. to 53 1/2c. per bushel; No. 1 feed, extra, at 52c. to 52 1/2c.; No. 3 Canadian Western, at 51c. to 51 1/2c.; No. 2 local, at 50 1/2c. to 51c.; No. 3 local at 1c. less, and No. 4 at yet 1c. less.

Flour.—Prices firm, at \$6 per barrel, in wood, for first patents; \$5.50 for sec-

## SAFETY AND INCOME

Are the two primary reasons for depositing your spare money in THE BANK OF TORONTO.

### A Savings Account

in this Bank is as safe as Government Bonds, it receives interest half-yearly, and the balance can be added to or withdrawn at your pleasure.

To have real peace of mind your money should be in safe y.

**Bank of Toronto**  
Assets, \$57,000,000

onds, and \$5.30 for strong bakers', prices in bags being 80c. less. Ontario winter wheat, straight rollers, \$4.60 to \$4.75 per barrel, patents being \$5.10 to \$5.35.

Millfeed.—Market very firm, and prices are \$25 to \$26 per ton for bran, and \$27 to \$28 for shorts. Middlings are \$29 per ton; pure grain mouille, \$32 to \$34; mixed mouille, \$29 to \$30.

Hay.—Demand for hay good, and prices continue firm, being \$16 to \$16.50 per ton for No. 1 hay; \$15 to \$15.50 for No. 2 extra; \$14 to \$14.50 for No. 2; \$13 to \$13.50 for No. 3, and \$10.50 to \$11 for clover mixed.

Seeds.—There was very little buying, both on account of high prices and the presence of winter. The recent spring weather, however, has had a good effect. Prices, \$22 to \$26 per 100 lbs. for alsike and red clover, and \$16.50 to \$20 for timothy.

Hides.—Demand fair, and calf skins have advanced to 13c. and 15c., respectively, per lb., for Nos. 2 and 1; and 11c., 12c. and 13c. per lb. for Nos. 3, 2 and 1 beef hides; 10c. each for spring lambs, and \$1.10 for others. Horse hides, \$1.75 each for No. 2, and \$2.50 for No. 1. Tallow, 1 1/2c. to 2c. per lb. for rough, and 6c. to 6 1/2c. for rendered.

### Chicago.

Cattle.—Beeves, \$5.25 to \$8.65; Texas steers, \$4.50 to \$5.95; Western steers, \$5.10 to \$6.85; stockers and feeders, \$4.25 to \$6.50; cows and heifers, \$2.50 to \$6.70; calves, \$5.50 to \$8.

Hogs.—Light, \$7.20 to \$7.60; mixed, \$7.25 to \$7.60; heavy, \$7.25 to \$7.60; rough, \$7.20 to \$7.35; pigs, \$5.10 to \$7.

Sheep and Lambs.—Native, \$4 to \$6; Western, \$4.50 to \$6.25; yearlings, \$5.50 to \$6.90; lambs, native, \$5.80 to \$7.95; Western, \$6.25 to \$8.

### Buffalo.

Cattle.—Prime steers, \$7.50 to \$8; butcher grades, \$3.50 to \$7.

Calves.—Cull to choice, \$5.75 to \$9.75.

Sheep and Lambs.—Choice lambs, \$8 to \$9.25; cull to fair, \$6.50 to \$7.90; yearlings, \$7 to \$7.25; sheep, \$3 to \$6.25.

Hogs.—Yorkers, \$7.75 to \$7.85; pigs, \$7; mixed, \$7.75 to \$7.85; heavy, \$6.65 to \$7.75; roughs, \$6.50 to \$7; stags, \$5.50 to \$6.

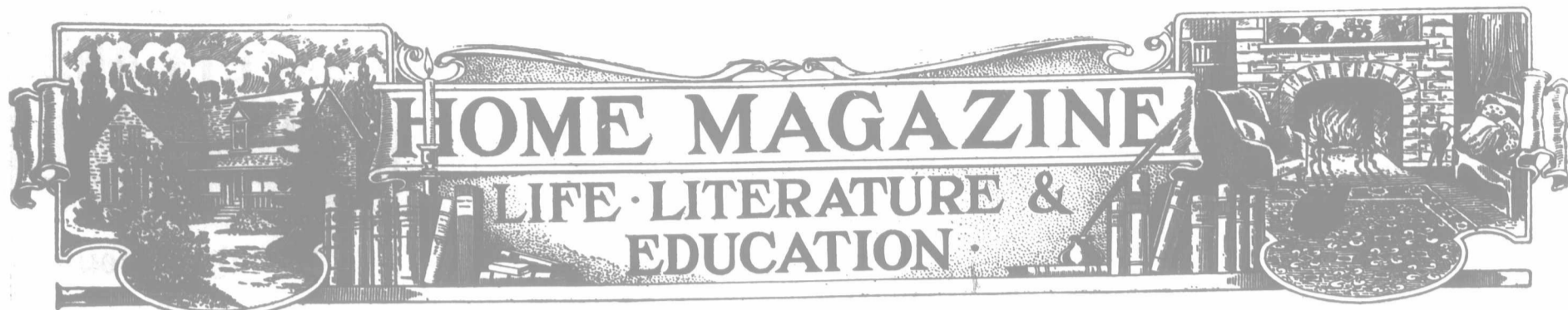
### British Cattle Market.

John Rogers & Co., Liverpool, cable States and Canadian steers making from 14 1/2c. to 15c. per pound.

### TRADE TOPIC.

In the advertisement of seed grain and grasses by the Caledonia Milling Co., Caledonia, Ont., alsike, we are advised, should be cut out. The seed offered is described as Government standard, all grown on clean clay farms in Haldimand County, and include most desirable varieties, guaranteed to satisfy, or may be returned.





## The Roundabout Club

### Some More of the Best Essays, (Study No. III. Continued).

#### THE OLD SCHOOLMASTER.

I was ten years old and had just been promoted to the Third Reader the summer he came to our school. I remember well how, having been accustomed to gentle Miss Reid, I stood in awe of my new teacher, so erect and soldier-like, though even then his hair was very white.

His name was Michael Morrison; he had been educated in Scotland, but had lived in Toronto before he came to us. It was supposed there had been some tragedy in his life, for he never spoke of his past nor of his family, nor did any one, except a daughter who came twice, ever visit him. Certainly it was well for us that something induced a man of his education and ability to take up his residence in our straggling country village at a salary which surely could not have tempted him.

He boarded at the hotel for a few weeks, then rented a small house and lived in it, got his own breakfast, but the other meals he got at Mrs. Henry's. His holidays and evenings were mostly spent in his garden, and surely it repaid his care; even now, as I think of various fine displays in pretentious grounds, I remember that little house as it became after he had lived there a few years. Along each side of the walk was a strip in which flaunted the gay colors of the earliest tulips and daffodils, succeeded as the season advanced by poppies, asters, and gladioli; then there was a strip along each fence, the shady side full of ferns, violets and forget-me-nots, the sunny side filled with columbine, daisies, June pinks and other old-fashioned favorites. Clematis and honeysuckle clambered over the fences, while a purple wistaria, which before his coming had climbed over the porch, now responded to his care so generously that in June the low stone cottage seemed a mass of purple and green.

Nature study and school gardens had not then been "invented," but he used frequently to invite a few of us into his garden, sometimes cutting flowers for us, or commending any efforts we had made in gardens of our own. He was by no means ungenerous with seeds and plants, yet if we neglected what he gave us it was long ere we had another gift. Motorists who pass through our village now often admire the flowers and vines which add so much to its beauty; many of them came from the garden of "Micky."

Not that he ever heard us call him by so familiar a title—we knew better—he always exacted the utmost respect, and besides teaching with all thoroughness the subjects on the curriculum, he taught us a good deal more. If Earl Grey had criticized our manners it would not have been Mr. Morrison's training that was in fault. He found some of the boys had a habit of loitering around the post office in the evening, and exerted himself to break that up, and when he found Ethelinda Colfax in a secluded corner of the school-yard absorbed in "The Duke's Secret," he said not so much to her, but he talked with her mother, who had got her daughter's name from such a book, with the minister, and with the school board. We soon had a small library. No "trash" in it; some of Scott's, some of Dickens', Hoosier Schoolmaster, Tom Sawyer, and Ben Hur. In the winter we had a school concert, and the library was enriched with the proceeds.

He was just—we pupils often thought severe—in his discipline, but his percep-

tion of humor was keen, and a witty answer sometimes turned away wrath. A list of "big" words from the reader to spell and give the meaning of was one of our tasks. "Inveigle" came to John Paye; he plodded laboriously through the spelling, hesitated over the meaning, then with the light of inspiration on his face, responded, "not veigle." Those who knew the meaning were horrified. Mr. Morrison's lips twitched, but he merely passed the word on to the reliable boy, and John escaped censure. So also Andrew, who in reading that a prisoner's cry brought a turnkey to see what was the matter, missed the n, and to our great amusement read the word "turkey." He escaped reproof, though the rest of us bestowed the word on him as a nickname. For a Fourth Class pupil to stumble in reciting the Commandments was a serious matter, but when Norman added to the tenth the startling prohibition that the neighbor's daughter was not to be coveted, the master only remarked grimly: "No, no, lad, human nature couldn't endure that."

His failings? Oh yes, while we were his pupils we could have pointed out many. There was no doubt he was too severe; he was over strict on such trivial matters as being late or neglecting our work; it wasn't his affair whether our shoes were polished or our finger nails in order. The older people would have said—and as we grew older we agreed with them—that he had but one serious fault. Yet since he has been so long buried we seldom mention it even among ourselves, so I will not here "draw his frailties from their dread abode."

So time passed; those who had been his pupils now sent their children to him, but the erect figure began to droop, the gray eyes grew less keen. Picking up an exercise book in a neighbor's house one day, I was surprised to find misspelled words uncorrected, errors in other work unnoticed. Remembering what he had been, people were unwilling to complain, yet the children were making little progress. We wished he would resign; finally the school board, with Tom Lenox the chairman at their head, called at school "I tell you, Ruth," said Tom afterwards, "I had thought it over and over, and could see no other way out, yet I felt guiltier than I did the time Dick and Andrew Brown and I played truant to go fishing over at Schwartz's pond. I kept thinking of that day, and almost expected him to grasp me by the collar, but after we had made our lame speeches about our appreciation of his services, and it being time to leave the burden to younger men, all he said was, 'Very well, gentlemen,' and we filed out, glad to escape as ever schoolboys were." Mrs. Henry said he didn't go home till after dark, and didn't come for his tea at all that night.

Nothing did the old schoolmaster say on the subject, save a remark to Mrs. Henry, that he had hoped to die in harness, but it was not to be. Yet as I stopped to look at his flowers, or to read a magazine article to him—he had always commended my reading—we often talked of his old pupils who had gone out into the world; of Clara, whose book we read with so much interest; of Margaret, superintendent of a large hospital in a western city; of Andrew, a missionary in China, and of Fred, the M.P.; but oftener we talked of the less fortunate than these; Dora, whom we used to accuse of being "Micky's pet," though, indeed, we all peered her, but who has for years been a helpless invalid; poor headstrong Charlotte, who wrecked her life by marrying an unprincipled rascal; Jack, who lies in South Africa, and Murray, whose accounts were short; his father refunded the money,

and we occasionally hear of him in western towns. The master grieved over him. I know he wrote to him and received letters from him occasionally.

So passed two years; then one severe winter he failed rapidly. Mrs. Henry offered him a bed in her house, but he preferred to stay in his own, and for a week the neighbors took turns caring for him. He grew better for a day or two, then failed suddenly, and died in a few hours. He had left directions with the minister, who arranged for the funeral and sent for the daughter. Six of his "boys" carried him to his resting place in the old churchyard. We never knew the story of his life, but we trust he has joined "those immortal souls who live again in minds made better by their presence." RUE.

Welland Co., Ont.

#### WHAT KIND OF EDUCATION TENDS MOST TO MAKE A FARMER USEFUL AND HAPPY?

In general, that education which broadens the outlook, enriches the minds, enlarges the heart and produces thoughtful, intelligent men of practical ability is the highest and best education that can be procured. It is my purpose, then, to discuss ways and means of producing this desideratum of education in the particular case of the tiller of the soil.

It is an idea, only too common, that the farmer requires little or no education, anything beyond a common-school course being considered superfluous. But more and more with the advance of scientific research and the application of scientific methods to agriculture is a good education necessary to the successful farmer. And since his work is in the fields and provides unlimited opportunities for observing nature and nature's laws, the æsthetic value of education to the farmer can hardly be estimated.

What should he know? This is a question difficult to answer, directly. At least he should know enough of practical farming to be able to follow agricultural pursuits with success. Some men with a very limited education will do more, and take more out of life, than others with much more extensive educational opportunities. But education is not merely the imbibing of knowledge at school and college. It is a process that is going on all the time, and the great essential for reaching the ideal in education consists in the cultivation of a taste for wholesome reading. "Reading maketh a full man," and the common university of to-day consists of a well-selected library of the world's best authors.

A public-school education is not sufficient for the twentieth century agriculturalist. A boy passing the High School Entrance examination at the immature age of thirteen years has not, as a rule, received a sufficient grounding in the essential subjects of the common school course. Students who enter the High Schools are too often woefully deficient in many subjects, especially in writing, spelling and arithmetic. Therefore, after passing the Entrance it is highly advisable that a solid year or more be spent in post-graduate work, taken in the fifth classes of the public school (or in a Continuation or High School, if such be convenient). It is a notorious fact that in our rural schools the decrease of male teachers has been accompanied by a corresponding decrease in the fifth class attendance. For these bigger boys do not seem to be so willing to be taught by a slip of a girl, and such a thing as a winter class of big boys is becoming an almost unheard of thing in the public schools of to-day. The fifth class should have a place in every rural school, not only for the purpose of crystallizing and

perfecting the knowledge obtained in the lower forms.

Careful attention must be given to the reading of the youth. The home library can be supplemented by the public, school, and other libraries. Novels in limited number give spice to a reading course, but there is too much of the world's best literature obtainable to waste time in reading the worthless and trashy. Every farm home should be provided with at least one good Canadian magazine, one agricultural journal, a representative daily and several weeklies, including a local paper. The library should contain a number of scientific treatises on farming, nature study and kindred subjects, most of them of an elementary character, but well illustrated and reliable in authority. A careful course of reading will induce a spirit of inquiry and excite interest in farm problems, besides tending to keep the reader abreast of the times. Literary societies and rural clubs are proving in many instances wonderful means for improving the mental and moral tone of farm communities. Thus, during the slack winter season, there is provided a social and educational factor of great importance in quickening the intellect and brightening the social side of rural life. The Farmers' Institute, the fall fairs, the fat stock and poultry shows are interesting and instructive and should be attended, if only on account of their educative value.

With a public school education and proper conditions of home life and surroundings the farmer's son may develop into a first-class, all-round citizen of this Canada of ours, a nation of highly intelligent and thoughtful men and women. But to attain the highest point of perfection the farmer of to-day must gain scientific knowledge. He cannot farm successfully without the aid of science. The common "hit-and-miss" methods are rapidly losing ground in face of the wonderful success of scientific farming.

The necessary training in the science of farming is given at the agricultural colleges (and to less extent in the agricultural high schools that are being established). If means permit a two years' course (for a diploma) should be taken in an agricultural college. This should not be undertaken before the age of eighteen, and cannot be undertaken successfully unless the student has a thorough grasp of the public school studies, backed up by mental activity derived from intelligent reading and private study. The course at the agricultural colleges provides instruction in practical farming, including the care of all kinds of stock, poultry and bees. Instruction is given in the sciences with their agricultural applications; in the construction and operation of farm machinery, engines, silos, etc.; in farm bookkeeping and in English, in which course public speaking and debating are stressed.

With this educational equipment the young farmer could successfully cope with the problems of life on the farm. The ordinary routine of work which to many appears like so much drudgery would appear in a new light. The feeding of farm stock would present problems in the selection of the best balanced food ration for the various farm animals. The knowledge of soil physics would be invaluable in the application of manures and fertilizers and in the cultivation of the soil. Rotations of crops, drainage questions, old orchard problems, and other farm questions could be successfully solved by the practical application of scientific knowledge.

Knowledge is power, and in attempting to answer the question, "What should the farmer know?" I have directly shown part of what he should see and



feel. Education, as above described, is in no sense narrow. The more we extend the vision (in reading, etc.), the more do we extend the sympathies, enrich the sentiments and broaden the intellect, thus increasing the powers of enjoyment and inducing contentment and happiness, which go far towards producing the maximum of usefulness. The farmer would be fitted to attain a high measure of success in his chosen work, and would also be able to take a prominent position among the public and professional men of the day. The dearth of agricultural representatives in our legislative halls is often lamented. But this will continue only until the farmers, as a class, fit themselves, by judicious education, to take a high place as public-spirited, inquiring citizens, whose independent life makes them successful in securing happiness and contentment.

"JOHN."

**Some Old Time Echoes.**

THE FRANCO-PRUSSIAN WAR.  
NO. III.

Maybe the hearing from the lips of those who have seen or personally suffered from the needless brutalities to which they had been exposed upon the field of battle brings more closely home to one the unutterable horrors of war than when one only reads about them in cold print. Let us hope and pray for that blessed time when the differences between nations may be settled by methods less murderous than by sword and fire. Other prophetic utterances to be found in the Book of Books have already been realized. May it not be possible that even some of us of the so-called civilized world who are living to-day may be spared to see that blessed time, when "They shall beat their swords into plowshares, and their spears into pruning-hooks," "when nation shall not lift up sword against nation, neither shall they learn war any more."

As the war progresses and the passions of the fighters on both sides are aroused beyond control, it is greatly to be feared that the terrible atrocities which are so frequently recorded of the brutal Turcos, and the Alsatian peasants, who, partly for loot, and partly from natural savagery, so cruelly ill-treat the wounded Prussians as they lie dying on the battle-field, will produce similar acts as reprisals for the same. Just now one hears on many lips the question, "What can be said of a nation which claims so leading a place in the world's history, and which attempts to dictate to every other European power, using as its tools creatures so dead to every sense of honor and justice, to compare whom with brute beasts is a dishonor to the latter! Yet France lets loose these demons to fight its battles and feels no shame at the enormities they perpetrate."

My notes speak of the light-heartedness of the French prisoners, who already were daily passing through Cassel. Dainty in their tastes too, some of them who owned to positive hunger, and never having had enough of rations to allay their cravings, actually throwing out of the train windows the so-called "black-bread," eaten by all classes in Germany. Their jokes, verbal and practical, were irrepressible, and seemed to be appreciated by friend and foe alike. "Tickets! Tickets, gentlemen; get your tickets ready please," cried a wag of the party, with the air of one travelling for pleasure.

We were told that one whole train full of French troops, probably without having been once under fire, was taken possession of by a clever stratagem on the part of the Prussians. "Is the road clear?" had telegraphed the French. "It is," had mendaciously replied the Prussians in charge of the line. Unsuspectingly they had steamed into the very arms of their enemies, and are now being safely guarded by Prussian sentinels. But they were light-hearted Frenchmen, and so far looked upon war as but a mere game, which their side was sure to win!

My notes recording the winning of the first victory are lost, but the occasion stands out in my memory without a blur. No especial news from the front had been looked for, but my brother had told his wife that he would take one

final stroll down town to see if there were any change upon the bulletin board. Meanwhile our best wisdom was to go quietly to our beds. I believe I was enjoying my first sleep, when I heard a scattering of gravel upon one of the windows of our large flat, and the voice of my sister-in-law calling to one below, "Is it thou, Carl? What news?" The reply came in the tones of a stranger, an Englishman to whom my people had shown some social attentions. "Good news for you Frau M——. The battle of Weissenburg is won by the Prussians. Everyone is gone mad down town. I told your husband I'd contrive to let you know. You need not look for him yet awhile! I'll wait on the steps for you if you like to risk the crowds and take a share in the rejoicings. We will find him somewhere—but please be quick!"

By her answer, not meant for my ears, I gathered that my sister, though quivering with excitement and longing to go, did not like to leave me behind, a catastrophe I had no intention of allowing to happen; so a few moments saw us equipped as inconspicuously as possible for our escapade, and pushing and elbowing our way as best we could in the wake of our guide, and singing Fatherland songs as lustily as any of the almost delirious multitude who surged around us. That we did contrive to find my brother was little short of a miracle. We owed it partly to the fact that his inches made him a good target for our eyes to discover, and partly because of a peculiar bird-note whistle, understood of both husband and wife, which, inch by inch, drew us together. I remember feeling almost as glad and thankful then to hold on to his strong arm as when in my girlhood's days it was my pride and delight, as his little sister, to be allowed to walk by the side of my big soldier brother. "Don't try to speak" was his wise counsel—"not English anyway"—for just then England was in somewhat bad odor, owing to some misconception (or so I suppose it must have been), as to what was or was not "contraband of war," a courtesy-law which I believe some of the mercantile ships of Great Britain had misconstrued.

Later in August, 1870, my notes remark "that in spite of the logic of very plain facts, and still sustained by the spirit of undying brag, which never appears to desert the Frenchman even in extremity, it seems next to impossible to convince any of his nationality that the tide has turned for France, and the fortunes of war are against it. The fact that the city of which they are so proud, Paris the Beautiful, is in a state of siege; that numbers are slowly starving to death within its boundaries, awaiting what retributive justice may have in store for them, does not seem to open eyes which will not see; nor to unstop ears which will not hear. They know, of course, that they are everywhere sorely pressed by the sons of the Fatherland, who, indignant at their wrongs, and believing that the cause is holy for which they are laying down their lives, are just waiting to strike, and they must know that when their hour of retribution comes, as come it must, that that punishment will befall them at the hands of those in whose hearths and homes are vacant places, caused by the greed of power of their rulers, who surely, if they would let their consciences speak, would gladly blot out, if they could, the direful memories of the cruel war which their ambition had provoked.

"The German 'Punch' has a rather good caricature of the Emperor and the Prince Imperial crossing the Rhine on a tight-rope, each on a velocipede. 'Papa,' cries the boy, 'I think I am falling.' 'I think I am falling too,' replies papa, and the last telegraphic despatch from Paris is to be relied upon, the Emperor will shortly be called upon to resign the command of the army, which would be the beginning of the end indeed."

H. A. B.

(To be continued.)

"Have you ever seen any worse weather than this, Mr. Sailor?" asked a nervous lady passenger of a deck-hand. "Take a word from an old salt, mum," says the deck-hand, "the weather's never bad while there's any females on deck a-makin' henquiries about it."

**Hope's Quiet Hour.**

**Bear No Grudge.**

Thou shalt not . . . . . bear any grudge against the children of thy people, but thou shalt love thy neighbors as thyself.—Lev. xix.: 18.

"Love is kind, and suffers long,  
Love is meek, and thinks no wrong,  
Love than death itself more strong;  
Therefore give us love."

I have taken my text from the Book of Leviticus to-day—that Book which is so legal in character that we are apt to skip it out of our Bible-reading. And yet many of the laws given in it are not ceremonial only, they are not only intended for the Jews, but are as up-to-date as if they were written yesterday, and as pointed as if they were aimed especially at us. Take this nineteenth chapter, for instance, and note a few of its commands: "Thou shalt not go up and down as a talebearer among thy people . . . . . thou shalt not hate thy brother in thine heart . . . . . nor bear any grudge . . . . . ye shall do no unrighteousness in judgment, in meteyard, in weight or in measure . . . . . I am the LORD." The chapter contains only 37 verses, yet 16 times in it the reader is reminded that he stands in the Presence of God—can any sin be trifling in the eyes of Him Who says: "Ye shall be holy: for I the LORD your God am holy?"

Thousands of years ago these warning words were written, and yet—standing in the Presence of our God—how many who call themselves Christians still dare to cherish a grudge against another member of his family, as if they had never heard the call to goodwill. Just think of the mockery of kneeling before the Father and saying: "Forgive us our trespasses, as we forgive them that trespass against us," when we are making no real effort to forgive that other child of His who has vexed us. Think of the comment which our Lord made when He gave us this prayer: "If ye forgive men their trespasses, your heavenly Father will also forgive you: but if ye forgive not men their trespasses, neither will your Father forgive your trespasses."

It is very common to attempt to justify the bearing of a grudge in this manner. "Oh, I don't bear him (or her) any illwill, if he were in trouble I would not refuse to help him. I have forgiven him, but I don't wish to have anything more to do with him."

Is this the kind of forgiveness we hope for from God? How forlorn, desolate and helpless we should be if He should stand aloof from us.

But perhaps we think we have good reason for feeling resentful, for hating a brother secretly in our heart. Why, even a heathen savage does not dislike a member of his own tribe without thinking he has reason—are we satisfied to remain at his level, though we have held up before us always the glorious ideal of a Man strong enough in Love to pray with all His might for those who were cruelly and unjustly torturing Him?

Perhaps that Example is so high that we feel hopeless of imitating it, then let us glance at another. King David was driven from Jerusalem by his own dearly-loved son, Absalom. He climbed up the ascent of Olivet, weeping, and had his head covered, and he went barefoot: and all the people that were with him covered every man his head, and they went up, weeping as they went up. Such a sight might have roused pity in the hardest heart, but it emboldened one base coward to heap undeserved insults on the man who had already so much to bear—to hit him when he was down. Shimei followed the broken-hearted procession, flinging curses, stones and dust at David and at the mighty men who were on his right hand and on his left. No wonder the wrath of Abishai blazed out in the words: "Why should this dead dog curse my lord the king? let me go over, I pray thee, and take off his head." It shows the wonderful personality of the crushed king, that he not only controlled his own spirit, but was able to hold in check the anger of his mighty men. "Let him curse," he answered, "it may be that the LORD will look on mine affliction, and that the LORD will re-

quite me good for his cursing this day." And yet this noble generosity apparently failed to make Shimei ashamed of his low behaviour, for he still followed, presuming on his immunity from danger, cursing and throwing dust and stones. Anyone could have flung stones and angry words in return. Such retaliation would have been so easy and commonplace that it would not have been worth recording, but the world can never forget David's control over his own temper.

Someone has said that "temper is nine-tenths of Christianity"—if that is so, then much of our Christianity must be of very poor quality, for our temper is not often very much to be depended on. Perhaps the weather is disagreeable, or we have a "splitting headache" (which really is not so bad as we make out, probably), or someone else is displeasing to us, and so we look cross and speak snappishly and feel very ill-used. Then, if we hear that someone has made some disparaging remark about us, we resent it indignantly—though we may have deserved it thoroughly—quite forgetting how many unkind things we have said about other people which we should be very sorry to have repeated.

Instead of resenting criticism, it is wiser—as well as nobler—to accept it humbly, knowing that we deserve far more blame than we usually get, and examining ourselves to see whether it is possible to cure the defects of character which are so visible to the eyes of our friends and neighbors. There is a story told of King Philip of Macedon, which shows that it is wiser to profit by blame than to resent it. One of his officers was reported to have said many hard things about the king. "What should be done with this Nicanor to punish him?" the king was asked. But King Philip calmly replied: "I must first find out whether my own conduct has given occasion for this abuse of me." He soon remembered that Nicanor had risked life in his service and had not been rewarded, so—instead of punishing him—he gave him a good and honorable position. Some time afterwards he was told that Nicanor was never weary in praising the king, who said: "Do you not see? It lies in ourselves whether we are well or evil spoken of."

There are so many quarrels which poison the happiness of life, and most of them could be avoided if one of the parties concerned refused to bear a grudge. It takes two to make a quarrel, and Love is as mighty an enchanter as the sun when any coldness has to be got rid of. If anyone is trying to pick a quarrel with you, all you have to do is to go on shining. Repay rudeness with real courtesy (not a frigid politeness), talk about the person who is against you only to God, and be especially careful not to discuss him with your sympathizing neighbors. There is nothing like gossip to fan the miserable flames of a petty grievance. Look honestly and humbly at your own life, and see whether there is not some reason for his disapproval of you. Don't wait for him to make the first advances towards a reconciliation, but do the harder, greater part of going more than half-way to meet him.

Do you think that "bearing a grudge" is a small matter, not injuring seriously your spiritual condition? Can you live a day without needing God's forgiveness? How can you receive that great blessing unless you cast out of your secret heart the poison of resentfulness? "If ye forgive not men their trespasses, your heavenly Father will not forgive you."

But forgiveness—real love for those who have injured or vexed us—is not an easy matter. Our Lord gives us advice which we should do well to follow whenever we have this battle to fight. He says, "Do good to them that hate you, and pray for them which despitefully use you"; and then He points out that those who return good for evil, blessing for cursing, are in deed, as well as in name, the children of the Loving Father, who sends the blessings of sunshine and shower on the evil as well as on the good. He also commands each obedient disciple to do his very utmost to make friends with one who has wronged him. He must not nurse a grudge himself, and must do his very best to straighten out the tangle. First he is to quietly talk the matter out with the "offended brother." If that fails—and love and prayer can do wonders, combined with such a straightfor-



ward talk with the other person concerned—then our Lord requires His servant to go again, taking with him two or three witnesses. If that interview also fails, then he is to tell it to the Church. If the prayers and wise advice of fellow Christians fail to win the offended brother, then the obedient disciple can face his Master, for he has tried his utmost to win back the lost fellowship which is of priceless value. Still he must go on praying and loving, and the sunshine of love will do more than anything else to warm the other's cold heart.

Are we ready to take so much trouble? Even if we don't bear a grudge, do we think it is necessary to try so hard to be again on neighborly terms with a person with whom we have "had a difference"? Our Lord tells us how eagerly the Good Shepherd seeks for a straying member of His flock, and how He rejoices more over the renewed fellowship with that sheep than over the ninety and nine who had never left Him. Then He goes on at once to explain how brothers in the family of the Father should find each other when separated, saying: "If he shall hear thee, thou hast gained thy brother."—St. Matt. xviii.: 11-17. He connects His own love for each with the love we should have for each other. If I cherish a grudge against another member of God's Family I am hurting my own soul and my brother's, I am striking at the Heart of our Father, and I am aiming a blow at the Loving Elder Brother, who identifies Himself with each child of His Father. If we refuse to love them, we are refusing to love Him who has said: "Inasmuch as ye did it not to one of the least of these, ye did it not to Me."

"Why shouldst thou hate then thy brother?  
Hatest he thee, forgive! For 'tis sweet  
to stammer one letter  
Of the Eternal's language; on earth it is  
called Forgiveness!  
Knowest thou Him, who forgave, with the  
crown of thorns round His temples?  
Earnestly prayed for His foes, for His  
murderers? Say, dost thou know  
Him?  
Ah! thou confessest His name, so follow  
likewise His example,  
Think of thy brother no ill, but throw a  
veil over his failings."  
DORA FARNCOMB.

## The Beaver Circle.

### OUR SENIOR BEAVERS.

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

#### The Swamp Song.

By Leslie Clare Manchester, in "Our Dumb Animals."

In the shallow, shining waters,  
There is heard a twilight tone;  
There is heard a swamp-song rising  
With a weirdness all its own.  
There is heard a music trembling  
On the reeds along the shore,  
In a bass and in an alto,  
In a treble, sweeter, lower.  
'Tis the music of the marshes,  
'Tis the voice of pipers clear  
Calling, calling to each other  
In the courses far and near.  
Ah, behold them! What a chorus,  
Gaily dressed in green surtouts;  
Ah, behold them just before us  
From the still depths peering out;  
From the white of lotus blossoms  
Anchored on the waters still;  
From the shadow of the branches  
Leaning from the willowed hill.  
Yes, behold the mottled pipers  
With their music starward flung;  
Hear, oh, hear the deep song welling:  
"Chug, ca-chug," and "Chung, ca-chung."  
When the chill is on the river  
And the frost is on the mead,  
When with snow the pines are blowing  
Low their stately heads indeed;  
There is naught but silence sleeping  
On the marshes gray and sere,  
There is naught to break the stillness  
Till the blooming of the year.  
Then, oh, then a chord awakens  
As with green the boughs are hung;  
Then we hear the swamp musicians:  
"Chug, ca-chug," and "Chung, ca-chung."

### Something About Frogs.

One of my earliest memories is of a delightful swamp through which our way ran when going to church, at least we children seldom seemed to go that way except to church. In winter we drove, slipping through it in no time; in spring and summer we walked, taking our time to the trip, so that my memory-pictures of it are largely mingled with bright sunshine and the mellow sound of the far-off church-bell coming faintly over the hills.

never so "forward" as in spring, and there, upon many a "pet" day when the sun shone warm, and the marsh grasses were still brown and withered and bent after the weight of the winter snow, and the fiddle-heads of the big ferns were coming up in queer little coils, and the spice-wood had not as yet shot out even its baby leaves, and the last rim of ice was dripping off into the deepening water, there used to be high carnival.

"Ker-chunk! Ker-chunk! Ker-chunk!" of the little ones, and then the deep



From Polliwog to Frog.

And what a swamp it was!—Ash trees and soft maples to the northward, knee-deep in water in early spring, the road like a white line along the southern side, then beyond that a fringe of the flat swamp land, running off towards the sun, and quite covered, save where a few tall elms stood like sentinels, with low red and yellow stemmed willow bushes, giant bulrushes, clumps of marsh-grass, and masses of the big fern that we used to call "bracken." Along the roadside, too, clustered dozens of the low, sweet-smelling shrubs which we knew as "spice-wood," and never did we pass without plucking a sprig and rubbing it in our hands to intensify the strong, spicy odor.

The swamp was usually a very quiet spot, but in spring it was given over to a very riot of sound. Frogs used to congregate there by the thousand, all-the-year-round inhabitants to be sure, but

"Jug-o-rum! Jug-o-rum!" of the bull-frogs, and then a perfect shrilling of sound all over the swamp. You might notice, however, that as you walked along the road, all the choristers near by would stop, all of a sudden, so that you seemed to be walking in a circle of silence bounded all round by a wall of sound. Very keen ears have the frogs, and very wary are they about singing for strangers at close range.

It was here, when coming from church one such day, that we saw what seemed to us then a very queer thing,—a great mass of a clearish jelly-like substance as large as half of a water-pail, clinging to the stems of some bushes that were still half-drowned in water.

Gingerly we made our way over a mossy, half-rotten log, to the spot, to investigate, returning with handfuls of the slippery stuff which, on closer inspection,

proved to be made up of thousands of little round bits of the jelly, each with a speck of black at its heart.

"Frogs' eggs!" shouted Max, coming at once to the right conclusion.

"Whew! Won't there be a dose of them when all these hatch out!" ventured Will, whereupon Alice volunteered the information, "But, you know, the old bull-frogs eat whole heaps of the little frogs. I've read so."

Little Ted was looking interested. "I'm glad I'm not a frog's little boy," said he, and everybody laughed.

Well, all this was a long time ago, when Nature-study was not even touched upon in the schools, and there was no teacher to tell us to bring the eggs home and watch them as they hatched; so we threw them all back into the water again and trudged eagerly home to tell about our discovery.

Needless to say, however, we kept an eye on that swamp, and one day a little later we were rewarded by seeing hundreds of little brown wiggling things, all head and tail, scuttling down through the water whenever we came near.

"Huh! They're nothing but polliwogs!" said Max,—he had often seen polliwogs before. But, somehow, we had a sort of feeling that, in some way, those polliwogs were connected with the frogs' eggs. We went home full of questions, but all that Uncle Jack, "The Sage," would tell us, was that the "polliwogs" really had been hatched, by the heat of the sun, from the eggs, and that, if we watched them closely, we might see even more marvellous changes.

This, of course, meant a daily pilgrimage to the swamp, and at last we were delighted to find a polliwog, or tadpole, with two little legs on it—why, dozens of them, and a little later another tadpole with four legs, precisely a little frog, but with a tail.

"When the tail drops off, it'll be a frog," asserted Max.

"But the tails don't drop off; they're absorbed right into the frog's body,—I've read so," corrected Alicia.

That night we had more questions than ever to ask. "How is it that the polliwogs stay right in the water all the time until they turn into frogs, and then climb right out?" we wanted to know.

So then Uncle Jack explained that the polliwogs are really much like fish to begin with, soon developing gills, which enable them to breathe the air in the water as fish do. At this time, he said, they live chiefly on the tiny plants (algæ) that grow in the water. As time goes on, however, lungs begin to grow in their bodies, they become able to breathe the open air, and so, finally, as frogs, they live most of the time out of the water, plunging in every little while, however, to wet their skin or obtain food in the water.

"Have you ever watched a frog breathing?" asked Uncle Jack.

"I have," replied Alicia, "and he seemed to be swallowing all the time."

"That's just it," said Uncle Jack, "He swallows the air, and so forces it into his lungs. His skin also helps him in breathing; that's why he keeps it moist."

Later in the summer we found out that, when full grown, frogs live almost altogether on insects, worms and spiders, which they draw into their mouths by means of their wonderful, long, lightning-like tongues; and so we learned that they are really very useful little creatures, which should be taken care of, and never killed cruelly, "just for fun."

Now, Beavers, if you want to see the astonishing life-story of the frog develop before your very eyes, take some of the eggs home this spring and put them in a shallow pan of water, tipped up at one end to leave some "dry land." Keep the pan in a warm place, and as soon as the polliwogs appear put in some of the little water-plants (algæ). You will find that they will also eat boiled cornmeal.

When they turn into frogs, you will have to feed bits of meat, very tiny, of course, shaking each bit before them, so that they will think it is living. Indeed, Mr. Frog prefers to bolt his food "wiggling."

If you get tired of your frog pets, put them into the pond or creek, don't let them die of neglect.

Upon the whole, I think you will be much interested and pleased with the experiment, and that you will be quite



Lois Edmonds.

[From Underwood & Underwood, New York.]

This is Lois Edmonds, aged 11, prize breadmaker of Iowa, who took first prize in a State breadmaking contest in which 6,000 girls participated. She is also one of the eleven best corn-growers in Iowa, and is visiting Washington, D. C., where she will go to the White House and demonstrate to President Taft and his cooks how to make good bread. Her friends declare that when the President eats of Miss Edmonds' bread, he will declare her the best breadmaker in the country.



ready at the last of it to agree with the rhymster who wrote:

"You may speak of this, and speak of that,  
The nose of a dog, the eyes of a cat;  
A monkey's amusing, and so is a hog,  
But the very funniest thing is a frog."  
PUCK.

**OUR JUNIOR BEAVERS.**

[For all pupils from First Book to Junior Third, inclusive.]

**Junior Beavers' Letter Box.**

Dear Puck and Beavers,—I live with my grandparents, mother and aunt, on a farm. They have taken "The Farmer's Advocate" for over twenty years, and they like it very much. I like to read the children's letters in the Beaver Circle. I have for pets, a pure white kitten. I call him Tommy; he was a year old last October. I have two pigeons; one is nearly all white, and the other is dark blue. They had two young ones lately, but they both died. I have also two hens that are laying and one that isn't. I sell the eggs, and get 10c. every week. I must close now.

MARJORY E. TREVOR  
(Age 10, Book Jr. III.)

Huntsville, Ont.

Dear Puck and Beavers,—I am very much interested in the Beaver Circle. I have just finished reading the letters, so I thought I would write a little letter. My sister wrote a letter to the Beaver Circle last summer. I am not such a bookworm as some girls are, but I like to read fairy tales. What did Santa Claus bring you, Puck? He brought me a bracelet, and he said that when it gets colder I shall have skates. I go to school. My teacher's name is Miss Moderwell. I like her very much. There are two rooms in our school. I am in the senior room. I would like to correspond with Daisy Morris, Brantford, Ont., Box 156. Your little friend.

OLIVE SCHWEITZER  
(Age 10, Jr. III.)

Bridgeport, Ont., R. R. No. 1.

Dear Puck,—As my father takes "The Farmer's Advocate," I thought I would write to your club. We have a little fox terrier dog named Topsy. One day my kitten came up on the window sill outside, and Topsy, who was in the house, sprang at it and broke the window. There are a lot of people here from the West. I have one brother and one sister out there. My sister is in Winnipeg at present. I have three miles to go to school. We make sugar here in the spring, and I like to go to the bush. I spent my Christmas Day by taking a trip to the city. I had a very nice time, and learned how to skate. I like to go tobogganing and snowshoeing in winter.

EVA BOYLE  
(Age 9)

Lanark Co., Ont.

Dear Puck and Beavers All,—This is my first letter to your charming Circle. I will not make it too long.

One night last fall I went out to the barn with my brother. We went up in the mow to get some hay, when a lot of sparrows flew towards the lantern which I was holding, and I caught one of them. I took it to the house and put it in a box. It stayed all night, and in the morning I gave it some wheat. After my breakfast I went out to make a cage for it, but, alas! when I came in it had disappeared out of the box.

PETER MURRAY  
(Age 10, Jr. III. Class.)

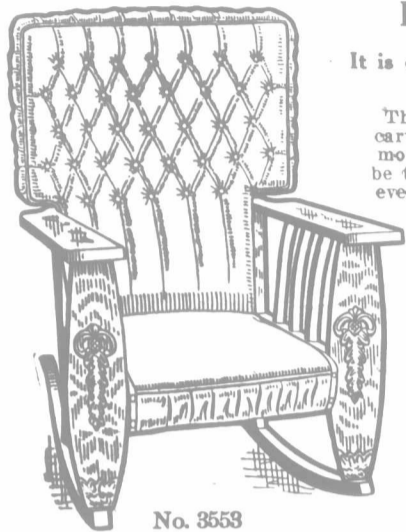
St. Pauls, Ont., R. R. No. 3.

Dear Puck and Beavers,—I will tell you what I saw last summer. I saw some gold fish, and some kind of pink, and some green frogs, in a white dish upon the table in a house, and I never saw such nice fish and frogs before in my life.

I am going to write another story to you. I saw some robins; there were two, and they laid five eggs in the nest. The nest was made of twigs fastened together with mud, and on the inside there was some hair off a horse, or dog, or

**Send Us No Money for This Rocker**

Let Us Send it to YOU on 5 Days' Approval at Our Risk



No. 3553

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**CATALOGUE "7"**

This rocker is exactly as illustrated, frame of selected quarter-cut oak, hand-carved and polished, with spring seat and buttoned back, both upholstered in moroccoline—an imitation leather that will wear like iron and can scarcely be told from genuine leather. Equal in value to any \$10.00 rocker you ever saw.

**ONLY \$6.35 — FREIGHT PREPAID**

to any station within and as far as 200 miles from Toronto. (200 miles freight allowance to points of greater distance.)

Cut out and send this coupon.

(Write name and address plainly.)

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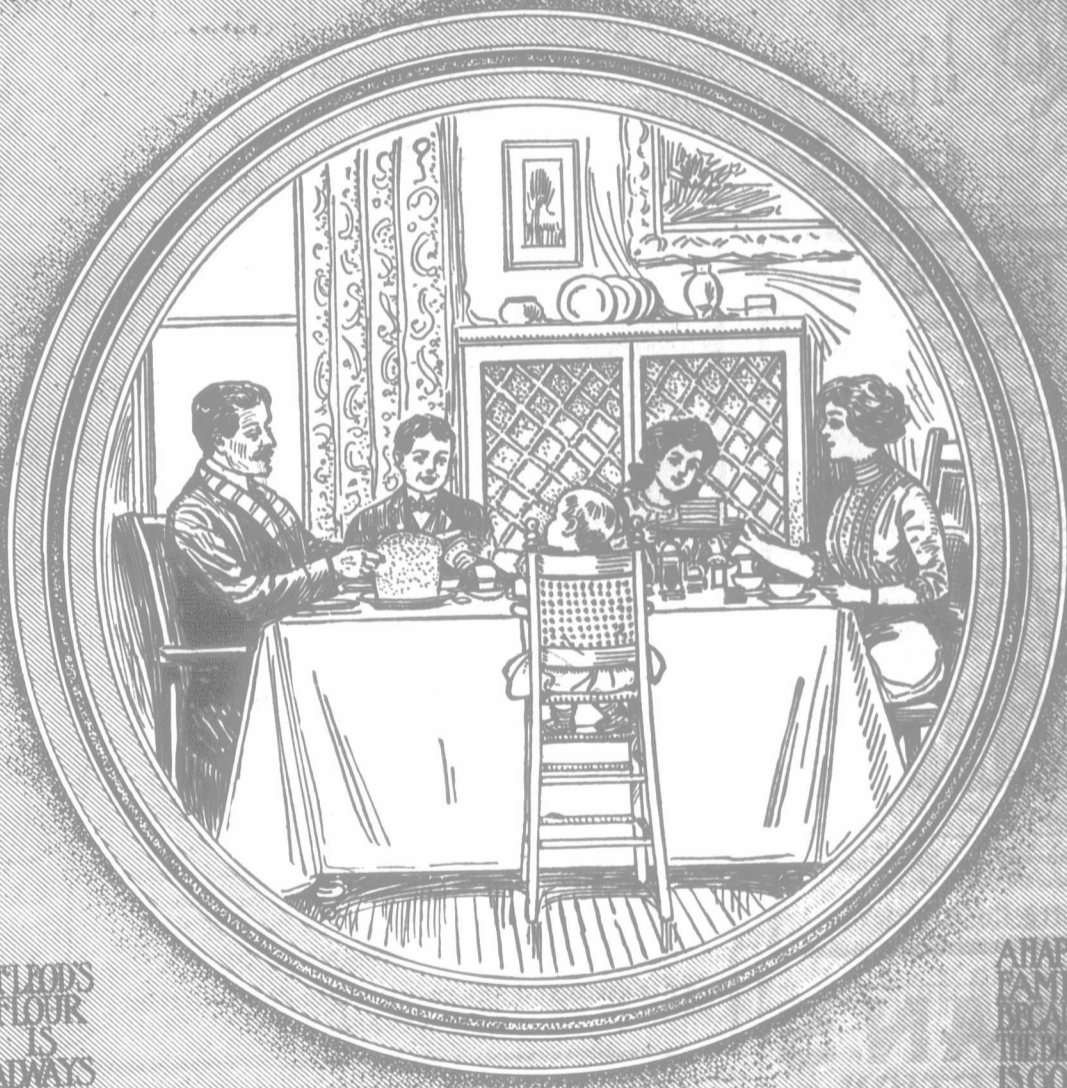
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To the Adams Furniture Company, Toronto:

Dear Sirs,—Please ship me, freight prepaid, on 5 days' approval, one NO. 3553 Rocker. I agree to within the 5 days after receipt thereof—either remit to you the sum of \$6.35—the price of the rocker—or re-ship same to you. (This order implies no obligation on my part to purchase or bear freight charges either way.)

**The Adams Furniture Company, Limited, Toronto, Ont.**

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McLEOD'S FLOUR IS ALWAYS RIGHT

A HAPPY FAMILY BECAUSE THE BREAD IS GOOD

The happiness and health of the family may turn on the quality of the bread—if good bread makes for happiness—contentment and health—by all means be sure of the good bread—you are guaranteed it in using McLeod's Flour—AT ALL DEALERS.

The McLeod Milling Company Limited, Stratford, Ontario



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at a cost of a few cents, and with very little work, you can make them just as fresh and pretty as new. At one operation Maypole Soap cleanses and dyes to rich, glowing colors, fadeless in sun or rain. No trouble to use—no muss—no stained hands or kettles.



24 colors—will give any shade. Colors 10c—black 15c—at your dealer's or postpaid with free Booklet, "How to Dye," from



**Frank L. Benedict & Co., Montreal.**



cat, or cow. When the young ones were hatched out they had no feathers, and they had little wings and little feet, and a little mouth, and little toes, and a little beak. They could not fly yet, but the two old ones could fly for miles and miles. The nest was on a pear-tree limb, and I saw the old ones bringing food for the little ones. They kept their mouths open and the old ones dropped the food in. One day our old cat saw them and she ate them up. The old ones were very vexed because the cat ate their five young ones.

RAY TRUSSLER.

Wellesley, Ont.

Dear Puck and Beavers,—My father has taken "The Farmer's Advocate" as long as I can remember, and he likes it. I like it for the Beaver Circle that is in it. I am going to tell you about the pets my sister and I have. We have a cat; it won't lie down under the stove, but it comes into the dining-room or parlor and lies in one of the rocking-chairs. My brother has a dog called Collie. He has a harness for it, and he makes the dog pull him on the hand-sleigh. We have a pony called Nellie. My brother drives it.

LOVEMA BECKETT  
(Age 8 years, Part II.)

St. Vincent.

### Beaver Circle Notes.

Many letters must still be held over. Please do not write any more until I tell you to, Beavers.

Several letters were thrown in the w. p. b. because they were written on both sides of the paper.

### Spring Waking.

A Snowdrop lay in the sweet, dark ground,  
"Come out," said the Sun. "Come out!"

But she lay quite still and she heard no sound;

"Asleep," said the Sun, "No doubt!"

The Snowdrop heard, for she raised her head,

"Look spry," said the Sun, "look spry!"

"It's warm," said the Snowdrop, "here in bed,"

"Oh, fie!" said the Sun, "oh fie!"

"You call too soon, Mr. Sun, you do!"

"No, no," said the Sun, "Oh, no!"

"There's something above and I can't see through."

"It's snow," said the Sun, "just snow."

"But I say, Mr. Sun, are the Robins here?"

"Maybe," said the Sun, "Maybe."

"There wasn't a bird when you called last year."

"Come out," said the Sun, "and see!"

The Snowdrop sighed, for she liked her nap.

And there wasn't a bird in sight.

But she popped out of bed in her white night-cap;

"That's right," said the Sun, "That's right!"

And, soon as that small night-cap was seen,

A Robin began to sing,

The air grew warm, and the grass turned green.

"'Tis Spring!" laughed the Sun, "'Tis Spring!"

—Isabel Ecclestone Mackay, in St. Nicholas.

### Improve Your Appearance.

The Hiscott Dermatological Institute, 61 College street, Toronto, has for the past 20 years treated all kinds of skin, scalp, hair and complexional troubles. Write them if you are troubled with freckles, blackheads, pimples, liver spots, sebum, poor hair, etc. Superfluous hair also removed by treatment at the Institute.

### You Try It Free

in your own home. Send us \$25 for an "Automatic" Vacuum Cleaner—use it—test it—for durability, ease in operation and perfect work. If you do not think it the best Hand-power Vacuum Cleaner on the market, return it and we will refund your money. The "Automatic" draws out all dust from carpets, rugs and upholstered furniture—and holds all the dust in the inner tank. Carpets are really clean, through and through, when gone over with the "Automatic," and there is no dust to dust.

The air in the room is clean—the woodwork is clean—when you clean with the "Automatic."

Write to-day for our free circular.

Onward Mfg. Co., Berlin, Ont.

## COWAN'S

### PERFECTION COCOA

(MAPLE LEAF LABEL)

hits the right spot for breakfast, lunch and dinner. It is satisfying, easy to digest and delicious enough to tempt every appetite.

DO YOU USE COWAN'S?

500,000 Canadian grown Strawberry plants for sale; 30 choice varieties for home or commercial growers. Write for free catalogue. Lakeview Fruit Farm, H. L. McConnell, Grovesend, Ont.



Try it—test it—see for yourself—that "St. Lawrence Granulated" is as choice a sugar as money can buy.

Get a 100 pound bag—or even a 20 pound bag—and compare "St. Lawrence" with any other high-grade granulated sugar.

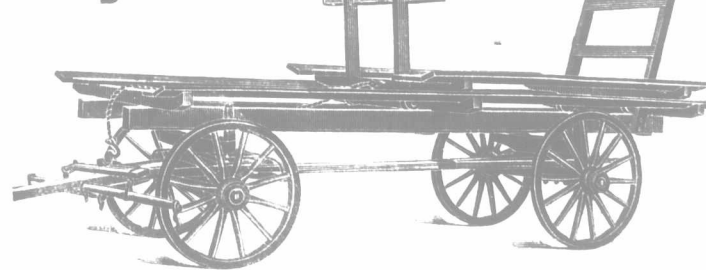
Note the pure white color of "St. Lawrence"—its uniform grain—its diamond-like sparkle—its matchless sweetness. These are the signs of quality.

And Prof. Hersey's analysis is the proof of purity—"99 99/100 of pure cane sugar with no impurities whatever." Insist on having "ST. LAWRENCE GRANULATED" at your grocer's.

ST. LAWRENCE SUGAR REFINING CO., LIMITED, MONTREAL.



## New Patent Hayrack



Especially adapted for use of Hay-loader. It is so constructed that the rear half is loaded first on a sliding rack, then moved to front end and the second half loaded as before. The outstanding feature of this rack is its time and labor saving advantages, needing only one man to operate.

FOR FURTHER PARTICULARS WRITE:

ISAIAH KERN (Inventor and Patentee), Ryckman's Corners, Ontario.

Is on exhibition every Saturday morning in Hay Market, Hamilton.



### The Ingle Nook.

[Rules for correspondents 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.]

#### ABOUT THE WHEAT.

By the way, I heard the other day from a member of one family where the experiment of growing wheat as a centerpiece for the table (as described in this column some weeks ago), was tried successfully, that grain leaves so grown, in shallow pans of water, are excellent to feed to hens to make them lay in winter. I suppose the principle is that the green tender stuff supplies the vegetable food that all fowl need along with their other food to keep them in good condition.—J.

#### ABOUT PAPERING—A HASSOCK.

Dear Junia,—Will you be so kind as to come to the rescue of another interested reader of your valuable information?

I have drawn a rough plan of my house, and am going to ask your advice as to "fixing up" my dining-room this spring. You will see by my drawing it is quite a large room, has two large windows and an archway through to the parlor, which is furnished in green. The archway has two-toned green portieres. The ceiling is rather low, and at present has light brown flowered linoleum on it, which was put there before I came here. The woodwork has been painted, and the floor is covered with a good quiet sage-green and cream linoleum, relieved with a little red.

I would like to have it painted and papered this spring, and am undecided what color scheme to use, also whether or not to remove the ceiling covering. Although it does not look bad, I have a tendency to dislike it. I am making scrim curtains to be stencilled, and am waiting to get a plan of the colors to use, as I want my curtains to harmonize. The window casings run up to a very few inches of the ceiling. Would you advise an over-lambrequin on them or not? Would it have a tendency to making the ceiling appear still lower?

I am intending to buy a pedestal dining-table. Which would you prefer, the square or round style? Those wishing to make a homemade hassock will find, by following these directions, that they will have a really beautiful and serviceable one at a very small cost.

Take seven "corn-cans." Stuff them rounding full of papers, taking care to pack them hard. Now take a piece of "Plushette," whatever color desired, and cover separately the side of each of six cans three-quarters around, sewing edges with strong cord. Now place the one remaining can in the center, placing the six covered cans around it, and sew firmly top and bottom with strong cord. Next cut a piece of plushette to fit over the top, and sew on; also take a piece of haircloth or oilcloth and sew to bottom. Finish by putting a strand of braid (or shoe lace) up the side of each can across top and sew to bottom. Finish in center of top by sewing on a large covered button or tassel. I made a handsome one by covering three cans in deep red and three in green, and placing them alternately around uncovered can, finishing top of each can same color as sides. Everyone who sees it admires it and asks where I got it. You will find them very durable.

Now, Dear Junia, I see my letter is getting pretty long, so will close, thanking you in advance for your information in regard to fixing up my dining-room, and hoping some of the Nookers will try my directions for making a hassock and report their luck to your page.

ANN HATHAWAY.

Wolf County, P.Q.

Since there is an archway between your dining-room and drawing-room, you simply must have the colors in these two rooms harmonize. Indeed, there is a strong tendency at present to paper rooms so connected with the same paper, thus securing an effect of unity

and spaciousness which would be lost, somewhat, were the wall tones different.

I cannot in the least imagine what the linoleum-covered ceiling would look like, as I never saw one. If, however, you leave it on, you would almost be under necessity of choosing a wall covering to tone with it as well as with the adjoining room; hence a very soft wood or tobacco brown, or a very quiet buff, seem the only tones possible. Wood-browns, as a rule, go well with green, and would also suit the brown in the ceiling.

If, however, you remove the linoleum, making the ceiling cream, you can then choose for the walls a very soft green that would harmonize with the green in your drawing-room, or you might have the walls a creamy buff, with green in border, cushions, curtain borders, etc.

By the way, the narrow wall-paper border is quite of the past, except when used, occasionally, below the wooden moulding after a drop ceiling, and then the "border" is, as a rule, a sort of crown to the "crowned" papers. As a rule walls are finished in but three ways: (1) Paper to the top, with narrow wooden moulding against the ceiling,—a method often used when the ceiling is fashionably low as at present. (2) A drop-ceiling, with wooden moulding below next to wall paper. (3) A very deep border, often covering one-third of the wall, especially when the ceiling is high. This broad border may be bought for the purpose, those in foliage and landscape effects being among the prettiest. A less expensive plan, however, is to cover this part of the wall with an ordinary floral wall paper of handsome design and coloring. In either case a narrow wooden moulding is placed below, forming a finish between the border and the wall paper proper which may be plain (but in color to tone with border), striped almost invisibly, or panelled with wood—if one can go to that expense. In the latter case burlap or grass cloth is often used instead of wall paper.

Ordinarily, however, heavy plain in-grain paper, oatmeal paper, water-paint, or very quietly two-toned papers do very well.

Readers will note the constant repetition of the words "quiet" and "soft." The reason for this is that dull, artistic coloring must be insisted upon. Green may be a beautiful grayish or olive tone, or it may be bright, crude Paris green, a thing of horror in the wrong place. Similarly blue may be the quietly artistic "old" or gobelin shades, or it may be shriekingly bright and crude "robin's egg" or "royal." One must insist, when buying, on being shown the quiet shades. If obliged to buy the cheapest papers, in which the best colorings sometimes do not appear, it is safest to fall back on unobtrusive fawns, etc., or upon water-paint. Take no risks with harsh or gaudy colorings, either for paper, rugs or upholstery.

In regard to the windows, I should certainly say to use a narrow valance across the top, with side curtains of the same material. Draw the curtains well back over the walls, and have the valance extend all the way across; the curtains, of course, to be only sash length. This will give the effect of the wide windows, now so much liked. You are very fortunate in having rather low ceilings. They are put so now in nearly all of the best among the new houses to give an effect of coziness and do away with the barn-like look that almost invariably accompanied the old high ceilings.

Round dining-tables are more generally favored than square ones.

#### DATE COOKIES.

[For "Lankshire Lass."]

Two cups rolled oats, 2½ cups flour, 1 cup brown sugar, ½ cup butter, ½ cup lard, ½ cup milk, 1 teaspoon soda. Roll and cut into cookies.

Mixture:—1 lb. dates, 1 cup brown sugar, 1 cup hot water. Cook until thick, put between cookies, and bake. J. D. F. Simcoe Co., Ont.

#### POINT OF ETIQUETTE.

Dear Junia,—Is it all right for a young lady to thank a young man when he asks her to dance with him, or is it

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you cannot take chances on Soap. Four generations of Canadians have enjoyed the creamy, fragrant skin healing lather of Baby's Own Soap—the Standard in Canada for nursery use, on account of its known purity.

Baby's Own is Best for Baby—Best for You.



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Dainty Little Coats for Tiny Tots

Just as cute as can be

C. 521 \$2.50

G. 522—Smartly tailored and trimmed; made of fine quality coating serge, in tan, navy, cardinal or cadet. Sizes 1 to 6 years. Price, delivery paid..... \$3.95

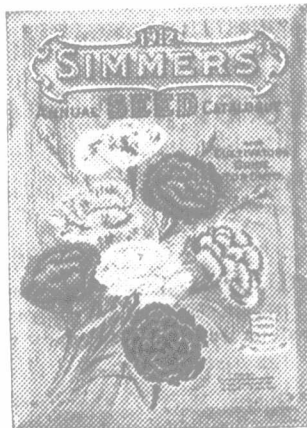
C. 521—Is made of a black and white shepherd check with velvet trimmings, for sizes 1, 2, 3, 4 and 6 years. Price, delivery paid..... \$2.50

These prices are a never-ending cause of surprise, and this means delivery paid to your home. Have you seen our Catalogue? Write for one to-day.

Bear in mind the main fact, that no chance is taken by you. If goods are not satisfactory on examination, return same at our expense. We immediately refund your money.

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Accept no other. You don't have to. If your dealer does not handle SIMMERS' SEEDS, send your orders direct to us and they will be correctly filled with seeds that conform to the standard of germination set by the Government.

### THIS IS MOST IMPORTANT

Don't buy Seeds without a reputation behind them. SIMMERS' SEEDS have a reputation of over 50 years, during which time the demand for them has steadily increased year by year.

Send us a trial order and let us prove to you that SIMMERS' SEEDS are the best Illustrated Catalogue free.

J. A. SIMMERS LIMITED

Seeds, Bulbs, Plants

TORONTO, ONT.

ESTABLISHED 1856



## 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 Machines 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. 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. You see, I sell my Washing Machines by mail. I have sold over half a million that way.

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 out 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 cents 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 6 minutes.

Address me personally—B. V. Bach, The 1900 Washer Co., 357 Yonge St., Toronto, Ont.



## Superfluous Hair

Moles, Warts, Red Veins, etc., always permanently removed by our reliable method of antiseptic electrolysis. Satisfaction assured. Avoid nostrums and travelling operators, and come at Easter for treatment.

Pimples, Blotches, Blackheads, Red Nose and other complexional troubles successfully treated by mail. Booklet "F" mailed on request.

Hiscott Dermatological Institute  
61 College Street Toronto, Ont.  
Established 1892

MENTION "FARMER'S ADVOCATE."

not proper to do so? Should she just say "Yes"?

When he thanks her after the dance, what is she supposed to say then?

Is it a girl's place to thank a gentleman when he takes her out for a skate? If so, when is the proper time, when he asks her or when he brings her back to her seat?

When writing to a boy friend, how should you start the letter, and also when finished how should you close it. "From your friend," or "From your sincere friend"? FARMER'S DAUGHTER. Dufferin Co., Ont.

A young lady does not thank a young man when he asks her to dance. She is supposed to be conferring a favor upon him, therefore it is his place to thank her. A bow and smile from her are sufficient, but she may say "What a delightful dance!" or something to that effect if she chooses.

The same rules apply to skating. The gentleman thanks the lady when he brings her back to her seat.

If you know the boy well write "Dear Jack," and close the letter with "Yours truly," or "Yours sincerely." It is not necessary to emphasize the "friend" idea.

### QUILT PATTERNS—SPICE CAKE.

In going over some held-over "Quilt" letters, I find that "Cook," Quebec, kindly offers to send patterns for "Double Irish Cross," "Kaleidoscope," "Bear's Paw," "Star," and "Chopping-knife" designs, if anyone would like to have them.

She also sends a recipe for spice cake:  $\frac{1}{2}$  cup sugar,  $\frac{1}{2}$  cup butter,  $\frac{1}{2}$  cup molasses,  $\frac{1}{2}$  cup sour milk,  $\frac{1}{2}$  teaspoon soda, 2 cups flour, 1 teaspoon cassia, cloves and allspice. J.

### SPRING COATS.

Will you please tell me what is the most fashionable kind of goods for spring coats for women? Are the browns, fawns and gray chevriots and tweed mixtures more fashionable than navy and black broadcloths and serges? Also what style?

Are the panel backs still in fashion, or are the plain, loose or plaited backs taking their place? And what style of sleeves? I do not like the large arm-hole. I don't get a coat very often, and would like one that would be likely to be fashionable for a couple of years at least. A SUBSCRIBER'S WIFE, Ontario Co., Ont.

The tweed mixtures which you have mentioned will be quite fashionable for spring and fall, both in suits and long coats. Many, however, prefer serge or panama, which do not look so heavy when worn on occasional cool days throughout the summer. Broadcloth is not very satisfactory except for winter, as it holds the dust.

Short coat suits are very fashionable, but long coats, right to the bottom of the skirt, will also hold favor throughout the summer. They are made plain, with very little decoration, although some like a fancy touch in the collar. Backs are almost invariably plain, also the sleeves, which show no fullness whatever at the shoulders. Of course one can never depend upon sleeves; they may begin to extend any day. What a pity we are so enslaved to the mandates sent forth by the fashion-manufacturers. How are we going to break loose from them?

I should think you would be quite safe in having a neat plain coat made. Only the extreme styles are very conspicuous when a little out of date.

## News of the Week.

The students of Victoria College, Toronto, have voted in favor of church union.

The Elk Lake branch of the Temiskaming and Northern Ontario railway is to be placed under construction at once.

The "Queen Mary," the twenty-fifth British Dreadnaught, was launched last week.

The Turks have announced a victory over the Italians at Benghazi.

## Your Ultimate Choice

You may not buy an Empire this year. You may decide that your present separator will do for another season. Like many other present owners of

# EMPIRE

## Cream Separators

you may even be persuaded to buy two or three other makes before you finally get to an Empire. But the Empire is the ultimate machine. No other will fully satisfy you so long as you know there is a better machine—an Empire—on the market.

Sooner or later you'll realize the truth of what we are telling you now. Perhaps you would realize it sooner if you were to read our booklet? Perhaps you would like the Empire to demonstrate its superiority to you in your own home? That will be the best proof of our statements. We are at your service. Let us furnish you with the proof of what we say. Mail us a card or a letter. You will receive a prompt and courteous reply.

The Empire Cream Separator Company of  
Canada, Limited 33

Makers of CONE and DISC separators.

WINNIPEG, TORONTO, MONTREAL, SUSSEX.

Agents everywhere in Canada—Look for the Empire Sign.

## "The Man Who Makes Two Blades of Grass to Grow, Where Only One Grew Before, is a Benefactor to His Country."

Every progressive farmer is a benefactor to his country.

Intensive farming must naturally follow increased values of farm lands, so that one acre may be made to produce what two acres did before.

Even greater increases than these may be obtained by the judicious use of fertilizers, containing a large percentage of potash.

Write us for copies of our free bulletins, which will instruct you how to fertilize economically.

## GERMAN POTASH SYNDICATE

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Have You Tried It?

## Harab Digestive Tankage

(THE PROTEIN HOG FOOD)

The food that your hogs need. Made in Canada by

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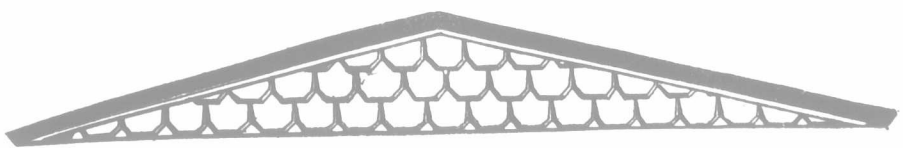
WRITE US FOR LITERATURE, PRICES, ETC.

"Equal suffrage" was granted to the women of China on March 21st, by the Parliament at Nanking. Yik Yug Ying, who has been called the Mrs. Pankhurst of China, was elected a member of the Parliament. She is a college graduate.

Holstein Helfer Calves, \$12.00 Each  
From heavy milking, high testing, unregistered dams. Sired by the good bull, Cornelius De Kol.  
GLENORO STOCK FARM, RODNEY, ONT.

MENTION "FARMER'S ADVOCATE."





## "Eastlake" Steel Shingles will save you money



Just ask yourself this question Mr. Farmer, "Is my barn roof lightning proof—is it fireproof?"

It's not a cheerful sight to see your barn—full to overflowing with the season's crop—wiped out by lightning or a spark from the threshing engine. All because of faulty roofing.

A fireproof roof is the only sure protection for your crops, your livestock and implements.

"Eastlake" Steel Shingles are absolutely lightning-proof, fire-proof, storm-proof and vermin-proof—the best and safest roofing for all buildings.

"Eastlake" Metallic Shingles are made of the finest galvanized steel—are easiest and quickest to lay—save labor and expense.

"Eastlake" Shingles cost less than a wooden roof equipped with lightning rods.

"Eastlake" Shingles make the best roofing for you, Mr. Farmer.

Roofs covered with "Eastlakes" a quarter of a century ago are in perfect condition to-day. This is the best guarantee for you.

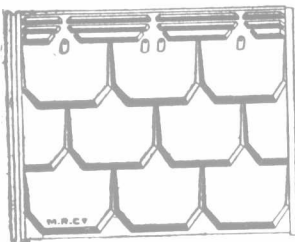
Send for our illustrated booklet, "Eastlake Metallic Shingles." Write to-day—just your name and address.

We also manufacture Corrugated Iron, House and Barn Siding, Metallic Ceilings, Cornices, Eave-trough, Conductor Pipe, Ventilators, etc.

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STEEL SHINGLE



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BRANCH FACTORY: WINNIPEG AGENTS IN PRINCIPAL CITIES

## CLYDESDALES

At Auction

JOSEPH J. MARTIN, Fourth Line Post Office, Lambton County, will sell at public auction on the

MARKET SQUARE, SARNIA, ONT.,  
Thursday, April 4, 1912

The following Clydesdale Stallions,  
Mares, Fillies and Geldings:

Pride of Warwick, No. [12,119], stallion, foaled May 28th, 1910; weight, 1,500 lbs. at 22 months o'd. Excellent quality and great size.

General Bruce, No. [11,278], stallion, foaled June 25th, 1910. A good one, from imported stock. Also a number of well-bred mares, fillies and geldings will be included in this sale.

TERMS OF SALE: One year's time on improved endorsed notes bearing six per cent. interest.

SALE TO COMMENCE AT TWO O'CLOCK P.M.

JOSEPH J. MARTIN, Proprietor  
Fourth Line P.O., Ont.

Please Mention The Farmer's Advocate

## The Scarlet Pimpernel.

A STORY OF ADVENTURE.

By Baroness Orczy.

(Serial rights secured by "The Farmer's Advocate.")

By permission of G. P. Putnam's Sons.

(Continued from last week.)

### CHAPTER XIV.

One O'clock Precisely!

Supper had been extremely gay. All those present declared that never had Lady Blakeney been more adorable, nor that "demmed idiot" Sir Percy more amusing.

His Royal Highness had laughed until the tears streamed down his cheeks at Blakeney's foolish yet funny repartees. His doggerel verse, "We seek him here, we seek him there," etc., was sung to the tune of "Ho! Merry Britons!" and to the accompaniment of glasses knocked loudly against the table. Lord Grenville, moreover, had a most perfect cook—some wags asserted that he was a scion of the old French noblesse, who, having lost his fortune, had come to seek it in the cuisine of the Foreign Office.

Marguerite Blakeney was in her most brilliant mood, and surely not a soul in that crowded supper-room had even an inkling of the terrible struggle which was raging within her heart.

The clock was ticking so mercilessly on. It was long past midnight, and even the Prince of Wales was thinking of leaving the supper-table. Within the next half hour the destinies of two brave men would be pitted against one another—the dearly-beloved brother and he, the unknown hero.

Marguerite had not even tried to see Chauvelin during this last hour; she knew that his keen, fox-like eyes would terrify her at once, and incline the balance of her decision towards Armand. Whilst she did not see him, there still lingered in her heart of hearts a vague, undefined hope that "something" would occur, something big, enormous, epoch-making, which would shift from her young, weak shoulders this terrible burden of responsibility, of having to choose between two such cruel alternatives.

But the minutes ticked on with that dull monotony which they invariably seem to assume when our very nerves ache with their incessant ticking.

After supper dancing was resumed. His Royal Highness had left, and there was general talk of departing among the older guests; the young ones were indefatigable and had started on a new gavotte, which would fill the next quarter of an hour.

Marguerite did not feel equal to another dance; there is a limit to the most enduring self-control. Escorted by a Cabinet Minister, she had once more found her way to the tiny boudoir, still the most deserted among all the rooms. She knew that Chauvelin must be lying in wait for her somewhere, ready to seize the first possible opportunity for a tete-a-tete. His eyes had met hers for a moment after the fore-supper minuet, and she knew that the keen diplomatist, with those searching pale eyes of his, had divined that her work was accomplished.

Fate had willed it so. Marguerite, torn by the most terrible conflict heart of woman can ever know, had resigned herself to its decrees. But Armand must be saved at any cost; he, first of all, for he was her brother, had been mother, father, friend to her ever since she, a tiny babe, had lost both her parents. To think of Armand dying a traitor's death on the guillotine was too horrible even to dwell upon—impossible, in fact. That could never be, never! As for the stranger, the hero... well! there let Fate decide. Marguerite would redeem her brother's life at the hands of the relentless enemy, then let that cunning Scarlet Pimpernel extricate himself after that.

Perhaps—vaguely—Marguerite hoped that the daring plotter, who for so many months had baffled an army of spies,

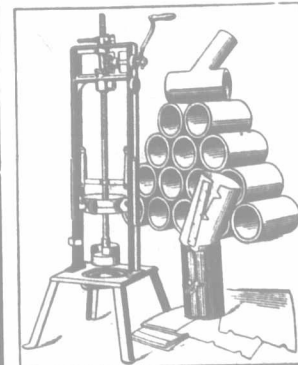
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can always be depended upon to make good, light, wholesome bread. Ask your grocer for a 5c. package, containing six cakes, or send for free sample.

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- Beef Meal Blood Flour
- Red Blood and Bone Tonic
- Bone Meal and Oyster Shell Feed

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LIMITED  
Toronto, - Canada

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Farmer to work section of land in Alberta on shares. Must have equipment to go on and put in at least 160 acres first year. Has living shack, stable for eight or ten horses, and well with abundance of water.

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Condensed advertisements will be inserted under this heading at two 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 advertisement inserted for less than 30 cents.

**BARRED ROCKS EXCLUSIVELY**—Selected eggs for hatching, one dollar per fifteen, or four dollars per hundred. A few choice cockerels for sale; price, two dollars. W. R. N. Sharpe, Ida P.O., Ontario.

**BARRED ROCKS**—Eggs from winners at Toronto, Guelph, Galt, Hamilton. Both cockerel and pullet mating; \$2.00 per setting. Some nice cockerels for sale at \$2.00 and \$3.00. G. Morton, Box 130, Carleton Place, Ontario.

**BARRED ROCK EGGS**—From good, strong, healthy, vigorous birds, and barred to the skin, mated especially for winter laying, \$1 per 15, or \$2 for 40. Hens have large orchard run. Plenty of exercise should guarantee a good hatch. Hervey Culp, St. Catharines, Ontario.

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**BARRED ROCKS**—Parks & Bradley Bros. famous layers. Fertile eggs: 15, \$1.50; 30, \$2.50; 55, \$3.50; 110, \$6.00. R. J. Gibb, Galt, Ontario.

**BUFF ORPINGTON EGGS** that will hatch; 9 chicks guaranteed with every setting. Three splendid pens, \$1.00 per setting. Special prices on incubator lots and fancy stock. Hugh A. Scott, Caledonia, Ontario.

**BARRED ROCK EGGS FOR HATCHING**—One dollar for thirteen. Nelson Smith, Jerseyville, Ontario.

**CHOICE SINGLE-COMB BROWN LEGHORNS**—Famous Becker & Gurney strains. Eggs, \$1.50 per 15. David A. Ashworth, Maple Grove, Ontario.

**CHOICE S.-C. Rhode Island Reds and Black Minorcas**, cockerels at two dollars. W. F. Carpenter, Ivy, Simcoe Co., Ontario.

**EGGS FOR HATCHING**—White Wyandottes and S.-C. White Leghorns; mated specially for vigor. Send for mating list. P. Bartram, Grimsby, Ontario.

**EGGS FOR HATCHING**—White Wyandotte, \$1.00 per 15. Randolph Webber, Woodstock, Ont.; R. R. 2.

**EGGS** from prize-winning and laying Barred Rocks, one and two dollars per fifteen; five per hundred. Jas. Coker, Jerseyville, Ont.

**EGGS**—S.-C. White Leghorns, heavy layers and prize-winners, \$1.00 per 15. A hatch guaranteed. \$4.00 per 100 eggs. Also two choice cockerels for sale. Geo. D. Fletcher, Binkham, Ont.; Erin Sta.

**EGGS**—Rose-comb Rhode Island Reds; prize-winners. Owen and Shoemakers' strains; 15 for \$2.00; 50 for \$4.50; 100 for \$8.00. H. I. Smith, Comber, Ontario.

**EGGS FOR HATCHING**—Ontario Agricultural College, bred-to-lay strains, Barred Rock, Buff Orpington and White Leghorn. Breeding stock bred from layers selected from trap-nest records for a number of years; 15 for \$1.50; 50 or more, \$5.00 per 100. Obasca Produce Farm, Ashburn, Ontario.

**EGGS** from S.-C. White Leghorns, \$1.00; Golden-laced Wyandottes, \$2.00 per setting. R. H. Sanders, Box 22, Ealing, Ontario.

**EGGS FOR HATCHING**—Barred and Buff Rocks, Brown Leghorns, Black Wyandottes, Red Caps, Buff Cockerels, \$1.00 per 15, \$2 per 30. A fair hatch guaranteed. Joseph Foster, Brampton, Ontario.

**EGGS**—\$1.50 per setting. Barred Rocks, Indian Runner Ducks. H. N. Tisdelle, Tilbury, Ontario.

**EGGS FOR HATCHING**—From Barred Rocks, Partridge Rocks, Rhode Island Reds, White Wyandottes, White and Brown Leghorns. Bred to lay; grow quickly; fatten readily. \$1.50 per 15; \$6.00 per 100. Norfolk Specialty Farm Co., Ltd., St. Williams, Ontario.

**EGGS FOR HATCHING**—From pure-bred White Wyandottes; \$1.00 per 15. N. McCully, St. Mary's, Ontario.

**EGGS FOR HATCHING**—Buff Orpingtons, from prize-winning stock. One-fifty per fifteen. William Groff, Beamsville, Ontario.

**FOR SALE**—Pure-bred White Leghorns, cockerels and pullets. Eggs for hatching in season. Robt. Hughes, Ideal Poultry Yards, Collingwood, Ontario.

**FREE** handsome catalogue of fancy poultry—Describes and prices fifty varieties, land and water fowls. S. A. Hummel, Box 23, Freeport, Illinois.

**HATCHING EGGS**—Single-comb White Leghorns. Size, vigor, productiveness; unexcelled eggs, dollar setting; four dollars hundred. E. W. Bort, Paris, Ontario.

**I HAVE** one cock in White Bearded Polish Bant, \$1.50; 1 cock, 4 hens, S.-S. Hamburgs, \$10.00; 1 Red-cap hen, \$2.00. Eggs, 10 cts. each. Robert Houser, Canboro, Ont.

**MONEYMERS**—Bred to lay; S.-C. Buff Leghorns, utility and beauty combined. Eggs for hatching, \$1.50 per setting; \$5 per 50. H. H. Bazett, Springfield Farm, Duncan, V.I., B.C.

**ONE DOLLAR** for fifteen Plymouth Rock eggs. Bred exclusively from Guelph College laying strain. Mrs. Berry, Box 22, Guelph, Ontario.

**PEACHGROVE FARM** offers eggs from Indian Runner ducks at 10c. each. Single-comb Rhode Island Reds, \$1.00 per 15; \$1.75 per 30. Frank Bainard, Glanworth, Ontario.

**PURE-BRED EXHIBITION BARRED ROCKS**—Eggs for hatching from first winners at Elmira, Hanover, Owen Sound and Listowel. Eggs, \$1.00 and \$3.00 per 15. Write for mating list. Jas. E. Metcalfe, Hanover, Ont.

**PURE-BRED WHITE ORPINGTONS**—Eggs, \$2.00 for thirteen. H. Ferns, 715 William St., London, Ontario.

**ROSE-COMB REDS**—Prize stock. Eggs for hatching from number one pen, two dollars; number two pen, one dollar. Cockerels for sale. Fred Colwell, Cooksville.

**REGAL WHITE WYANDOTTES**—Splendid cockerels, \$2. Eggs, \$1 per 15. Edith Clapp, Tecumseh, Ontario.

**S.-C. WHITE LEGHORNS**—Cockerels and eggs for hatching from good stock. Wm. Charlton, Iderton.

**S. C. RHODE ISLAND RED PULLETS** for sale. Good layers. Eggs for hatching, one dollar per fifteen. J. H. Stevenson, Cope-town, Ontario.

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**WANTED**—Practical poultryman, who understands incubators, raising and dressing poultry for private family. Must be Protestant, temperate and married, wish small or no family. Apply to W. H. Furber, Box 436, Cobourg, Ontario.

**WHITE WYANDOTTES**—Cockerels, \$1.50; eggs, \$1 per 15. Bred-to-lay stock. J. A. Orchard, Shedden, Ontario.

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April 30, May 1 to 4  
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Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, and Pet Stock.

**TERMS**—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

**FARM FOR SALE**—Three hundred acres, suitable for dairy; forty cleared; all fenced, good buildings, and timber sufficient to pay for the place. Half mile from track. Price, eleven hundred. C. A. Bridgwood, Toronto.

**FOR SALE**—59 acres; Lot 1, Con. 2, Westminster Township. Well tiled; 5 acres hard wood; good barn, 82 by 40, on brick wall; brick pigpen; good well. About half mile to church and post office. School on place. Apply on place, or address: Sarah M. Bendle, Derwent, Ontario.

**TWO FIFTY-ACRE FARMS FOR SALE**—Near Langton, Norfolk County. Good buildings, fences and water. Soil, one sandy loam, one clay loam. James Butcher, Langton.

**THE PROPRIETOR** of Letters Patent No. 124614, relating to 'Air Current Interruptors,' desires to dispose of the Patent or to grant Licenses to interested parties at reasonable terms, with a view to the adequate working of the patent in Canada. Inquiries to be addressed to the patentee, Knut Ivar Lindstrom, Nykvarn, Sweden.

**WANTED**—Four first-class milkers. Must be quick and clean. Wages, \$25.00 per month and board. Steady employment winter and summer. Apply: S. Price & Sons, Eriandale, Ontario.

**WANTED**—Herdsmen, single man, yearly engagement. Apply: Oak Park Stock Farm Co., Brantford.

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**WANTED**—Experienced man and wife, no children, to work on farm of 107 acres by the year. Man good milker. Apply as to experience and salary to: H. M. S., Garden Hill Stock Farm, Garden Hill, Ontario.

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Minimum charge, twenty-five cents between all stations in Canada. Good going April 4th, 5th, 6th, 7th, 8th. Return limit April 10th, 1912.

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April 2nd, 16th and 30th and every second Tuesday thereafter until Sept. 15th, inclusive.  
Winnipeg and return, \$34.00  
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Tickets good for sixty days. Proportionate rates to other points in Manitoba, Saskatchewan and Alberta. Tickets will also be on sale on certain dates via Sarnia and Northern Navigation Company.

**Low Rates to Pacific Coast.** Tickets on sale daily until April 15th.

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When going to Buffalo, New York, Philadelphia, Montreal travel via Grand Trunk Railway System, the only double track route.

Tickets, berths, reservations from any Grand Trunk Agent, or write A. E. Duff, District Passenger Agent, Toronto, Ont.

## GOSSIP.

Official records of 260 Holstein-Friesian cows were accepted for entry in the American Advanced Register from February 20th to March 2nd, 1912. This herd of 260 animals, of which nearly one-half were heifers with first or second calves, produced in seven consecutive days, 107,783.6 lbs. of milk containing 3,881.276 lbs. of butter-fat, thus showing an average of 3.6 per cent. fat. The average production for each animal was 414.6 lbs. of milk containing 14,928 lbs. of butter-fat, equivalent to an average of 36.2 or 28.2 quarts of milk per day, and 1.1 lbs. of the best commercial butter per week.

would still manage to evade Chauvelin and remain immune to the end.

She thought of all this, as she sat listening to the witty discourse of the Cabinet Minister, who, no doubt, felt that he had found in Lady Blakeney a most perfect listener. Suddenly she saw the keen, fox-like face of Chauvelin peeping through the curtained doorway.

"Lord Fancourt," she said to the Minister, "will you do me a service?"

"I am entirely at your ladyship's service," he replied gallantly.

"Will you see if my husband is still in the card-room? And if he is, will you tell him that I am very tired, and would be glad to go home soon."

The commands of a beautiful woman are binding on all mankind, even on Cabinet Ministers. Lord Fancourt prepared to obey instantly.

"I do not like to leave your ladyship alone," he said.

"Never fear. I shall be quite safe here—and, I think, undisturbed—but I am really tired. You know Sir Percy will drive back to Richmond. It is a long way, and we shall not—and we do not hurry—get home before day-break."

Lord Fancourt had performed his duty. The moment he had disappeared, Chauvelin slipped into the room, and the next instant stood calm and impassive by her side.

"You have news for me?" he said.

An icy mantle seemed to have suddenly settled round Marguerite's shoulders; though her cheeks glowed with fire, she felt chilled and numb. Oh, Armand! will you ever know the terrible sacrifice of pride, of dignity, of womanliness a devoted sister is making for your sake?

"Nothing of importance," she said, staring mechanically before her, "but it might prove a clue. I contrived—no matter how—to detect Sir Andrew Ffoulkes in the very act of burning a paper at one of these candles, in this very room. That paper I succeeded in holding between my fingers for the space of two minutes, and to cast my eye on it for that of ten seconds."

"Time enough to learn its contents?" asked Chauvelin, quietly.

She nodded. Then she continued in the same even, mechanical tone of voice—

"In the corner of the paper there was the usual rough device of a small star-shaped flower. Above it I read two lines, everything else was scorched and blackened by the flame."

"And what were these two lines?"

Her throat seemed suddenly to have contracted. For an instant she felt that she could not speak the words, which might send a brave man to his death.

"It is lucky that the whole paper was not burned," added Chauvelin, with dry sarcasm, "for it might have fared ill with Armand St. Just. What were the two lines, citoyenne?"

"One was, 'I start myself to-morrow,'" she said quietly; "the other, 'If you wish to speak to me, I shall be in the supper-room at one o'clock precisely.'"

Chauvelin looked up at the clock just above the mantelpiece.

"Then I have plenty of time," he said placidly.

"What are you going to do?" she asked.

She was pale as a statue, her hands were icy cold, her head and heart throbbled with the awful strain upon her nerves. Oh, this was cruel! cruel! What had she done to have deserved all this? Her choice was made: had she done a vile action or one that was sublime? The recording angel, who writes in the book of gold, alone could give an answer.

"What are you going to do?" she repeated mechanically.

"Oh, nothing for the present. After that it will depend."

"On what?"

"On whom I shall see in the supper-room at one o'clock precisely."

"You will see the Scarlet Pimpernel, of course. But you do not know him."

"No. But I shall presently."

"Sir Andrew will have warned him."

"I think not. When you parted from him after the minuet he stood and watched you for a moment or two, with a look which gave me to understand that something had happened between you. It was only natural, was it not? That I should make a shrewd guess as to the nature of that 'something.' I thereupon engaged the young gallant in



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Just received, some of the finest Oats we have handled in years. They test 44 lbs. to the bushel and were grown in the great Midlothian district, Scotland. Any Scot would be proud of them. ASK FOR SAMPLE.

## Regenerated Abundance Regenerated Banner

We offer them while they last in 5 bush. lots or over at \$1.30 per bush. BAGS FREE. Less than 5 bush. lots at \$1.50, bags free. Below find list of some of our

### Ontario Grown Oats

Daubeney, test 35 lbs., at \$1.25; Abundance, test 38 lbs., at 85c; Siberian, test 37½ lbs., at 85c; Bumper King, test 37½ lbs., at 90c; White Taster, test 37 lbs., at 85c; I incorn, test 40½ lbs., at 85c. We also offer good, clean Banner Oats that test 38 lbs. to the bushel, but contain a sprinkling of barley, at 75c. per bushel. BAGS FREE.

## Barley

O.A.C. No. 21, our best lot test 49½ lbs., at \$1.35; O.A.C. No. 21, good sample, test 48 lbs., at \$1.20. BAGS FREE.

## Clovers and Timothy

Herewith find prices good for one week from date of issue of this paper. If you live in Ontario and order 180 lbs. or more of our Clovers and Timothy, we will pay the freight to your nearest station. Otherwise our prices are ex warehouse, Toronto. Cotton Bags for Clover and Timothy at 25c.

	Gov't Stan. No.	Price per bush.
<b>Red Clover</b>		
"Sun" brand	1	\$15.50
"Moon" brand	2	14.50
"Comet" brand	3	13.75
<b>Alfalfa Clover</b>		
"Gold"	1	12.00
"Silver"	1	11.50
<b>Alsike</b>		
"Ocean"	1	14.00
"Sea"	2	13.25
"Lake"	3	12.50
<b>Timothy</b>		
"Diamond"	1	9.50
"Crescent"	2	8.50
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Muriate of Potash	\$48.00 per ton
Sulphate of Potash	58.00 " "
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The doorway to the professions—the first step towards becoming a doctor, lawyer, minister, civil engineer, electrical engineer, etc.—is Matriculation. YOU MUST PASS THIS examination before you can begin your college course. We fit you AT HOME IN SPARE TIME. Write for full particulars.

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## Island Seed Oats

The only really high-grade, absolutely safe seed oats in Canada this year. No danger frosted germs.

JOSEPH READ & CO'Y, LTD.  
Summerside, P. E. Island

**CHOICE SEED CORN** Improved Leaming corn, selected for several years; prizewinner; per single bushel, \$1.25. For samples, write: W. A. BARNET, MGR. RXP. FARM, HARROW, ESSEX CO.

**Choice O. A. C. No. 21 Barley**  
Plump sample; \$1.25 per bushel. Bags extra.  
Wm. Barnet & Sons, Living Springs P. O. Ont.  
Fergus station, G. T. R. and C. P. R.

**Best varieties of Strawberry Plants**  
for sale in 3¢ boxes.  
W. WALKER, P. O. Burwell.

a long and animated conversation — we discussed Herr Gluck's singular success in London—until a lady claimed his arm for supper."

"Since then?"

"I did not lose sight of him through supper. When we all came upstairs again, Lady Portarles buttonholed him and started on the subject of pretty Mdle. Suzanne de Tournay. I knew he would not move until Lady Portarles had exhausted the subject, which will not be for another quarter of an hour at least, and it is five minutes to one now."

He was preparing to go, and went up to the doorway, where, drawing aside the curtain, he stood for a moment pointing out to Marguerite the distant figure of Sir Andrew Ffoulkes in close conversation with Lady Portarles.

"I think," he said, with a triumphant smile, "that I may safely expect to find the person I seek in the dining-room, fair lady."

"There may be more than one."

"Whoever is there, as the clock strikes one, will be shadowed by one of my men; of these, one, or perhaps two, or even three, will leave for France tomorrow. One of these will be the 'Scarlet Pimpernel.'"

"Yes?—And?"

"I also, fair lady, will leave for France to-morrow. The papers found at Dover upon the person of Sir Andrew Ffoulkes, speak of the neighborhood of Calais, of an inn which I know well, called 'Le Chat Gris,' of a lonely place somewhere on the coast—the Pere Blanchard's hut—which I must endeavor to find. All these places are given as the point where this meddlesome Englishman has bidden the traitor de Tournay and others to meet his emissaries. But it seems that he has decided not to send his emissaries, that 'he will start himself to-morrow.' Now, one of those persons whom I shall see anon in the supper-room, will be journeying to Calais, and I shall follow that person, until I have tracked him to where those fugitive aristocrats await him; for that person, fair lady, will be the man whom I have sought for for nearly a year, the man whose energy has outdone me, whose ingenuity has baffled me, whose audacity has set me wondering—yes! me!—who have seen a trick or two in my time—the mysterious and elusive Scarlet Pimpernel."

"And Armand?" she pleaded.

"Have I ever broken my word? I promise you that the day the Scarlet Pimpernel and I start for France, I will send you that imprudent letter of his by special courier. More than that, I will pledge you the word of France, that the day I lay hands on that meddlesome Englishman, St. Just will be here in England, safe in the arms of his charming sister."

And with a deep and elaborate bow, and another look at the clock, Chauvelin glided out of the room.

It seemed to Marguerite that through all the noise, all the din of music, dancing and laughter, she could hear his cat-like tread, gliding through the vast reception-rooms; that she could hear him go down the massive staircase, reach the dining-room and open the door. Fate had decided, had made her speak, had made her do a vile and abominable thing, for the sake of the brother she loved. She lay back in her chair, passive and still, seeing the figure of her relentless enemy ever present before her aching eyes.

When Chauvelin reached the supper-room it was quite deserted. It had that woebegone, forsaken, tawdry appearance, which reminds one so much of a ball-dress the morning after.

Half-empty glasses littered the table, unfolded napkins lay about, the chairs—turned towards one another in groups of twos and threes—seemed like the seats of ghosts, in close conversation with one another. There were sets of two chairs—very close to one another—in the far corners of the room, which spoke of recent whispered flirtations, over cold game-pie and iced champagne; there were sets of three and four chairs, that recalled pleasant, animated discussions over the latest scandals; there were chairs straight up in a row that still looked starchy, critical, acid, like antiquated dowagers; there were a few isolated, single chairs, close to the table, that spoke of gourmands intent on the most

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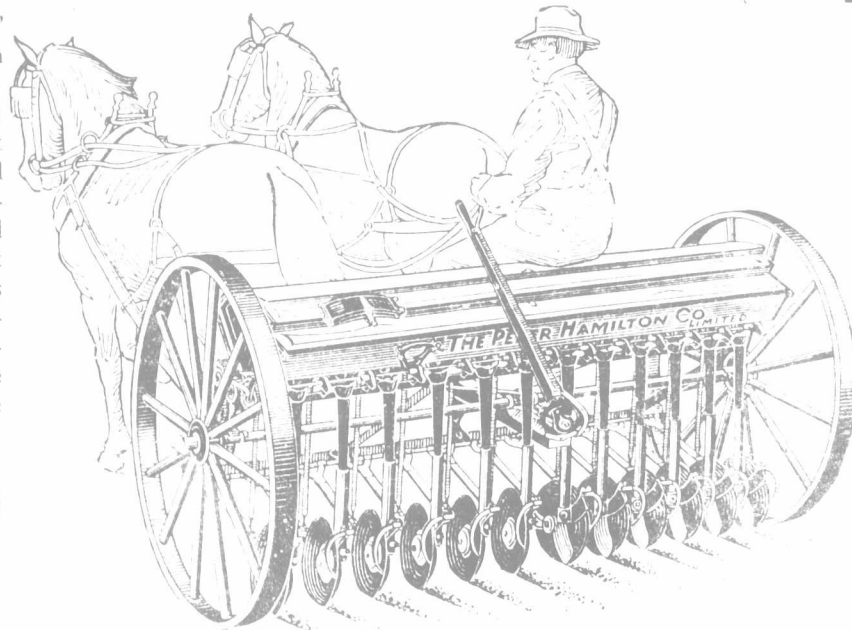
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recherche dishes, and others overturned on the floor, that spoke volumes on the subject of my Lord Grenville's cellars.

It was a ghostlike replica, in fact, of that fashionable gathering upstairs; a ghost that haunts every house, where balls and good suppers are given; a picture drawn with white chalk on grey cardboard, dull and colorless, now that the bright silk dresses and gorgeously embroidered coats were no longer there to fill in the foreground, and now that the candles flickered sleepily in their sockets.

Chauvelin smiled benignly, and rubbing his long, thin hands together, he looked round the deserted supper-room, whence even the last flunkey had retired in order to join his friends in the hall below. All was silence in the dimly-lighted room, whilst the sound of the gavotte, the hum of distant talk and laughter, and the rumble of an occasional coach outside, only seemed to reach this palace of the 'Sleeping Beauty' as the murmur of some fitting spooks far away.

It all looked so peaceful, so luxurious, and so still, that the keenest observer—a veritable prophet—could never have guessed that, at this present moment, that deserted supper-room was nothing but a trap laid for the capture of the most cunning and audacious plotter those stirring times had ever seen.

Chauvelin pondered and tried to peer into the immediate future. What would this man be like, whom he and the leaders of a whole revolution had sworn to bring to his death? Everything about him was weird and mysterious; his personality, which he had so cunningly concealed, the power he wielded over nineteen English gentlemen who seemed to obey his every command blindly and enthusiastically, the passionate love and submission he had roused in his little trained band, and, above all, his marvellous audacity, the boundless impudence which had caused him to beard his most implacable enemies, within the very walls of Paris.

No wonder that in France the sobriquet of the mysterious Englishman roused in the people a superstitious shudder. Chauvelin himself, as he gazed round the deserted room, where presently the weird hero would appear, felt a strange feeling of awe creeping all down his spine.

But his plans were well laid. He felt sure that the Scarlet Pimpernel had not been warned, and felt equally sure that Marguerite Blakeney had not played him false. If she had . . . a cruel look, that would have made her shudder, gleamed in Chauvelin's keen, pale eyes. If she had played him a trick, Armand St. Just would suffer the extreme penalty.

But no, no! of course she had not played him false!

Fortunately the supper-room was deserted; this would make Chauvelin's task all the easier, when presently that unsuspecting enigma would enter it alone. No one was here now save Chauvelin himself.

Stay! as he surveyed with a satisfied smile the solitude of the room, the cunning agent of the French Government became aware of the peaceful, monotonous breathing of some one of my Lord Grenville's guests, who, no doubt, had slept both wisely and well, and was enjoying a quiet sleep, away from the din of the dancing above.

Chauvelin looked round once more, and there in the corner of a sofa, in the dark angle of the room, his mouth open, his eyes shut, the sweet sounds of peaceful slumbers proceeding from his nostrils, reclined the gorgeously-apparelled, long-haired husband of the cleverest woman in Europe.

Chauvelin looked at him as he lay there, peaceful, unconscious, at peace with all the world and himself, after the best of suppers, and a smile, that was at first one of pity, softened for a moment the hard lines of the Frenchman's face, and the sarcastic twinge of his nostrils.

Think of it! However, sleep in dream-land would not interfere with Chauvelin's plan for catching that cunning Englishman. Again he rubbed his hands together, and, following the example of the Duke of Blakeney, he too stepped forward, and in the corner of the room, where the Frenchman lay, he opened his eyes, opened his mouth, and the sounds of peaceful slumbers ceased to be heard!

(Continued.)



# Your Easter Outfit

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QUESTIONS AND ANSWERS. Miscellaneous.

MISCELLANEOUS QUERIES.

1. Do cows shed their teeth between two and three years, or three and four years of age?
2. Which of the following do you think would be the most satisfactory, a cement tank built inside a drive barn about two feet above the floor, or a cistern in the rock, as the rock is solid, and has only about twenty inches of earth on it?
3. What would be a good grain ration to feed a cow while she is dry, until she freshens, about May 1st, and how much per feed?
4. How many bushels of potatoes will it require to plant one acre, if they are

cut the old way in small pieces? How many pieces should be used per hill?

5. What is the best root to grow for feed for cow for winter when making butter?

6. Would three inches be too much of a slant to a floor in a horse stall?

P. M.

Ans.—1. Temporary central incisors are shed from one year and three months to two years and three months of age, the internal lateral at two years, and the external lateral at three years, and the corner incisors at from three and a half to four years. The front molar appears at from six to eight months, and the number is complete at from three to four years.

2. Either should prove satisfactory. The tank would likely be the cheaper.

3. With plenty of roughage in the form of clover hay, silage, and roots, a small grain ration is all that is necessary.

From four to six pounds daily of mixed chop would be good. Oats and barley could be used. Corn, being comparatively cheap, a little might be incorporated in the ration, and if the cow is thin and run down, a pound or so of oil cake per day might be added. Bran is also good.

4. About 25 bushels. One or two.

5. Mangels, or feed beets, are as good as any.

6. Yes. An inch to inch and a half would be better.

SEEDING MIXTURE.

I have a field about 1 1/2 acres loamy clay on an incline facing the south which was plowed and sowed to oats last year. This year I wanted to sow oats and seed down. Kindly tell me what mixture of seed to use. I have good stable (cow) manure. How could I use it on this ground to get best results? H. B.

Ans.—The question does not state whether the land is to be used for hay or pasture. For hay, a good mixture would be about eight pounds red clover, two pounds alsike clover, and three pounds timothy per acre. As high as twelve pounds per acre of red clover is recommended by some, but if manure is applied to the soil, a good catch should result from the foregoing mixture. If required for pasture the second year, three pounds each of orchard grass and meadow fescue could be added, and the amount of red clover reduced to six pounds. Draw the manure on the soil now, and work it in during the preparation for the seeding. Do not give too heavy a coat of manure if the land is in good condition, as the oats would be more likely to lodge and smother the grass and clover. Sow the oats rather thin. Barley or spring wheat usually makes a better nurse crop.



*The*  
**DOMINION  
PIANO.**



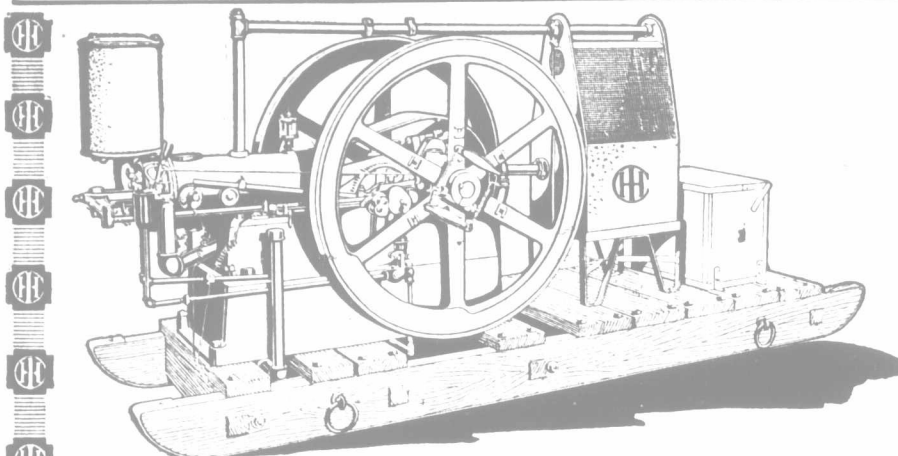
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### QUESTIONS AND ANSWERS. Miscellaneous.

#### CEMENT BASE POSTS.

We have a shed standing on 14 posts. I wish to put cement under these.

1. Would a cement block under each post answer?

2. Should it be larger than the post, 10 x 10 inches?

3. How deep should cement be put in ground?

4. What proportion would be best adapted?

5. I wish to use the slop cement, so will need boxes. Would it be all right to leave boxes right as they are used?

6. About how many loads of gravel would be required for 14 posts, average height out of ground 2½ feet?

Ans.—1. Yes. Properly-constructed cement should answer this purpose very well.

2. A little larger would do no harm. It might be better to build the cement larger at the base than where the post rests on it.

3. Two or three feet, or down to solid earth.

4. One to eight or ten should be strong enough.

5. They would do no particular harm. Would look better removed.

6. Three or four loads should be plenty, provided a yard is drawn at each load. If the bases of the cement work are made larger, five loads might be required.

#### FEEDING COWS AND PIGS.

1. With plenty of clover hay, corn stover, and oats, how much of the following foods should be fed to cows giving 40 to 45 lbs. of milk per day, to make the most economical balanced ration: Malt sprouts, \$15 per ton; bran, \$25; oil cake, \$40; oats, 45c per bushel?

2. Have there been any experiments conducted to find out which has been the most profitable way to feed pigs over 100 lbs. in weight, two or three times per day, and what has been the result?

X. Y. Z.

Ans.—1. Malt sprouts are not relished by cows, and seldom should over two pounds be fed daily. They should be fed in limited quantity in conjunction with other concentrates. They contain nearly 20 per cent. of digestible crude protein, and if relished by stock should be a profitable feed at current prices. Oats, 6 to 7 lbs.; oil cake, 2 lbs.; bran, 2 lbs., and malt sprouts, 1 lb. (if used at all), would make a good daily grain ration, in conjunction with good roughage. Bran, at \$25 per ton, is more expensive than oil cake at \$40 per ton.

2. Work carried on by J. H. Grisdale at the Central Experimental Farm, indicated that for best results nothing less than three feeds per day should be given in fattening pigs.

#### GRAIN MIXTURE.

Could you tell me the best mixture of grain to sow. I would like to sow a mixture of peas, barley, wheat and oats, and would like to know the proportion and variety of same that would blend the best for chop for milch cows?

H. M. R.

Ans.—Experiments carried on at the Ontario Agricultural College over a number of years have shown a mixture of 1 bushel (34 lbs.) of oats and 1 bushel (48 lbs.) of barley, to give the largest yield of grain per acre of all the various mixtures tried. A very early variety of oats, like Alaska or Daubeney, is best to use with Mandsehuri or No. 21 barley. Mixing the four kinds of grain mentioned is rendered more difficult because of the fact that it is not easy to get varieties all of which will ripen any where near the same time. The barley has a very marked influence in determining the yield of the mixture. Field peas, although a good crop to sow with oats for green fodder, do not do well when sown with barley and oats for bedding. Wild Grass wheat is the best yielding spring wheat for a mixture, but it is late in ripening. For a mixture of the grains suggested in the question, would not advise using a very large percentage of peas or wheat, and early varieties of these would be necessary. We do not grow the oats and barley in a mixture, and the peas and peas separately to feed to sheep for feed?

#### COLT SCOURS.

I have a heavy colt one year old this spring which looks and apparently feels well, but is subject to scours and colic. At other times her manure is quite dry. She is fed liberally on mixed clover and timothy hay, and some straw, also 1½ quarts of crushed oats three times a day. She has a very ravenous appetite.

O. L. L.

Ans.—The colt is likely suffering from worms. Take 4 drams each of sulphate of copper, sulphate of iron, tartar emetic and calomel. Mix and make into 24 powders. Give a powder every night and morning, and after the last has been taken, give 6 to 8 ounces of raw linseed oil.

#### HOOP SILO.

Can you give me any information with regard to the hoop silo?

H. L.

Ans.—1. Several discussions have been carried on through these columns with regard to the relative merits and demerits of the various kinds of silos. We presume a stave silo is what is referred to. The kind of lumber usually used is 2 inch and a half stuff, six inches wide, and 14 or 16 feet long. It should be run through a planer, so as to be of even thickness and smooth inside. Build it on a cement foundation at least two feet in the ground. Hemlock, pine and spruce, are recommended as material. The bottom hoop should be within four to five inches of the bottom, and the second one about eighteen inches above the bottom one, the third one two feet from the second, and the fourth three feet from the third, the next two about four feet apart, and the remainder about four and a half feet apart. Three-quarter inch iron should prove heavy enough for hoops. Doors in the side of the silo, at intervals of about four feet are necessary for taking out the silage. For durability, and all matters concerned, would advise building a cement slop wall silo.

#### TRADE TOPICS.

The live-stock ear-labels manufactured by F. G. James, Bowmanville, Ont., and advertised in these columns, are indispensable with the breeding and registering of pedigreed stock and keeping private records, especially of sheep and swine, and are useful in identifying common or grade cattle or other stock when lost or strayed. They are easily inserted, and last a lifetime. They have been in use for many years, and have given perfect satisfaction. See the advertisement, and write for prices, etc.

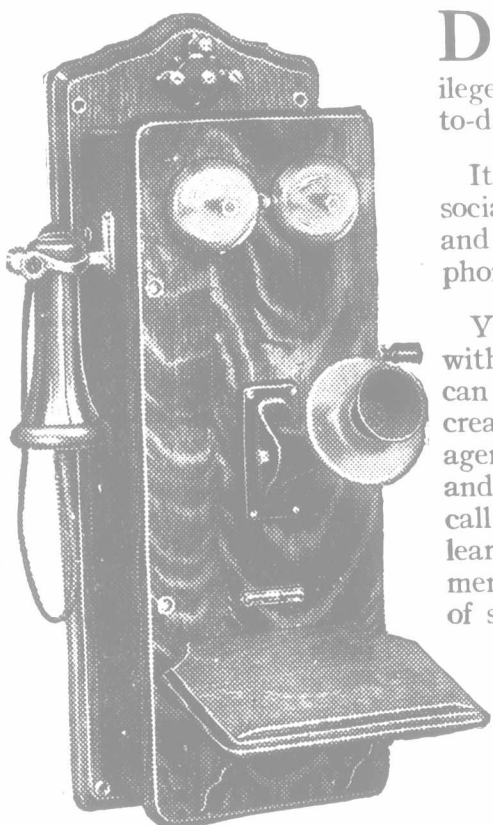
The F. Wallis Armstrong Co., of Philadelphia, have published a warning to buyers against a too-prevalent abuse in the form of frauds which it is alleged are practiced by infringers upon patent rights, and they cite one instance of this practice of deception that has recently come to their attention: Within the past year there has been placed on the market, we understand, a ready-roofing cleat which is a palpable imitation of the patented "Kant-leak Kleet"—a staple article for several years. It is reported that the imitation cleats are cleverly designed and exploited, so that the buyers are apt to be misled into purchasing them under the impression that they are the original kind. As might naturally be expected, it is also said that the patentee of this article intends to prosecute to the full extent of the law the alleged infringers on his patent rights. Every consumer who desires protection for himself and the square deal in business transactions cannot but wish for a successful outcome to this and all similar efforts by patentees to guard their products from fraudulent imitation.

#### GOSSIP.

W. B. Annett, Alvinston, Lambton Co., Ont., G. T. R., has a good importation of Clydesdale fillies, two and three years old, which were due to land last week per S. S. Athena, of the Donaldson line. All are for sale on easy terms.



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### GOSSIP.

William Thorn, Lynedoch, Ont., states that his Ayrshires are coming through the winter in fine condition. He has for sale some extra fine cows and heifers, some now milking, others due to freshen later. Also have good November and December bull calves for sale, from dams giving 56 lbs. per day, testing 4.3 butter-fat, on dry feed. Have also some good White Wyandotte cockerels, Martin's strain, for sale, at \$1.50 each.

Volume 77, of the American Shorthorn Herdbook, has been issued from the press and, by courtesy of the Secretary and Editor, John W. Groves, Chicago, Ill., a copy has been received at this office. This handsome volume contains 20,000 pedigrees, 9,000 of which are of bulls, and 11,000 of cows. This volume is ready for general distribution. The price to non-members is \$2.00 at the office, or \$2.30 prepaid. Vol. 78 has been sent to the printer, and will contain 20,000 pedigrees.

### TWIN BULLS AND BREEDING.

A correspondent of The Farmer and Stockbreeder proves the efficiency of twin bulls as sires by quoting from the herdbooks the records of notable Shorthorn bulls in this respect, one occurring in the Collynie herd of Mr. Duthie. "On April 24, 1903, Village Maid 17th produced twin bull calves to Merry Morning. These calves were included in the annual sale the following October; one of them, Village Bard, was purchased by George Still, and used with perfect success for several seasons in his herd at Strathray, while the other, the great bull, Village Beau, was bought by William Garne, and has proved one of the most valuable and impressive sires of recent times. Another striking example is the case of Solid Silver and Solid Gold, bred by the late Mr. Wilson, at Pirriemill; Solid Silver did yeoman service in the Ardmore herd for Sir Hugh Smiley, and afterwards was successfully used by Mr. Stewart, of Brigstock, and Mr. Williams, of Herefordshire, while Solid Gold proved a great sire in Mr. Snowball's herd in Yorkshire. Cowslip King, one of the principal stock bulls at present in the Royal herd at Windsor, is getting many good calves; I cannot trace his twin brother, Cowslip Prince, but no doubt his breeder, Mr. McWilliam, of Garbith, could tell us that he is doing equally well."

### TRADE TOPIC.

**VERY LOW RATES AND SPECIAL TRAINS FOR HOMESEEKERS.**—Those taking advantage of the Homeseekers' Excursions should bear in mind the many exclusive features offered by the Canadian Pacific Railway in connection with a trip to the West. It is the only all-Canadian route. Only line operating through trains to Western Canada. No change of depots. Only line operating through Standard and Tourist Sleepers to Winnipeg and Vancouver. All equipment is owned and operated by Canadian Pacific Railway, affording the highest form of efficiency. Dining car service unsurpassed. Homeseekers' rates will be in effect April 2, 16, 30; May 14, 28; June 11, 25; July 9, 23; August 6, 20; September 3, 17, and round-trip second-class tickets will be issued via Canadian Pacific Railway from Ontario points at very low rates. For example, Winnipeg and return, \$34.00; Edmonton and return, \$42.00, and other points in proportion. Return limit 60 days. For the accommodation of Canadian Pacific Railway passengers, a special train will leave Toronto 2 p. m. on above dates, comprised of Tourist and Colonist Sleepers. Colonist Sleepers may be occupied free of charge. Passengers, however, must provide their own bedding. Tourist Sleeping cars will be operated through to Edmonton via Saskatoon, also through to Winnipeg and Calgary. A moderate charge is made for berths in Tourist cars. Both Tourist and Colonist cars are provided with cooking ranges, which trainmen have instructions to keep in condition. Full particulars from any Canadian Pacific Railway Agent. Ask for copy of Harvesters' Booklet.



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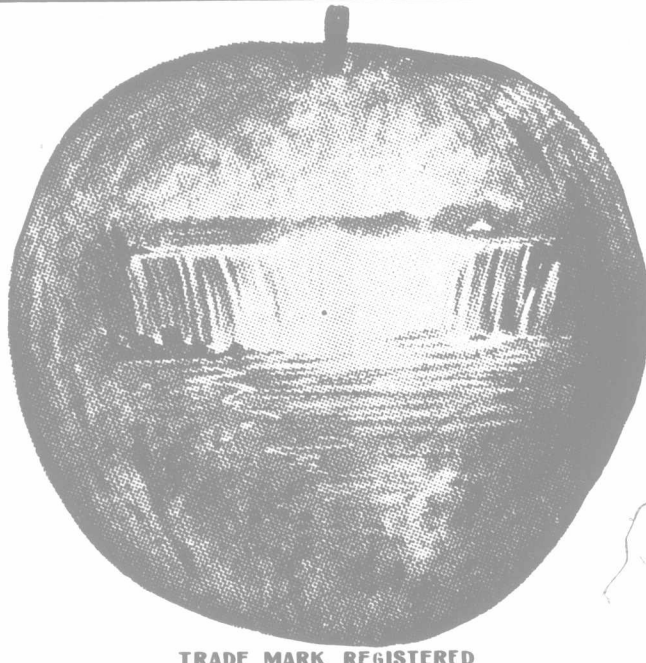
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### QUESTIONS AND ANSWERS. Miscellaneous.

#### CULTIVATING FOR ALFALFA.

I have a field that I intend seeding to alfalfa with barley this spring. Was broken out of sod last spring and sowed to peas. After harvest, was plowed shallow and well harrowed, but was not plowed again. How would you advise me to work it this spring? Would you recommend deep or shallow cultivation?  
J. D. B.

Ans.—It is likely that the pea stubble left the field in good condition. Shallow cultivation should suffice this spring. Give it a thorough working with the spring-tooth cultivator or disk harrow, and use the ordinary harrow freely. Sow the barley at the rate of one bushel per acre as soon as the land is ready to work. Sow the alfalfa seed in front of the tube drill.

#### MILK FEVER—WARTS—GRAFTS

1. I lost a fine cow last season with milk fever. She took it the day after calving, and though I used the air treatment, and had a veterinary surgeon who did his best for her, she died the same night. I have been told since that had I given her a pound of Epsom salts before calving, and one again after, she would have been all right. What do you think of it? Would you recommend using such a treatment?  
2. I have a heifer 1 1/2 years old due to calve in June, which has large lumps as big as a walnut on her teats. They are hard and horny on the point. She also has a large growth like a seed wart on her shoulder, almost as big as a hen's egg. How can I remove them? It would be impossible to milk her with them there. What are they, and how caused?  
3. I have a tree I had grafted with a variety of apples I like very much. I have been told that if I use grafts off this grafted tree they would not be as good as off the original tree. Is there anything in it?  
R. W. B.

Ans.—1. It is now believed that drenching with purgatives is not good for cows suffering from milk fever. It is better to keep the bowels working freely by use of laxative feed, as roots, bran mashes, oil meal, etc., in winter, while grass is usually all that is needed in summer. The air or oxygen treatment, used exclusively, is the best known remedy for milk fever. It is not safe to drench, as the cow's throat is partially paralyzed, and there is danger of the liquid getting on the lungs.

2. These growths are likely large warts. A daily application of castor oil has been claimed by some people to be an effective remedy. Slim-necked warts may be removed by clipping off with a pair of shears, and the wound dressed with a solution of carbolic acid. Warts with a large base should be removed by a repeated application of caustic, as potash or butter of antimony, care being taken to confine the caustic to the surface of the wart.

3. We see no reason why good strong scions from the grafts should not do well on another tree.



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If you buy a separator at a very low price you get a separator built to meet that price. Efficiency and durability in a cream separator cannot be replaced by anything “just as good” at a low price. It takes brains, good material, and a well-equipped factory to make good separators. These things cost about the same price everywhere, and one company cannot secure them any cheaper than another. The difference in the price generally represents a corresponding difference in the value of the machines.

## I H C Cream Separators Dairymaid and Bluebell

are as good separators as can be built. If you buy an I H C you will get more years' work out of it than you could out of any other separator, consequently it is the cheapest separator you can buy.

Extra long shafts and spiral cut gears insure durability. Phosphor bronze bushings protect the moving parts. Grit and milk cannot get into the gears, yet the gears are easily accessible. These separators are easy to turn because the working parts are accurately made and perfect oiling facilities are provided.

The bowl has the most effective skimming device ever designed, and a dirt arrester chamber which removes the impurities before the milk is separated. This insures a high grade of cream and makes the bowl easy to clean. The neck bearing is simple and trouble-proof. Made in two styles, each in four sizes.

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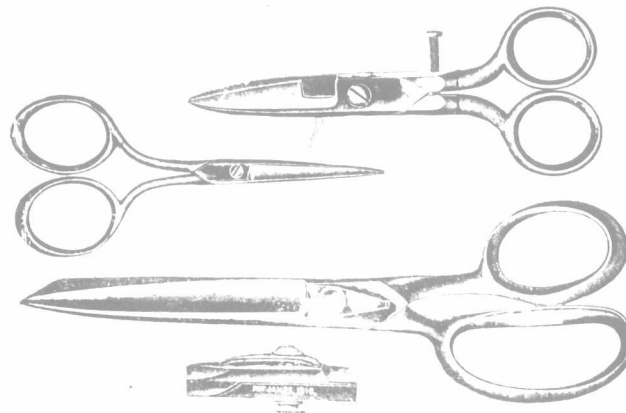
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QUESTIONS AND ANSWERS.  
Miscellaneous.

PIGS WANTED.

Please advise me, through your valuable paper, where I could purchase a pair of pure-bred pigs, age ranging from four to six weeks old, the sow to be Tamworth and the boar English Berkshire, and give your opinion on cross-breeding them, and as to what type of hog they would be? G. S.

Ans.—Write some of the advertisers of these breeds in "The Farmer's Advocate." Both the Tamworth and Berkshire are good breeds of hogs. The Tamworth is a more extreme bacon type than the Berkshire, although many good bacon hogs are found in the latter breed. Crossing the two gives a very good type of feeding hog, but, as a rule, it does not pay to cross-breed pure-bred animals of any kind. Would advise buying both of the same breed, and keeping them pure.

CORN AND POTATO FERTILIZERS.

1. What commercial fertilizers would likely give best returns on corn and potato crops in Huron County, on ordinary soil, mostly clay loam?

2. What do the O. A. C. and Experimental Farm reports show re fertilizers on potato and corn crops?

SUBSCRIBER.

Ans.—1. It is always well, before using a fertilizer extensively, to experiment with the various materials on the soil to ascertain which is needed most. This can be easily done on small plots. This is the only method of being sure of what the soil lacks. Of course, fertilizers give most satisfactory results when used in conjunction with barnyard manure. For corn, a complete fertilizer of nitrate of soda, 100 to 150 pounds; acid phosphate, 300 to 400 pounds, and muriate of potash, 100 to 150 pounds, would make a good dressing. For potatoes, nitrate of soda, 150 to 200 pounds; phosphate, 300 to 400 pounds; sulphate of potash, 150 to 250 pounds. A smaller amount of nitrogen might be used for the potatoes.

2. In the average of experiments in applying fertilizers with corn, in each of eight years the yields of the entire crop produced by the plots which received an application of nitrate of soda, muriate of potash and mixed fertilizer were equal, while a plot on which superphosphate was applied produced nearly half a ton less than the others, the largest yield of husked ears being obtained from the plot on which mixed fertilizer was used. The muriate of potash produced the corn at the least cost per ton, but even with this it cost \$3.33 on the average, to produce each additional ton of fodder corn. Complete fertilizers give the best results with potatoes. The highest yield of all in each of the past four years was produced by an application of cow manure at the rate of 20 tons per acre. Land thus treated gave an average of 46.7 bushels per acre more than unfertilized land. These experiments were carried on by the Experimental Union. Would suggest that you use the commercial fertilizers in conjunction with farmyard manure. The smaller quantities would be enough used in this way. See article by Alfred Hutchison in the issue of March 21st, page 530.

Veterinary.

OPEN JOINT.

Mare had hock injured. In three days it swelled, broke, and ran matter. In two days, a thin, clear, oily fluid commenced to escape, slightly at first, then in considerable quantities. This fluid is still escaping. J. W. B.

Ans.—The fluid escaping is synovia, or joint oil. The case is known as open joint. If the articular cartilage is decaying, a recovery will not take place, but if this stage has not been reached she may recover. Keep poulticed ice constantly to the joint, and keep the wound clean by washing three times daily with a five-per-cent. solution of carbolic acid. Do not probe. It will be better to place her in slings, as if she lies down she will have difficulty in rising. Feed reasonably well on light, easily-digested food.

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Please Mention The Advocate

### GOSSIP.

In the two days' auction sale of Shire horses during the London, England, Spring Show the last week in February, 143 stallions two years old and upwards, and three mares five years old and upwards, sold for an average of \$615, the highest price being \$3,250, for T. Lowe's three-year-old, Stantonhouse King, by Tatton Dray King.

**BRAMPTON JERSEYS AND CLYDES.**  
The great Brampton herd of imported Island and Canadian bred Jerseys of B. H. Bull & Sons, Brampton, Ont., G. T. R. and C. P. R., when seen by a representative a day or two ago, were found in right nice condition. The remarkable show-ring record of this famous herd is too well known to need comment, suffice it to say that never before was the herd up to so high a standard of excellence, and with the addition of the 100 and some odd now in quarantine, will be 300 strong. This certainly means something to parties looking for high-class Jerseys, as the selection is one unequalled in any country, both as to size and superior quality. Very many of them are in the official R. O. P., and many more are now in the test. Brampton Lady George, the world's champion two-year-old, with a R. O. P. record of 11,101 lbs. milk, and 546 lbs. butter in 1 year, and freshened again inside 13 months, is in fine bloom, and much greater things are surely in store for her to accomplish. Brampton Agatha, with a three-year-old R. O. P. record of 7,000 lbs., and the highest butter-fat test ever officially made by a Jersey cow, namely, 8 per cent., is also looking fine, and will surely do much better in her test this year. Montplaisir's Fanny is another of the good ones. She won the Island test, was first and champion at Toronto, and her daughters are following her. Three of them have won first prize in the Island dairy test, one of them being champion. Another of them, Aristocrat Fanny, made the great record of 11,097½ lbs. milk, and 650 lbs. butter in one year. She was also first in the breed's test at Guelph and Ottawa. One of this cow's sons is at the head of the Jersey herd of the Experimental Farm, Ottawa, and one of the old cow's sons, that was first and junior champion at Toronto, is chief bull in service in the Brampton herd. Those mentioned show the high-class character of the herd, and many others equally as good might be mentioned did space permit. A remarkable uniformity in type and coloring is manifest in the dozens of young things in the stables. Again, we are forced to repeat that the herd was never so strong in quality and excellence as now. For selection of a herd-header, the big number, from calves up to yearlings, offers an opportunity never before equalled in this country. In Clydesdale fillies, the Messrs Bull have on hand some sixteen head recently imported, one- and two-year-olds, several of which are in foal. Two are of exceptionally choice quality, daughters of the great Everlasting; three are by the popular breeding horse, May King; two are by the noted prize horse, Gallant Fountleroy; one by the four-times first-prize H. & A. S. winner, Pride of Blacon; another is by the Edinburgh and Highland first prize, Baron Hopetoun; another by the H. & A. S. first prize, Gartly Baron, and so on. They are a particularly well-bred lot, have big size, and several are put up for show winners. All are for sale.

### APIARY.

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Each **TUESDAY**  
**MARCH** and **APRIL**  
10.20 P.M.

Settlers and families without livestock should use  
**Regular Trains**  
Leaving Toronto  
10.20 P.M. Daily  
Through Colonist and Tourist Sleepers

**Colonist Cars on all Trains**  
No charge for berths  
Through Trains Toronto to  
Winnipeg and West  
Ask any C.P.R. Agent for copy of "Settlers' Guide"

**RINGING IN EARS DEAFNESS**  
EFFECTUALLY RELIEVED BY THE OLD  
**DR. MARSHALL'S KARRH SNUFF**  
AT ALL DRUG STORES OR SENT PRE-PAID BY C.M. KEITH, CLEVELAND OHIO



## Feed The Land— AND It Will Feed You

Many farmers would get higher interest on their money if deposited **IN THE SHAPE OF FERTILIZERS IN THE SOIL**, than if they placed the money in bank—the interest being paid in increased crops.

When the Canadian farmer becomes sufficiently interested in fertilizers to make his own mixtures at home, it will be a good thing for the farmer and for the country at large.

**Fertilize scientifically—study the "VANCO" Book—and reap the benefits in bigger crops.**

Make your own Fertilizers, to suit each soil and crop—buy "Vanco" guaranteed chemicals, prepared right here in Toronto, and thus save the heavy duty which must be paid on ready-mixed fertilizers

- MURIATE OF POTASH**  
—guaranteed 50% actual Potash.
- SULPHATE OF POTASH**  
—guaranteed 48% actual Potash.
- NITRATE OF SODA**  
guaranteed 15% Nitrogen, equal to 18.84% Ammonia.
- ACID PHOSPHATE**  
guaranteed 14% to 16% available Phosphoric Acid.

Write for our prices—and also copy of the "Vanco" Book—you'll find it a big help in mixing Fertilizers. 45

**CHEMICAL LABORATORIES,**  
148-158 Van Horne Street, - TORONTO.

### Have City Conveniences

REPLACE the pestilent, draughty, dangerous and offensive out-of-doors closet with an indoors closet which requires no sewer, no plumbing, and no flushing system. Have city conveniences in your home. Safeguard family health by installing a



### "Tweed" Closet sanitary and odorless

"Tweed" Closets can be installed in the bath-room, cellar, or any other convenient place indoors, merely requiring to be connected by a pipe for ventilation with a chimney hole. "Tweed" Liquid Chemical, used in connection with "Tweed" Closets, is both a deodorant and a disinfectant. Many hundreds of "Tweed" Closets have been sold in Canada. Send for illustrated price-list.

The Steel Trough & Machine Co., Ltd.  
Dept. 102 TWEEED, ONT.

### Your Credit is Good

EASY TERMS TO PAY.

#### Wilson's Gold Medal Scales

12 styles Hay and Stock Scales. Freight paid by Wilson if you order now. Write plainly to:

C. Wilson & Son,

211 Spadina Street,

Toronto, Can.

For price list



### QUESTIONS AND ANSWERS. Miscellaneous.

#### TRANSFER OF STOCK.

A buys a registered Clydesdale mare at B's auction sale. Has A got to be at the trouble and expense of transferring her registration to B, or will B have to do it himself? As I have dealt in Holstein cattle, it is always done by the man having the sale. D. B.

Ans.—Unless otherwise agreed upon, the trouble and expense of transferring registered stock from one owner to another is borne by the seller.

#### COW FAILS TO CONCEIVE.

I have a cow five years old this spring; had a calf when three years old; takes the bull as regularly as three weeks comes around. I cannot get her in calf, and she is too valuable to fit for beef if she would breed. Kindly advise me what to do for her. W. J. H.

Ans.—Many causes of sterility exist. If due to disease of the ovaries nothing can be done. The most common removable cause is closure of the opening to the neck of the womb. It is also claimed that bacteria in the vagina of the animal is a common cause. For this, the "yeast treatment" is recommended. Pour a little warm water on an ordinary yeast cake and allow it to stand for twenty-four hours, add water to make a quart and allow to stand another twenty-four hours. Inject this into the vagina about an hour before service. When the next period of oestrus is shown, have the neck of the womb examined. The operator must have his hand and arm carefully oiled. If it is closed, open it, inject the yeast solution, and breed in about an hour.

#### LUMP ON COW—LICE—SCOURS.

1. We have a cow that has a swelling under her jaw, extending back to her throat. It is hard for her to breathe, and she cannot eat anything. Will you kindly let me know what this is, and what I can do for her.

2. Can you give me a good remedy for blue lice on cattle other than black oil?

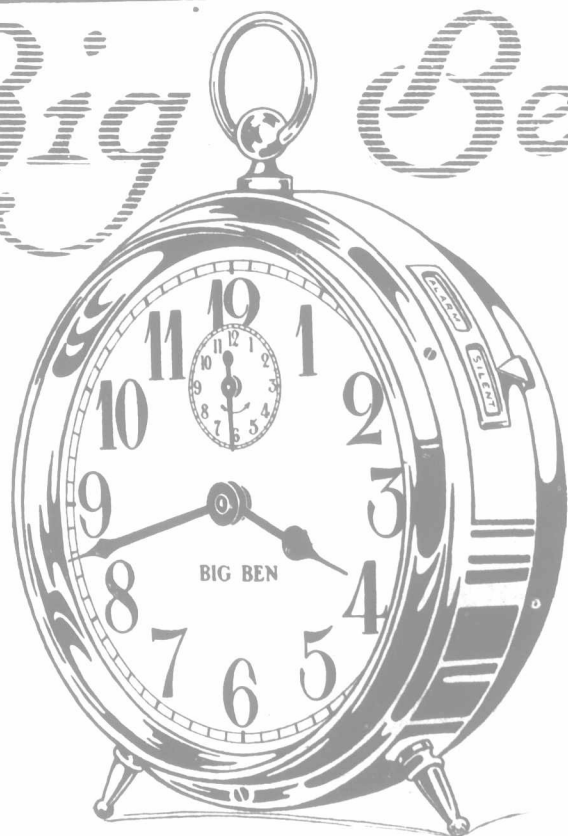
3. What can I do for calf that scours? A. C.

1. This may be lump jaw, an abscess, or some tubercular trouble. Would advise having her tested with the tuberculin test. If lump jaw, give iodide of potassium three times daily, commencing with 1-dram doses and increasing ½ dram daily until food and water are refused, the skin becomes scurfy, and the eyes run. Repeat the treatment in 2 months if necessary.

2. Any of the proprietary insect powders, or a mixture of hellebore or pyrethrum powder and dry cement dusted over them and worked well into the hair, should kill the lice.

3. We are not sure what form of scours the calf has. There is a form commonly known as "white scours," which is contagious, the germs causing it gaining entrance through the navel of the new-born calf. Prevention consists in having the calf dropped on fresh, clean bedding, and disinfecting the navel cord with a 15-per-cent. solution of formalin or a 5-per-cent. solution of carbolic acid immediately after being calved, repeating the treatment several times daily until the cord heals up. Treatment is seldom successful if the disease becomes established, one of the best-known remedies being laudanum ½ dram, tincture of catechu ½ dram, castor oil ½ ounce, given in warm milk. Formalin has also been used internally, ½ ounce being made up to 16 ounces with water, giving a tablespoonful of this solution in a pint of milk three or four times daily. When scours are of a mechanical origin, such as those arising from feeding cold or dirty milk, irregularities in time and quantity of feeding, formalin would not prove valuable. In such cases a mild, non-irritant purgative, like raw linseed or castor oil, is indicated. Keep pails clean and feed regularly, and in moderate quantities. Powdered chalk, 2 ounces; powdered catechu, 1 ounce; ginger, ½ ounce; opium, 2 drams; peppermint water, 1 pint, given in tablespoonful doses night and morning, is recommended. Cases have been known to yield to raw-egg treatment, the eggs being given shell and all.

# Big Ben



To sleep late's pleasant, now and then,  
Make it Sunday morn—says Big Ben

Big Ben is an alarm clock that's on the job every minute of the day. He rings on time, he runs on time, he stays on time.

He weighs three times as much as the average alarm clock, he rings three times as loud, he lasts three times as long.

He has a great big dial you can easily read in the dim morning light—a cheerful, deep toned voice that will wake you on your sleepiest mornings—large, strong winding keys that are a

pleasure to wind—selective alarm calls that ring just when you want and either way you want, steadily for five minutes or intermittently for ten

He's punctual, lasting, handsome and the best insurance against oversleep that's ever been heard of. His work doesn't end with the morning call, he's a good reliable time keeper for all day use and he's good looking enough for any surroundings.

5,000 Canadian dealers have already adopted him. His price is \$1.00 anywhere—A community of clockmakers stands back of him. *Wentz, La Salle, Illinois.*—If you cannot find him at your dealer's, a money order sent to them will bring him to you duty charges prepaid.

\$15.95  
AND UPWARD  
SENT ON TRIAL  
FULLY  
GUARANTEED.

## AMERICAN SEPARATOR

A brand new, well made, easy running, easily cleaned, perfect skimming separator for \$15.95. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Thousands in use giving splendid satisfaction. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements. Our richly illustrated catalog tells all about it. Our wonderfully low prices on all sizes and generous terms of trial will astonish you. Our twenty-year guarantee protects you on every American Separator. Shipments made promptly from WINNIPEG, MAN., ST. JOHN, N. B., and TORONTO, ONT. Whether your dairy is large or small get our great offer and handsome free catalog. ADDRESS,



BOX 1200,  
AMERICAN SEPARATOR CO., BAINBRIDGE, N. Y.

### WE WILL IMPORT OXFORDS

the coming season, or any other breed. Breeders wishing to get a few head of their favorite breed should write at once to us. One of the firm selects in person, and will select yours if you write us stating just what you want. We are in the market for Oxford rams, and will buy from one up to any number. State price, age and it recorded or eligible.

PETER ARKELL & SONS, TEESWATER, ONT.







### Ask this question first:

"Will the roofing stay waterproof?"

The surface of any roofing may be made attractive, but to be sure the roofing will last you want to know what it's made of.

## Genasco

THE TRINIDAD-LAKE-ASPHALT

### Ready Roofing

is made of Nature's everlasting waterproofer—*asphalt* from the world-famous Trinidad Lake. Its valuable natural oils do not dry out like the so-called *asphalts* made by man. Natural asphalt gives Genasco life and resistance.

The surface of Genasco is handsome—*mineral* or *smooth*; and it is lastingly waterproof through and through.



Comes in rolls. Ready for anybody to lay. Ask your dealer for Genasco. Write us for samples and the Good Roof Guide Book—free.

The Kant-leak Kleet, for smooth-surface roofings, prevents nail-leaks and waterproofs seams without cement.

### The Barber Asphalt Paving Company

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

#### Philadelphia

New York San Francisco Chicago

Canadian Distributors:

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Montreal, Quebec and Winnipeg, Man.  
D. H. Howden & Co., Ltd.  
200 York St., London, Ont.



## Canada's Double Track Line

### HOMESEEKERS' EXCURSIONS

#### WESTERN CANADA

Via Chicago

April 2nd, 16th and 30th and every second Tuesday thereafter until Sept. 17th, inclusive.

Winnipeg and return \$34.00  
Edmonton and return 42.00

Tickets good for 60 days. Proportionate rates to other points in Manitoba, Saskatchewan and Alberta. Tickets will also be on sale on certain dates via Sarnia and Northern Navigation Company.

#### Low Rates to Pacific Coast

Tickets on sale daily until April 15th.

#### Settlers' One-Way Tickets

To Manitoba, Saskatchewan and Alberta, on sale every Tuesday in March and April.

Full particulars and tickets from any Grand Trunk Agent, or write A. E. Duff, District Passenger Agent, Toronto, Ont.

MENTION "FARMER'S ADVOCATE."

### QUESTIONS AND ANSWERS.

Miscellaneous.

#### WHITE PAINT.

Would you please publish in your Question and Answer column, a cheap prescription for white paint, and how to color it green? J. D. M.

Ans.—Most paints are commonly made by mixing coloring powders with linseed oil with a little turpentine or liquid drier. A good white paint is made by using white lead and oil, with probably a little blue to intensify the whiteness, turpentine, and a little drier. Materials for the other colors may be purchased according to tints from dealers. As a rule, amateurs will get more satisfactory results by purchasing a good prepared paint ready to apply, according to sample tints.

#### FEEDING SHEEP.

Having some February and March lambs, kindly give me the best ration for forcing them along rapidly for early market. Have good, early-cut clover hay. How much grain should each ewe have? A SUBSCRIBER.

Ans.—We presume it is intended to sell the lambs off the ewes. Place the ewes and lambs in a pen away from the other sheep. Arrange a trough in a small pen to which the lambs have access, but to which the ewes are not allowed. In this trough keep a small quantity of chopped oats, or oats and peas mixed. A little finely-pulped roots could be given also. Feed the ewes liberally on clover hay and roots, and give them from 1 to 2 lbs. of oats, or oat-and-pea chop daily.

#### SEWAGE DISPOSAL.

1. How close to the well from which we use the water will it do to run the field tile through which the bathroom and wash sewage soaks? The well is beside the garden, and I would like to run the tile under as much of the garden as possible. The land is stiff clay.

2. Will it do to run all the waste water from the kitchen, such as wash-water and dish-water, into the septic tank? A. S. W.

Ans.—1. Avoid running the tile close to the well. Keep them as far away as possible. If metal sewage tile were used and cemented at the joints, there would be less danger of well contamination than where ordinary field drainage tile are used.

2. Yes. Provided your overflow-tile is large enough to carry it away.

#### CEMENT WALL.

Can I build a cement cellar where drainage is poor and the country is flat and hard to drain, to keep the water from soaking in through the walls? How much cement to a cord of gravel would it take for, say, a cellar 28 x 40 feet, 7 feet high? Would plastering it inside and out keep out the water? J. M.

Ans.—A cement wall would, in all probability be as good as any you could build. Place tile around the outside of the wall, at the bottom, and also a course of gravel above the tile up to within two or three feet of the surface of the ground. Bank the soil up around it to run the surface water away. Plaster both outside and inside. Mix the cement and gravel about one to eight or nine. This wall would require about forty-five to fifty cubic yards of gravel, and 35 or 36 barrels of cement.

#### TRADE TOPIC.

HOMESEEEKERS' EXCURSIONS TO WESTERN CANADA, via Chicago, including all points on Grand Trunk Pacific Railway, April 2nd, 10th and 30th; May 14th and 28th; June 11th and 25th; July 9th and 23rd; August 6th and 20th; September 3rd and 17th. Winnipeg and return, \$31.00; Edmonton and return, \$42.00. Tickets good for 60 days. Proportionate rates to principal points in Manitoba, Saskatchewan and Alberta. Homeseekers' excursions tickets will also be on sale on certain dates via Sarnia and Northern Navigation Company. Full particulars, tickets, and route led from any Grand Trunk Agent, or write A. E. Duff, District Passenger Agent, Toronto, Ont.

## For the Land's Sake

use

### Bowker's Fertilizers

*They enrich the earth and those who till it.* By the use of a good fertilizer, any farmer can add greatly to his profit through raising bigger crops. He can make each of his acres produce more, or he can cultivate fewer acres, and still produce as much as he is getting now, but with less labor and expense. This is a big item, if hired help is scarce.

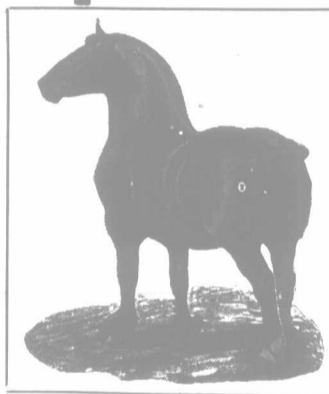
We have a fertilizer to fit every crop and every pocketbook. Each one is ready to use, and easy to apply. Our catalogue gives full information and directions. Many years of experience in both Canada and the United States, the best facilities, and prompt service are behind every bag we ship.

If we have no agent near your farm, we want one. It pays to sell as well as use our fertilizers.

Write today for our catalogue and calendar. Both will be sent promptly and without cost. If interested, ask for agency proposition, but write anyway for the catalogue.

**BOWKER Fertilizer Company,**  
77 Lyman St., Buffalo, N. Y.  
Original and largest manufacturers of special fertilizers.

## PERCHERON STALLIONS



Prizewinners. We still have a few Percheron stallions to offer, among them being the first-prize three-year-old at the Toronto Exhibition last September, and the first-two-year-old at the Dominion Exposition, Regina, last August.

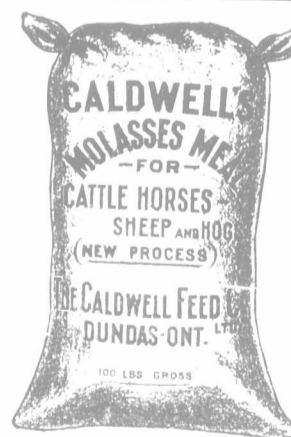
We don't sell all our best horses first, and can show intending buyers ton horses of the finest quality, both blacks and greys, and right in every way.

We are not looking for fancy prices, and these horses will be all sold worth the money.

Guarantee and terms the best obtainable.

Phone, write or wire.

**HODGKINSON & TISDALE**  
Simcoe Lodge, Beaverton, Ont.



## Feeding for Market

Cattle fed on Molasses Meal quickly put on weight, their sides rounding out and their coats becoming smooth and sleek. They command the fancy price. And, as they are brought to maturity earlier, they cost less to raise. Molasses Meal is a profitable feed for the cattle raiser to use. You can buy it direct from the mill. Write for prices and booklet.

The CALDWELL FEED CO., Ltd.

**Caldwell's**  
Dundas, Ontario  
**Molasses Meal**

## LAKEVIEW HOLSTEINS!

Young bull sold by Capt. Hosenfeld, Exton, Pa., and out of Rose Rattler, 21 1/2 pounds of milk in 24 hours, at Washington, Pa., March, 1911, is well out of Lakeview Holsteins. It is a fine specimen of a cow, and 88 pounds in weight, and is a fine specimen of a cow, and is equally good.



Telephone. **E. F. OSLER, BRONTE, ONTARIO**

**Seed Oats**

180 per bushel. LINCOLN. Weight per measured bushel. Seed procured from Toronto seedsmen. Good cotton seed. J. S. D. J. Campbell, Fairview Farm, Woodville Ont.



**Your Horses are Entitled to a Haircut Before the Spring Work Begins**



Farmers and horse owners of England and France have done it for years and it is done now by progressive owners everywhere in this country. No way to do it so easy, so quick or so well has ever been devised as with a **Stewart Ball Bearing Clipping Machine**. The price of this splendid \$9.75 machine is only . . . . . at your dealers direct. It is used in every civilized country, has all file hard cut steel gears, enclosed, protected and running in oil. Get one from your dealer or send \$2 and we will ship C. O. D. for the balance. Send now. **Chicago Flexible Shaft Company** 110 La Salle Ave. Chicago. Write for our new catalogue showing the worlds largest and most modern line of horse clipping and sheep shearing machines.

**CANADIAN PACIFIC-HOMESEEKERS' EXCURSIONS**

TO **Manitoba, Saskatchewan, Alberta**  
Special Trains leave Toronto 2.00 p.m. on  
**APRIL 2, 16, 30 MAY 14, 28 JUNE 11, 25**  
**JULY 9, 23 AUG. 6, 20 SEPT. 3, 17**  
Second class tickets from Ontario stations to principal Northwest points at  
**LOW ROUND-TRIP RATES**  
Winnipeg and return \$34.00; Edmonton and return \$42.00, and to other points in proportion. Tickets good to return within 60 days from going date.  
**TOURIST SLEEPING CARS**  
through to Edmonton via Saskatoon, also to Winnipeg and Calgary via Main Line on all excursions. Comfortable berths, fully equipped with bedding, can be secured at moderate rates through local agent. Early application must be made.  
**ASK FOR HOMESEEKERS' PAMPHLET** containing rates and full information.  
Apply to nearest C.P.R. Agent or **M. G. MURPHY, Dist. Pass. Agt., Toronto.**  
**ONLY DIRECT LINE NO CHANGE OF CARS**

**Red Raspberry Plants**

In suitable locations this is the most profitable of small fruits at the present time. I have a fine stock of the two most profitable, hardy varieties, King and Herbert; and also the other popular varieties, Brighton, Marlbow, Eaton and London; and about thirty selected varieties of strawberries to choose from. Send for catalogue and prices in quantities.

**C. P. NEWMAN**  
Box 51, Lachine Locks, Quebec

**BOYS FOR FARM HELP** The managers of Dr. Barnardo's Homes invite applications from farmers, or others, for the boys who are arriving periodically from England to be placed in this country. The young immigrants are mostly between 11 and 13 years of age; all will have passed through a period of training in Dr. Barnardo's English Institutions, and will have been carefully selected with a view to their moral and physical suitability for Canadian life. Full particulars as to the terms and conditions upon which the boys are placed may be obtained upon application to Mr. Alfred B. Owen, Agent Dr. Barnardo's Homes, 59-52 Peter St., Toronto.

**Shires and Shorthorns**  
In Shire stallions and fillies, from the best studs in England, we are offering some rare animals at rare prices. Scotch Shorthorns of either sex or age of highest breeding and quality. **John Gardhouse & Son, Hiefield, Ont.** L.-D. phone.

**For Sale** Valley Dale Shires. Imported and Canadian bred Stallions, Mares and Fillies from 1 to 7 years old. For description and particulars apply to  
**Wm. Pearson & Son, West Flamboro,**  
Address 103 York Street, HAMILTON, ONT.

MENTION "FARMER'S ADVOCATE."

**GOSSIP.**

A. Wilkes, Fournier, Ont., has purchased from J. E. Arnold, the Percheron stallion, Rigolo, first in the mature class at the Central Canada Exhibition, Ottawa, last fall. In 1910 this horse won first prize at Detroit, first at Minneapolis, first at Denver, and second at Chicago, in a class of fifty-two entries.

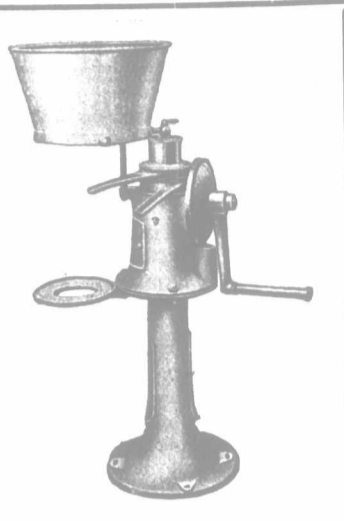
Thanks to "The Farmer's Advocate," writes Arthur H. Tufts, High Grove Stock Farm, Tweed, Ont., on C. P. R., breeder of Jersey cattle and Yorkshire swine, I have made recent sales as follows: A fine 12-months bull to C. E. Copeland, Elmvalle, Ont.; three females, two calves and a two-year-old, to George Wideman, Hopeville, Ont.; a 14-months bull to Ophiplant Smith, Brussels, Ont.; a bull to John Stewart, Renfrew, Ont.; two fine two-year-old heifers to Joshua Chambers, Stewart's Hall, Ont., and last, but not least, a fine three-year-old heifer to Ernest Winlaw, Heaslip, New Ontario, 135 miles north of North Bay.

**SPRINGHURST SHORTHORNS.**

This renowned herd, the property of Harry Smith, of Hay P. O., Ont., Exeter, G. T. R., is one of the most successful herds in Canada, having produced as many, or probably more, prizewinners at the Toronto and London shows than any other herd in the country. The females of the herd are remarkable for their good doing and good breeding qualities, the majority being of those grand strains, Vanity, Diamond, Clara, Mina and Sunflower, many of them daughters of that great bull, Gold Drop, sire of perhaps more prizewinners than any other bull used in Canada. In use now on the majority of the herd is the sensationally fleshed bull Ben Wyvis, a son of Gold Drop, and out of Imp. Butterfly 32nd. He is proving as good a getter as his sire. Several daughters of his that are for sale are show heifers of a high order, as are several others that are daughters of the old bull, Gold Drop. Parties wanting heifers of show calibre should see those. Among them are the first-prize calf herd at London last fall, beating the herd that afterwards won the calf herd prize at the International, Chicago. In young bulls for sale is a sensational roan yearling, Masterpiece, a son of Ben Wyvis. He is a cracker from end to end, and as mellow as silk. Another great calf is a roan seven-months-old, Blarney Stone, out of Imp. Butterfly 32nd, and sired by the Toronto junior champion of 1910, Mutineer. This is a show calf all over. Another thick, good one, is a red ten-months-old, by Ben Wyvis, and of the famous Vanity tribe. Write Mr. Smith for prices.

A. W. Smith, Maple Lodge, Ont., between Lucan Crossing and Ailsa Craig, G. T. R., writes: I have been selling some good young Shorthorn bulls lately. J. C. Wilkinson, Warwick, Ont., got a handsome big roan calf, from a Cecelia cow, who has given over 62 lbs. milk per day; George Squires, Blanshard, a very thick, stylish, 20-months-old Lovely bull, whose dam was by Imp. Knuckle Duster; R. S. Nodwell, Hillsburg, secured a prize in the son of Acklam Ivy, whose milk record is over 50 lbs., and is by Imp. Knuckle Duster, and a daughter of the first-prize cow Irish Ivy, whose milk record is 11,500 lbs. in a year; McCallum & Fletcher, Komoka, got a very promising roan, big, smooth, and handsome. His dam, which I consider the best cow on the farm, is another daughter of Imp. Knuckle Duster, and a splendid milker and breeder. J. B. Bryan & Sons got a younger red bull, with good lines, smooth flesh, and excellent head and hair. His dam, a splendidly-bred Averno, is one of our best milkers. These young bulls were all got by the massive Mysie bull, Merry Mistletoe, and is giving over 50 lbs. milk per day, with two young bulls on hand yet, one very smooth 16-months roan, and a rich red, eleven months old, from the family that has given me so many high-class milkers. His dam has now calved again, and is giving over 50 lbs. milk per day, with a very high fat content. I believe it is possible to have first-class beef type, and very profitable milk production at the same time, and think I am proving it on my own herd.

**The "Premier" Cream Separator**



Satisfaction guaranteed to every purchaser. Thousands of satisfied users speak in highest praise of the

**"PREMIER"**

The machine that appeals to you at sight

Be sure you look into the merits of the "Premier" before you buy a Cream Separator. Will be sent to your farm and demonstrated free of charge. Just write us. We are the makers and guarantors.

Address:

**THE PREMIER CREAM SEPARATOR CO'Y**

659-661 King St. West, Toronto, Ont.

199 Princess Street, Winnipeg, Man.

147 Prince William Street, St. John, N. B.

**Stallions! Stallions! Stallions!**



THE first chance and the last chance this season for you, Mr. Percheron Stallion Buyer, to get the goods at the lowest price on record, considering quality; and as I am cleaning out to make room for new importation, I am offering your choice of six perfect horses at unheard prices. Providing you come here and take a look. It will pay you to come 2,000 miles to see me on this offer. Remember, I stand on past performances, and I have a record not to be ashamed of. I have the goods, don't forget that, and if you are thinking of buying a horse, don't overlook me. Here is an offer: Come here, take a look, if you don't buy I will pay your way one way, if you do buy I will pay your way both ways. If you have money or credit you can take home the best horse, in Canada for the money. Remember, I have the big horses.

**JOHN HAWTHORNE, Simcoe, Ontario**

**Bay View Imp. Clydesdales** We have got them home, 11 fillies and 7 stallions, show horses bred in the purple, big in size, and quality all over. If you want something above the average come and see us. Prices and terms the best in Canada.  
On the Toronto-Sutton Radial Line. **John A. Boag & Son, Queensville, Ont.**

**IMP. CLYDESDALE STALLIONS AND FILLIES**  
In my late importation of Clydesdale stallions and fillies I have exceptionally choice breeding idea draft characters; as much quality as can be got with size, and I can undersell any man in the business. Let me know your wants.  
**GEO. S. STEWART, Newick, Que. L.-D. Phone.**

**Clydesdales, Imp., Just Arrived** Our new importation has arrived safely, and we are now in a position to supply the trade with stallions from 1 year old up to 4, with more draft character, big, strong, flat bone, and better breeding than any other firm in the trade. Prices and terms as favorable as any other importer in Canada.  
**BARBER BROS., GATINEAU PT., QUEBEC, NEAR HULL**

**ORMSBY GRANGE STOCK FARM, Ormstown, P. Que.**  
A large importation of specially-selected 2-year-old stallions, fillies and show mares. Will arrive early in May.

**D. McEACHRAN, PROPRIETOR**  
**CLYDESDALES (Imported) CLYDESDALES**  
SPRING HILL Top Notchers. Stallions, mares and fillies. 65 per cent. guarantee with stallions. Every mare guaranteed in foal. Ages, 3 years old and upwards.  
**J. & J. SEMPLE** Milverton, Ontario, and La Verne, Minnesota

**CLYDESDALES OF SIZE AND QUALITY**  
I have for sale Clydesdales, imported and Canadian-bred, toppers and prizewinners, including championships; big flashy stallions from 1 year up to 4; mare and fillies up to 1,900 lbs. in weight; all of them with size, quality and breeding, some with six registered dams.  
**W. H. MANSELL, Fletcher P.O., Kent Co. M. C. R.**

**Peachblow Clydesdales and Ayrshires** I am offering some choice young heifers and cows due to freshen in January in calf to the stock bull Sir Favorite of Hemmingford, 27732. In Clydesdales, I am offering for sale the imported horse Harrier, 6123, and the yearling stallion Nessmore, 11032. They are both good animals and will be sold worth the money. For prices write:  
**R. T. BROWNLEE, Peach Blow Farm, Hemmingford, Que.**

**Shire Stallions and Mares, Shorthorn Cattle (both sexes); also Hampshire Swine. Prices reasonable.**  
**Porter Bros., Appleby, Ont., Burlington Sta. Phone.**



Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



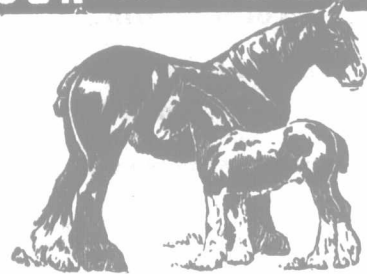
**Has Imitators But No Competitors.**

**A Safe, Speedy and Positive Cure for**  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Fuffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

**As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.**  
Every bottle of Caustic Balsam sold is  
warranted to give satis. action. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address

The Lawrence-Williams Co., Toronto, Ont.

## INSURE YOUR HORSES



### FOALING INSURANCE.

A small premium will secure a policy in our Company by which you will be fully insured against any loss resulting from the death of your mare or its foal, or both. All kinds of insurance on Live Stock. Transit Insurance covering horses on board cars for 5, 10, 15, 20 or 30 days.

PROSPECTUS FREE ON DEMAND.  
**General Animals Insurance Company of Canada**  
Head Office: 71A St. James St., Montreal  
OTTAWA BRANCH:  
No. 106 York Street, Ottawa  
Toronto Agency: J. A. Caesar,  
Room 2, Janes Building, Toronto, Ont.

### Don't Cut Out A SHOE BOIL, CAPPED HOCK or HURDITIS FOR ABSORBINE

will remove them and leave no blemishes. Cures any puff or swelling. Does not blister or remove the hair. Horse can be worked. \$2.00 per bottle delivered. Book & F. free.  
**ABSORBINE, JR.** Liniment for manking. For Boils, Bruises, Old Sores, Swellings, Galls, Varicose Veins, Verrucae, Allays Pain. Price \$1 and \$2 a bottle at druggists or delivered. Will tell more if you write. Manufactured only by **W. F. YOUNG, P.D.F., 258 Lyman Bldg., Montreal, Ca.**

### Messrs. Hickman & Scruby COURT LODGE, EGERTON, KENT, ENGLAND

EXPORTERS OF PEDIGREE  
**Live Stock of all Descriptions.**  
During the spring months we shall be shipping large numbers of Percherons, Shires, Belgians, Clydesdales, Suffolks, etc., and all those who wish to buy imported stock should write us for full particulars.

### Percheron, Belgian, Shire, Hackney Stallions and Mares

Two to four years old. Imported and American-bred. Choice colors, lots of bone, weighing or maturing 1,800 to 2,300 lbs. Three importations last few months, others to follow soon. Prices below competition. I sell them low and they go fast.  
**LEW. W. COCHRAN, Crawfordsville, Ind.**  
Office, 109 1/2 S. Washington St.

### NOTICE TO HORSE IMPORTERS GERALD POWELL

Commission Agent and Interpreter  
**Nogent Le Rotrou, France**  
will meet importers at any port in France or Belgium, and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking and pedigrees. Many years' experience; best references. Correspondence solicited.

**For Sale: Imp. Clydesdale Stallion**  
[4785] (12697) S. S. B. Prince Carnabrogie. Show horse. Good stock getter. Sired by Prince Thomas. Can be seen at **Allan Baker's, Greensville P. O., Ont.** Dundas sta., G. T. R., 1 mile

### QUESTIONS AND ANSWERS. Miscellaneous.

#### FEEDING PROBLEMS.

1. As I am very short of hay, but have plenty of straw and silage, would you kindly publish the proper amounts of the different meals for a well-balanced ration for milch cows?
2. What amount should each cow be fed?
3. Can a farmer afford to buy these meals and make it pay, at ordinary cheese and butter factories?
4. How should separator milk be fed, sweet or sour?
5. What is the best meal to start young pigs on, or should there be a mixture?
6. I have heard that skim milk, fed separately, is of little value, but when fed with certain grains it is of nearly the same value as the grain. Is this so?

**Ans.—1 and 2.** Where clover hay is scarce, some concentrates high in protein content are necessary. Feed oil cake, 2 lbs.; bran, 2 lbs., and mixed chop about five to seven pounds daily, according to the amount of milk the cows give. If your silage is not well eared, a fair proportion of corn might be used in the meal mixture.

3. With the right kind of cows and good management, yes, proper allowance being made for value of manure.

4. Warm and sweet to calves; just as well sour to pigs.

5. A mixture is usually best. Shorts are as good as any single meal, and should form a large proportion of the mixture.

6. Experiments have shown that skim milk, fed at the rate of 3 1/2 to 4 lbs. per day, is worth about half as much as shorts. Fed at 1 to 2 lbs., it is more effective, and as the quantity increased from 4 lbs. up to 17 lbs., the value decreased, until, at the latter figure, 100 lbs. of the milk was only equal to 10 lbs. of shorts.

#### PEDIGREE QUERY.

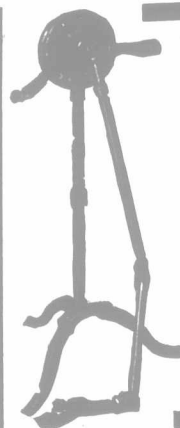
I wrote to a breeder of pure-bred Berkshire hogs, with registered pedigrees, to have one delivered at Owen Sound or Little Current, and he agreed to send me one to Owen Sound for \$10, and I sent him a post-office order for the \$10. When the pig came, I had to pay the freight all the way myself. I wrote to him twice about the pedigree and got no answer. I sent him a post-office order for one dollar to get the pig registered, and have written to him since and can get no answer. I have bred the hog to one of my sows, and my neighbors have brought sows to him with the understanding that he was a pure-bred hog. Can I make him get the pig registered, or can I collect damages for the loss I sustained by not having his pedigree?

M. T.

**Ans.—**If the breeder agreed to furnish you with a pedigree of the animal purchased, you can hold him responsible for it, and in case he does not produce it, you can claim damages. About the freight, the agreement should have stated explicitly who was to pay it. From your letter, we judge that the seller was supposed to bear this. We think there must have been some misunderstanding, as breeders of pure-bred stock usually put forth reasonable effort to please their customers and increase their trade. It is to their interest, as well as to that of the purchaser, to have the animals registered. Would write him another courteous letter and try to straighten out the difficulty with as little trouble as possible. In case he doesn't get the pedigree, and you are sure your agreement covered that point, take legal proceedings for damages. If you purchased this pig through an advertisement in "The Farmer's Advocate," and you will give us the breeder's name and address, accompanied by satisfactory evidence of wilful failure on his part to keep faith, we shall, after substantiating your statements by investigation, exclude his advertisement from our paper.

#### BERKSHIRE'S NO. 1 HOG.

At an auction sale of registered Berkshires, held at Paris, Ontario, on Oct. 1, a pair of pure-bred Berkshires, one male and one female, were sold. The pair were bred by Mr. J. W. Young, of Paris, Ontario, and were sold for an average of \$1,200 each. The price was \$225. Two other sows were sold for \$250 each, and one other for \$175.



### Don't Pay for This Sheep Shearing Machine Until You See and Examine it

Most dealers have it. If yours hasn't, ask him to get one for you, and when it comes here it set up and try it. If you are convinced that it is what you want, buy it and try it on your sheep with the distinct understanding that it must do the work O. K. or no sale.

#### This STEWART BALL BEARING MACHINE No. 9

is just the easiest of all shearing machines to turn. 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 four sets of knives is only \$11.50. It is really a wonderful machine and you will be agreeably surprised at the work it does. Get your dealer to send now, or if you prefer send \$9 and we will ship C. O. D. for balance and you may try the machine and if not satisfied we will refund all you paid out. Send for copy of new 1913 catalogue and Expert Instructions on shearing sheep.

**CHICAGO FLEXIBLE SHAFT COMPANY**  
110 La Salle Ave. CHICAGO



WESTON, ONT. BRANDON, MAN'

### J. B. HOGATE

DIRECT IMPORTER

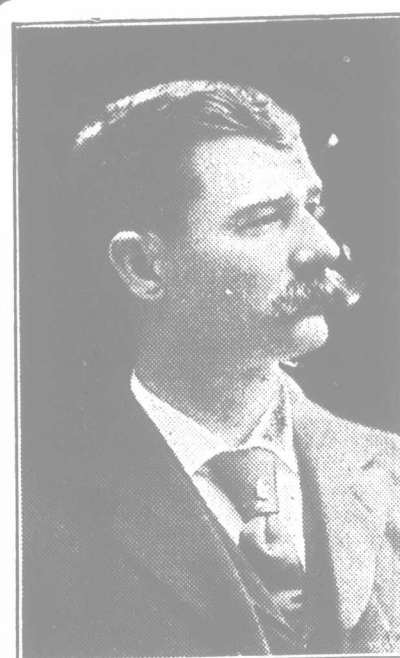
### Percherons and Clydesdales

My barns at Weston and Brandon are full of Percherons—stallions, mares and fillies and Clyde stallions—the very best that money could buy, in both greys and blacks, ages from two to five years. The stallions weighing from 1,700 to 2,200 lbs.; the mares from 1,600 to 1,900 lbs., some safe in foal.

In order to get my Weston barn sold out, so that I may go to my Brandon barn, no reasonable offer will be refused. Write, and come early, and get a bargain in a first-class stallion or mare.

TERMS TO SUIT. For further particulars write:

**J. B. Hogate, West Toronto, Ont.**



J. B. HOGATE, WESTON, ONT.

### Toppers in Clydesdales at Markham, Ont.

I have sold more Clydesdales in the last four months than I ever did before in the same time. Why, because I can show more good horses than any other man in Canada. I have some crackers left. Come quick if you want the best the breed produces. No man can undersell me.

### T. H. HASSARD,

Markham, Ont.

Markham, G. T. R.

Locust Hill C. P. R.

### For Sale Clydesdale Stallion

ONE EXTRA FINE

Four years old, by Benedict. He is a beauty and sure foal getter. AND TWO TWO-YEAR-OLD STALLIONS. VERY CHEAP.

**Willowdale Stock Farm, Lennoxville, Quebec**

### Clydesdale Stallions and Fillies

Our past record for many years in the leading show-rings of Canada and in the yearly increase in volume of business is our best recommendation. This has been our best year. We have still some of the best of last year's importation in both stallions and fillies. We solicit your trade and confidence.

### SMITH & RICHARDSON, Columbus P.O., Ont.

Brooklin G. T. R.

Myrtle C. P. R.

Ottawa C. N. R.

### Clydesdales, Stallions and Fillies, Percheron Stallions

My 1911 importation have arrived—20 Clyde stallions, 18 Clyde fillies, 6 Percheron stallions. I have many winners at Old Country shows. Big, choice, quality stallions and mares, bred from the champions, and the best Percherons in Canada. Prices right.

Long-distance phone.

**T. D. ELLIOTT, Bolton, Ont.**

### Mount Victoria Stock Farm, Hudson Heights, P. Q.

We have for service this season the Champion Imp. Clydesdale stallions Netherlea, by Pride of Blacon, dam by Sir Everard; also Lord Aberdeen, by Netherlea, and the Champion Hackney stallion Terrington Lucifer, by Copper King. For terms and rates apply to the manager.

**T. B. MACAULAY Prop**

**ED. WATSON Manager.**

#### IMPORTED CLYDEDALES

I have for sale mares and fillies, from foals up to 5 years of age; richly bred and big in size; a number of them in foal; matched pairs, the kind to make you money. They will be sold at prices that defy competition.

L-D. phone.

**ALEX. F. McNIVEN, St. Thomas, Ont.**

### 16 Clydesdale Stallions and Fillies

5 years and under. Some winning in Scotland and Canada. Bred from such noted sires as Hiawatha, Everlasting, Prince of Carruban and Baden Powell—horses that will make a ton, with quality. Prices right. **W. B. ANNETT, ALVINSTON, ONTARIO** Watford station, G. T. R., 30 miles west of London.

### Imp. Stallions and Mares

Percheron, Shire, French Coach and Standard-bred, ages from two to 5 years. Many first prize, champion and gold medal winners at Ottawa Fair 1911. All for sale cheap. Write or come to our barns. Terms to suit purchasers. Stallions in winter in Canada makes them much surer as foal-getters.

Sixty and shown at Ottawa, P. Q. North.

**J. E. ARNOLD, Grenville, Que.**

### Imp. Clydesdale Stallions of Size and Quality

Our latest importation of Clyde stallions include several that were 1st prizewinners in Scotland. We have them from one year old up of choicest breeding, big, flashy quality fellows, all of an average size. All prices are the lowest, and our terms the best.

L-D. phone.

**GRAWFORD & McLACHLAN, Thedford P.O. and Sta.**



**The Engine That Costs Nothing to Run**

The wind furnishes the "fuel" free, and you get all the power you need when you have a



**Canadian Airmotor**

Investigate. Learn the cost and the advantages of wind power. Write for our free book.

**Ontario Wind Engine & Pump Co., Limited**  
Winnipeg TORONTO Calgary

**Who Pays the Duty?**

Why pay fancy prices for meat meals of foreign manufacture when you can buy CALFINE 15 to 20 dollars a ton cheaper and secure at least equal, and in most cases superior, results.

**CALFINE**  
"The Stockman's Friend"  
has been most carefully experimented with at Macdonald Agricultural College, where it has given excellent results. It is now in use on some of the largest and best equipped dairy farms in the Dominion.

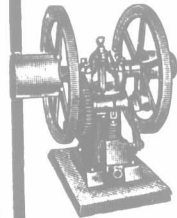
Ask your dealer for a 100-lb. bag of CALFINE as a trial—you will soon be back for more. If your dealer does not handle it, write us. We will do the rest.

Feeding Directions Sent on Application.

**Canadian Cereal & Milling Co.**  
Limited  
TORONTO, CANADA

**WE PAY THE DUTY**

**\$147.50** Six Horse Power Gasoline Engine **\$147.50**



A slow speed, heavy duty engine constructed on the only correct principle.

One-third less weight, one-third less bulk and one-third stronger than any other engine in the world.

Write for catalogue and special proposition

**United States Engine Works**  
1538 Canal Street, Chicago, Ill.

**Angus Bulls for sale**—If you want a nice young Angus bull at a reasonable price enquire of  
**J. W. BURT & SONS**  
Aberdeen Farm Coningsby P. O., Ont.

**Aberdeen - Angus**

Now is the time to buy a bull; eleven for sale; also females any age or price. **WALTER HALL**,  
Drumbo station, Washington, Ont.

**Aberdeen-Angus Cattle**—For Sale: A choice young bull (15 mos.) of richest quality and breeding; also females.  
**Glengore Stock Farm.**  
**GEO. DAVIS & SONS, Props.** Alton, Ont.

**Clover Dell Shorthorns**  
Real bargains in females. Dual-purpose a specialty. **L. A. Wakely**,  
Bolton, Ont. Bolton Sta., C. P. R.;  
Caledon East, G. T. R. Phone.

**Spruce Lodge Shorthorns and Leicesters**  
Will price cheap young bull from 6 to 14 months; 1 and 2-year-old heifers, some from top sires; Adams. Leicesters at all times of both sexes for sale. Phone. **W. A. Douglas** Tuscarora, Ont.

**QUESTIONS AND ANSWERS.**  
Miscellaneous.

**DOCKING LAMBS.**

Would you let me know the proper age to dock lambs? I keep a flock of registered Leicester sheep. I usually dock the lambs at ten days old, and more or less of them die within twelve hours after the operation. I have left them till they were three weeks old, but with no better results. I always apply powdered bluestone to the wound immediately after the operation. Is this of any benefit? An old shepherd advised this remedy. They appear to be all right for some time after the operation, but in less than twelve hours I find one or more of them dead. I. R.

Ans.—At from ten days to two weeks of age is the best time to dock or castrate lambs. Cut the tails from below upward with a sharp knife. Your lambs evidently bleed to death. Any which show signs of bleeding too freely should have a soft cord tied tightly around the stump for a few hours. The bluestone should do no harm, in fact it should be of value in stopping the blood. Sometimes lambs die from shock. See article on "Lambs in Spring," in this issue.

**BEGINNER'S QUERIES.**

1. I have been grain farming in Manitoba for some years, but have decided to sell out and go in for mixed farming in Ontario. Would like your advice as to best way to invest a capital of about \$8,000 in purchase of farm, live stock and implements. Possibly not much over half of this capital would be immediately available, the balance being in deferred payments on land here at 7 per cent. Would like to have at least two heavy breeding mares, three or four sows, and balance of stock to be cows. Do you think it better to let a considerable portion of purchase price of farm remain on mortgage for a while, and use available capital for more live stock and machinery?

2. Would you advise four-horse machinery?

3. What is the size and price of your big plow at Weldwood? Is it what is known as a high-lift riding gang?

4. What are the comparative merits of the dump rake and side-delivery rake? What difference in price?

"ALPINE, MAN."

Ans.—1. It is never advisable to pay so much money down on a farm that enough is not left to properly equip it. Many beginners make the mistake of handicapping their operations by locking too large an amount of their capital up in the farm. Equipment in the beginning does not need to be elaborate, but a certain amount of good implements and machinery is necessary to properly work the land. Horses and other live stock are essential to get the best returns, and while economy is necessary in purchasing these, it never pays to stock up with poor implements, machines, or live stock. Would rather have a little larger mortgage than not have anything to work the farm with. The increased returns from a properly-tilled and properly-managed farm, due to a sufficient outlay for equipment, will pay the extra interest many times over, and will, in fact, under proper management, soon reduce the principal. Pay all you can down, but do not rob the farm of the necessary equipment to make your labor profitable.

2. Yes.—One man may just as well do the work of two.

3. This plow cuts two 14-inch furrows, and is a foot-lift riding gang. Its value is in the neighborhood of \$60.

4. Each has its advantages. For raking stubble or second hay raking, the dump rake is the only one that can be used. It is also preferable in a very light hay crop, where the side-delivery would roll off too many of the leaves in order to get a fair-sized windrow. The side-delivery is the better where a hay-loader is used, because it makes somewhat smaller, uniform windrows. It also does not tangle the hay as much as some dump rakes, and is liked better by some in a fair crop of hay, even where raking is practiced. It also is conducive to better curing. The side-delivery costs nearly twice as much as a ten-foot dump rake, or about \$90, as compared with between \$30 and \$35.

**Union Stock Yards of Toronto, Ltd.**

**HORSE DEPARTMENT**

Auction Sale Every Wednesday Private Sales Every Day

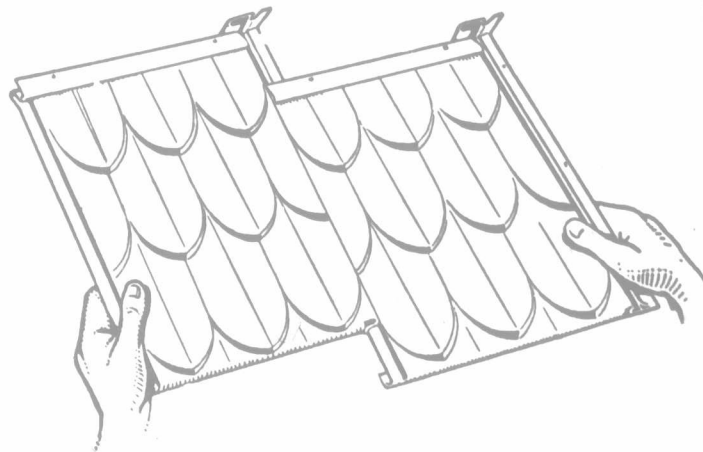
Railroad Loading Facilities at Barn Doors

**W. W. SUTHERLAND,** In Office. **J. H. ASHCRAFT, JR.,** Manager.

**Springhurst Shorthorns**—I can now supply a number of one and two-year-old heifers bred the same as my many winners were and equally as good, show propositions among them; also a couple of right nice young bulls.  
**HARRY SMITH, Hay P.O., Ont. Exeter Sta. L-D. Phone.**

**ORCHARD GROVE HEREFORDS**

Champions of 1911 shows, winning both senior and junior herds at Winnipeg, Brandon, Regina, Edmonton, Toronto and London; also fifteen championships.  
Young stock, both sexes, for sale at reasonable prices.  
**L. O. CLIFFORD** Oshawa, Ont.  
Long-distance Phone



**An Easy-to-lay Roof for Your Barn**  
—A Tight-locking Shingle that Keeps Out the Rain



**SIMPLICITY** in itself is no recommendation for a roof. But, all other things being equal, you would select the easy-to-lay roof every time, wouldn't you?

This is ONE feature of Galt Steel Shingles that strongly recommends them to the farmer. Another important recommendation is the tight-locking patented "hook" that forms an absolutely weather-proof surface which neither time nor violent storms can undo.

The illustration shows two sections of a Galt Steel roof, about to be locked together. It will be noted that, while extremely simple, the shingles are so designed as to "grip" one another tightly at both sides and ends.

**A Roof is No Stronger Than its Weakest Point**

In a "Galt" roof, all danger of leaks is avoided by our patented "lock"—the most important improvement in metal roofing in 25 years.

The best illustration of "Galt" Shingle superiority you can have, is in the fact that if a number of our shingles are assembled and held to the light, it will be found that light does not penetrate the locks at any point. Do you know any other of which this is true?

It is generally acknowledged that a metal roof (owing to its permanence and fireproof qualities) is superior to any other kind of roof—if "security" can be obtained at the seams. With "Galt" Shingles you can be absolutely sure of such security.

But space does not permit a detailed description or a complete story of Galt Shingles. If you would learn all the facts you ought to have, before you roof your barn, you should get a copy of our splendid free book entitled

**"HOW TO BUILD A BARN."**

The value of this book to the farmer as a work of present and future reference can scarcely be estimated. But in order that you may appreciate its value and retain it, it should be noted that duplicate copies will cost you 50c each, unless these are for a friend, also interested in barn construction. Use the coupon and send for this free book to-day.

**THE GALT ART METAL CO., Limited**

150 STONE ROAD, GALT, ONT.

**BRANCHES**—General Contractors Supply Co., Halifax, N.S.;  
Estey & Co., St. John, N.B.; R. Chestnut & Sons, Fredericton, N.B.;  
J. L. Lachance, Ltd., 251 St. Paul St., Quebec, Que.;  
Wm. Gray Sons-Campbell, Ltd., 581 St. Paul St., Montreal,  
Montague Sash & Door Factory, Montague, P.E.I.;  
File Hardware Co., Fort William, Ont.; Galt Art  
Metal Co., Ltd., 839 Henry Ave., Winnipeg, Man.;  
Gorman, Clancey & Grindley, Ltd., Calgary,  
Alta.; Gorman, Clancey & Grindley, Ltd.,  
Edmonton, Alta.; D. R. Morrison, 714  
Richard Street, Vancouver, B. C.

Send Me  
Your Book  
on Barns

F.A.



## A WEAK ACHING BACK Caused Her Much Misery.

Mrs. W. R. Hodge, Fielding, Sask., writes:—"A few lines highly recommending Doan's Kidney Pills. For this last year I have been troubled very much with nasty sick headaches, and a weak aching back, which caused me much misery, for I could not work, and had no ambition for anything. My kidneys were very badly out of order, and kept me from sleeping at nights. I tried many kinds of pills and medicines, but it seemed almost in vain. I began to give up in despair of ever being well and strong again, when a kind neighbor advised me to try Doan's Kidney Pills, which I did, and am thankful for the relief I obtained from them, for now I am never troubled with a sore back or sick headaches.

"I will always say Doan's Kidney Pills for mine and can highly recommend them to any sufferer."

Price, 50 cents per box, or 3 boxes for \$1.25, at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

When ordering direct specify "Doan's."

### You Can't Take Chances

If you want the Best Seeds that grow, then you want

ASK FOR THIS  
**McDONALD'S SEEDS**  
FREE

For twenty years McDonald's Seeds have made money for a host of progressive farmers and gardeners all over Canada; they'll do the same for you. Send for 1912 catalog, FREE.

**Kenneth McDonald & Sons, Ltd.**  
Ottawa - Ontario  
Write to-day Dept. G

Rivers had just got home, and was stumbling over the things in the dark hallway. "What are you growling about, dear?" called out Mrs. Rivers from the floor above. "I am growling," he answered in his deepest bass voice, "to drown the barking of my shins."

## WOMEN IN ALL PARTS OF CANADA

Tell of the Health Dodd's Kidney Pills Bring.

They Made a New Woman of Mrs. Elie Amiraault Who Was a Victim of Kidney Disease for Over a Year

Amiraault's Hill, Yarmouth Co., N. S., March 25.—(Special.)—"Four boxes of Dodd's Kidney Pills made a new woman of me." Those are the words of Mrs. Elie Amiraault, of this place. They are words that have been used again and again by women in all parts of Canada who have suffered, and who have found relief and cure in Dodd's Kidney Pills.

"I suffered for over a year from kidney disease," Mrs. Amiraault continues. "Nothing I tried helped me. At last someone told me to try Dodd's Kidney Pills. Before I had finished the first box I felt better. Four boxes made a new woman of me."

No remedy ever given to the public has brought health and happiness into the lives of so many women as Dodd's Kidney Pills. This is because nine-tenths of the ills to which women are subject come from diseased kidneys. No woman who uses Dodd's Kidney Pills can have diseased kidneys. They always cure the kidneys.

### GOSSIP.

#### BIRMINGHAM SHORTHORN SALE.

The annual spring show and sale of Shorthorns at Birmingham, England, was held March 6th and 7th, when 493 animals were catalogued, being 150 below the entries of last year, accounted for by the closing of the ports, owing to the late outbreak of foot-and-mouth disease, and more particularly those of the Argentine, the largest market for British Shorthorns. The Argentine agents did not make a single bid, but purchases were made for South Africa, Brazil, and Canada. The highest price for a bull was \$600, for the first-prize bull in the class between 10 and 21 months old, Lord Lovat's Beaufort Specially, a roan, sired by Village Rambler. The first-prize winner in the class between 21 and 30 months, Mr. Hanley's good topped roan, Golden Sceptre, and James Horlick's highly commended Golden Wanderer, in the same class, were purchased for exportation to Canada.

#### GLENGORE ABERDEEN-ANGUS.

It appears very evident by the tenor of the letters received by Geo. Davis & Sons, of Alton, Ont., from customers on receipt of animals from their noted herd of Aberdeen-Angus, that were purchased by correspondence, that they are in the habit of describing an animal exactly as it is, or if any difference, just a few degrees of excellence less than what it possesses. This sort of thing, to our way of thinking, is just about right, and cannot fail to produce satisfied customers. With a herd of thirty-five to select from, representing those old, tried and proven tribes, Mayflowers, Corskies and Fair Ladys, this firm is now in a position to cater to the wants of those looking for foundation stock in one, two, three, or over, years of age. They have a big range of heifers just now, and feed is scarce—a pointer for the wise man. All of them are sired by the Mayflower-bred bull, Cochrane of Tweedhill 1905, a son of College Monarch 827. This bull is proving a most successful sire, his get being particularly good in their lines, quarters and backs. For young bulls the demand has been extra good, only one left, and he is a four-months-old calf, sired by the stock bull, and out of a Corskie-bred daughter of General Delarey 1181. This is an extra good calf, and looks like making a show-ring candidate. Write Mr. Davis your wants to Alton P. O., Ont.

#### SOME CRACK CLYDES AT THE QUEENSVILLE STABLES.

The firm of John A. Boag & Son, of Queensville, Ont., is another of the more popular and reliable Clydesdale importing firms of Ontario that have felt the increased wave of demand for the better class of breeding Clydesdales in both stallions and mares. No man in Canada knows a Clydesdale from the ground up better than John Boag, and no man going to his stables looking for a topper will go away disappointed. This is particularly true just now, for in spite of the big season's trade, they are showing some mighty attractive stallions and fillies. Prominent among the former is the strictly high-class quality stallion, Homestake (imp.), a bay rising six years, by the famous Royal and Highland first-prize horse, Silver Cup, dam by the Cawdor Cup champion, Prince of Kyle. This is one of the best-bred horses of the breed, and also one of the best individuals. He weighs 1,900 lbs., and has the quality and finish of a Hackney. Angelo (imp.) is another immensely flashy horse with superb quality. He is a bay three-year-old, sired by the H. & A. S. champion, Benedict, dam by the popular breeding horse, Drumlanrig. To see this horse is to like him. Earl of Dunroigt is a bay, rising three, sired by the Cawdor Cup champion, Hiawatha Godolphin, dam by the world-renowned Baron's Pride, grandam by the Glasgow prize horse, St. Lawrence. With such illustrious breeding, coupled with the high-class character of the calf, makes him a desirable sire. The above will show the standard of breeding and individual worth of Mr. Boag's horses. When looking for a high-class stallion or filly, and a strictly square deal, don't forget John A. Boag & Son, of Queensville, Ont.



### The Feed That Makes The Cream

Livingston's Oil Cake is the cheapest feed for cows—cheaper than corn, shorts or even hay. Because it actually increases the richness of cream—and also increases the amount of butter that you get out of the milk. Test your cows before and after feeding Livingston's Oil Cake for a month—and your "butter money" will show its economy.

Fine Ground, Coarse Ground, Pea Size and Nuted Grindings. If your dealer cannot supply you write us for prices and samples.

**DOMINION LINSEED OIL CO'Y, LIMITED**  
Manufacturers J. S. J. Livingston  
Brand Oil Cake  
BADEN, ONTARIO

## DAVIES'

Slaughter-house by-products, **Bone, Blood, Tankage**, etc., are thoroughly sterilized, practically deodorized, then utilized in the preparation of

### HIGH GRADE ANIMAL FERTILIZERS

Brands specially suited for **Potatoes, Tobacco, Corn, Beans, Orchards, Grapes, Vegetables, Greenhouse Crops, Grass Lands, Lawns**, etc., are being manufactured at our Toronto factory. There is no doubt as to their superiority over mixtures of purely chemical compositions. Professors Harcourt, Blair, Cumming and Gamble highly commend them in their opinions expressed in our booklet. Samples of the raw materials may be seen on the FARMING SPECIAL now being run by the Ontario Government. (We will supply you with these raw materials if you prefer to do your own mixing—the economy is doubtful, however.) **We pay freight on all orders of 200 lbs. or more, in the Provinces of Ontario and Quebec—all other quotations f.o.b. factory.** Payments in the fall. Don't be satisfied with any brand your dealer happens to handle—demand Davies', and if he isn't "up-to-date in the Fertilizer line," order direct from us. It will cost you no more. Don't waste your money paying 10% duty on imported brands—we give you that in extra plant food. Increase your yields, profits and happiness for years to come by writing us for our assistance.

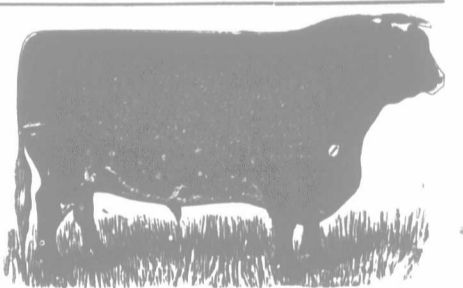
The **WM. DAVIES COMPANY, Ltd.**, 521 Front St. East, Toronto, Canada  
ESTABLISHED 1854

### ARTHUR J. HOWDEN & CO.

ARE OFFERING  
**15 High-class Scotch Shorthorn Heifers**

At moderate prices, including Cruickshank Nonpareils, Cruickshank Villages, Mary Emmas, Cruickshank Duchess of Glosters, Bridesmaids, Bruce Fames, Kinellars, Claretts, Crimson Flowers, and other equally desirable Scotch families, together with a number of the grand old milking Atha tribe, which have also been famous in the showing.

Arthur J. Howden & Co., Columbus, Ont.



### Shorthorn Bulls and Clydesdale Mares

If you are in the market for a young bull, write us for particulars, or, better still, come and see them. We have 13 young bulls, from 8 to 14 months old, of good breeding and quality. We also have four imported Clydesdale mares, safe in foal.

### W. G. PETTIT & SONS, Freeman, Ontario

Bell 'phone. Burlington Jct. Sta., G. T. R., 1/2 mile from farm

THIS IS A GOOD TIME, AND I HAVE A GOOD PLACE, TO GET A HIGH-CLASS **SCOTCH SHORTHORN BULL CALF** by my great Whitehall Sultan sire, or a young cow in calf to him, to start a herd that will be gilt-edged. **SHROPSHIRE RAMS AND EWES**, too, at low prices. **CHILDREN'S PONIES**. A **CLYDESDALE FILLY**, such as I can send you, is one of the best things any man can buy. Just write me and say as nearly as possible what you want, and I will surprise you with prices on goods that are genuine. **ROBERT MILLER, STOUFFVILLE ONTARIO**

**Shorthorns and Clydesdales**—We are offering 10 choice young bulls, serviceable age, or exchange. In Clydes our present offering are two stallions rising 3 and 4 years old; big quality horses, from imported sires and dams; also cows and heifers, mares and fillies. Write us, or come and see them. **A. R. & T. W. DOUGLAS Strathroy Ont.** Farm one mile north of town.

**Scotch Shorthorn Females for Sale**—I am offering at very reasonable prices, females from one year to five years of age. The youngsters are by my grand old stock bull, **Scotch Hero (imp.) = 35042 = (9085)**, and the older ones have calves at foot by him, or are well gone in calf to him. Their breeding is unexcelled, and there are show animals amongst them. **A. EDWARD MEYER Box 378 GUELPH ONT.**

**Pleasant Valley Farms Shorthorns**—For Sale: Scottish Signet, best son of imp. Old Lancaster, and several good young bulls of the best Scotch breeding, at prices to suit everyone. Write us for exactly what you want, or visit us. Farm 11 miles east of Guelph, C. P. R. **Geo. Amos & Sons, Moffat, Ont.**

**SALEM SHORTHORNS**—Headed by (Imp.) Gainford Marquis, undetested junior champion, his honors at Toronto 1910. Have on hand two yearlings and a number of bulls under a year of age, at reasonable prices. **J. A. WATT, Salem, Ont. Elora Sta, G. T. R. and C. P. R.**



GOSSIP.

Hastings Bros., of Crosshill, Ont., breeders of Hampshire hogs, in renewing advertisement to this paper, write: Considering the scarcity of feed, our sales have been remarkable, thanks to "The Farmer's Advocate" for its due share. We have sent hogs to British Columbia, Prince Edward Island, Alberta, Saskatchewan, and different parts of Ontario. In fact, we have recorded and sold more Hampshire hogs than all other Canadian breeders combined. For the truthfulness of this statement, would refer to E. C. Stone, Secretary, Peoria, Ill. We have recently added to our herd, Hillwood Duke, bred by J. A. Edwards, of Platte City, Mo., at a long price. This is a perfectly-belted hog, with grand conformation, and since seeing his offspring, we feel that we have made a good investment. The Hampshire hogs, as the recent sales show throughout the United States, are fast coming to the front, auction sales of an average of \$60 and over being frequent. We have to offer at present boars soon ready for service, sows weighing 100 lbs. and over, and younger things.

GREENGROVE SHORTHORNS.

Despite the shortage of feed, the Greengrove herd of high-class Scotch Shorthorns, the property of Geo. D. Fletcher, of Binkham, Ont., was found in right nice condition on the occasion of a visit by a representative of "The Farmer's Advocate" a few days ago. There is no better Shorthorn judge, feeder and fitter in the country than Mr. Fletcher. He believes in keeping his cattle in the best possible condition, and he carries out that theory in practice. His herd is one of the best, founded on high-class animals of the most popular breeding, and no herd has had better sires at its head, including the three-times Toronto first-prize winner, Spicy Robin, a Marr Roan Lady, who had for grandsires the famous bulls, Imp. Royal Sailor and Barniption Hero. Following him was the great sire, Imp. Joy of Morning, a Cruickshank Jealousy-bred son of the famous H. & A. S. champion, Pride of Morning. Following him was the Cruickshank Butterfly bull, Imp. Benachie, a son of Scottish Farmer, a half-brother to the famous 1,500-guinea Linksfield champion of 1907, dam Beatrice 22nd, a granddaughter of the renowned Star of Morning, and the dam of Bandmaster, winner of first prize at the Royal in a class of thirty, and sold for 600 guineas. Following him again, and now at the head of the herd, is the Bruce Mayflower bull, Imp. Royal Bruce, a son of the Wimple-bred bull, Winning Hope, dam Sunshine, by the Cruickshank Lovely bull, Sittyton Yet, a half-brother to the great William of Orange, granddam by the Lady Anne-bred bull, Statesman, a son of the great Socrates. Royal Bruce is a bull of high-class type and character, and a proven sire of worth. Mr. Fletcher is particularly strong in heifers, show material being in abundant evidence. It is very seldom indeed that so choice a lot are seen in one herd, a striking testimony of the right royal breeding and breeding qualities of the matrons of the herd. Two of the extra nice heifers, a yearling and a two-year-old, are by Joy of Morning and Benachie, and their dam is a richly-bred Missie, by Village Champion. Another cracker is a white ten-months-old daughter of Benachie, and out of Imp. Deeside Roan Lady. Imp. Lucretia, a Cruickshank Jealousy, has a grand yearling daughter by Benachie. Other right good ones are daughters of Imp. Benachie and Imp. Joy of Morning, and on their dam's side, Orange Blossoms, Clementinas, Languishes, Mysies, etc. In bulls, for sale, Mr. Fletcher is offering Imp. Spectator, a red, eight years old, sired by the Jenny Lind bull, Scottish Leader, dam Laura Hay, by the Missie bull, My Choice, a son of William of Orange, granddam Lady Laura 9th, by Mark Twain. Spectator was never more useful in his life than now, and is for sale at a price that will soon make him change hands. Another choice bull for sale is a red yearling, sired by Imp. Benachie, and out of a Mysie-bred daughter of Spicy Robin. This is a right nice young bull, low, thick, even and mellow. Write Mr. Fletcher to Binkham P. O. His station is Hillsburg, C. P. R., a few miles from Fergus.

# Let me Tell You, Face to Face



"Here is my question:—A \$100 roof gives a \$500 building several years of service. A \$125 Pedlar roof gives the same building 100 years of service, because it is a 100-year roof. Is the extra \$25 wisely spent?"

**"I Have Learned How to Make You a Roof That Will Last One Hundred Years."**

"I have been a good-roof missionary all my life. I invented Oshawa Metal Shingle for lightning protection. I made improvements in it and got my design perfect after 50 years. My roof was rain, wind, snow, ice, fire, lightning and sun proof. I still needed one thing—the longest lasting metal—non-rusting. At one step, when I found this metal, I achieved a roof to last you a whole century."

**"There is No Building Made Right, if the Roof Is Not Perfect."**

"Guard a building on top, and you guard the whole building. The weather beats fiercest on top. I tell you, no building ever made is better than its roof. I want to see you build a good roof. Skimp the walls, if you skimp anything. See your roof is right. Your good roof gives three-fold building service."

"Why, in 50 years, a little thousand-dollar barn protects \$75,000 worth of hard-harvested product. A poor roof can easily rot, and waste and lose for you twenty times its cost—twenty times the cost of a Pedlar Oshawa Shingle roof. With most roofs lightning may burn all—with my roof you can defy lightning to try its worst on your barn."

**"I Make a Roof that Answers Every Roof Demand You Can Think Of."**

"My roof has 'give' in it. It can expand in the sun. It can shrink in winter cold. It does this without drawing the nails that hold it. It is ice proof. Frozen snow cannot gouge it open. It is clean. Dirt cannot rest on it. Roof water gathered from it is pure. My roof covers its nails. They cannot loosen or rust. My roof is not too heavy or too light—it is ventilated."

"As a result, wind or storms cannot lift it bodily, like a shingle roof. It is spark proof and fire proof. It is lightning proof. It still protects a building if the frame sags. A man can lay it without special tools. He can only lay it right, the right way. Every protection, besides the protection against rust, comes with my roof. You lay my roof on ordinary framing

**"Why Do You Get Such a Good Roof from Me ALONE?"**

"You can't get a roof deal like mine anywhere else in the world. This is because other metal shingles haven't my design or metal. Other metal shingles haven't my years of pioneer knowledge to back them. They haven't my ground-floor patents—my skill—my earnest and hard work of years on the one prob-

lem—a perfect metal roof. I, only, can make you a roof with the right metal in it to back the wear, because my shingle metal is the only one that make the deal honestly possible."

**"Can You Lay It, and Lay It Right? Yes!"**

"You, a tinsmith, anybody, can lay my roof— whoever can handle a hammer. I spent years in making my Shingle so it couldn't be laid wrong. There isn't an exposed nail, after you are done. The roof is ventilated so it is almost cyclone proof. My roof is earthquake proof, if your building under it is. It is settlement proof, sun proof—lodged ice cannot open it."

"Yes, sir, you can lay an entire Pedlar roof yourself in my Oshawa Shingle, while you are patching a few shingles on a leaky cedar roof. When you figure its service, the price of my roofing is ridiculously small. My price is very fair. Your bill for my roof is kept down, because folk all over the world are also buying. Big output means big quality at little price."

**"Every Roof Owner Should Have the Help in My Big Roof Book FREE."**

"My roof book, 'Roofing Right,' ought to be in your hand this very minute. I will be glad to send you a free copy. The book shows roofs, of course. It shows good buildings under them. You can get a score of hints for barn design, planning and arrangement, even if you don't buy my shingle."

"But the main point about my book is that it tells you all you want to know about Oshawa Shingles. I would like you to know its goodness. I am proud of the perfection, excellent quality, fine service, easy laying, beauty and adaptability of my clean Oshawa Shingle. It is a bigger thing than it looks to give any man weather, fire, lightning, and time-resisting protection rolled into one article. My 'Roofing Right' Book tells you all about a roof that 'Makes good' for 100 years."

**"Send Me a Post-Card To-day."**

"Get my 'Roofing Right' Book to-day. A post-card will bring you the whole story of my perfected Oshawa Shingle. Ask one of my branches near you. Or write me direct. Remember you better any building three-fold if you put the best roof you can get on it. People on the other side of the earth know this. You write me. *G. H. Pedlar*"

## The PEDLAR PEOPLE Limited, of Oshawa

- |                                  |                            |   |                              |                                |     |
|----------------------------------|----------------------------|---|------------------------------|--------------------------------|-----|
| MONTREAL<br>321-3 Craig St. W.   | HALIFAX<br>16 Prince St.   | ST. JOHN, N. B.<br>42-46 Prince William St. | LONDON<br>86 King St.        | QUEBEC<br>127 Rue du Pont      | 323 |
| TORONTO<br>111-113 Bay St.       | CHATHAM<br>200 King St. W. | EDMONTON<br>563 Third St. W.                | VICTORIA<br>434 Kingston St. | VANCOUVER<br>108 Alexander St. |     |
| PORT ARTHUR<br>45 Cumberland St. | OTTAWA<br>423 Sussex St.   | REGINA                                      | WINNIPEG<br>76 Lombard St.   | CALGARY<br>1112 First St. W.   |     |

### WHEN WRITING ASK FOR PEDLARIZATION BOOK NO. 150

## 10 SHORTHORN BULLS 10

If you are looking for a young bull to head a purebred herd, or one to cross on grade cows to raise first-class steers, I have them to suit all customers at very reasonable prices. They are reds and roans, and one extra good white show calf; ages from 9 to 14 months, nearly all sired by imported bulls and from the best Scotch families of cows. Will be pleased to furnish breeding and prices.

Claremont Sta., C.P.R., 3 miles. JOHN MILLER, Brougham P.O., Ont.  
Pickering Sta., G.T.R., 7 miles.

### SHORTHORNS

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application.  
H. CARGILL & SON, Proprietors, Cargill, Ont., Bruce Co.  
JOHN CLANCY, Manager



### Scotch Shorthorns

FOR SALE—One of our imported herd bulls and eight heavy-boned, deep-bodied, low-down bull calves, 12 to 16 months old. Also twenty-five heifers and young cows bred to imported bulls.  
Farm 1/4 mile from Burlington Int. Station. MITCHELL BROS., Burlington, Ont.

### Shorthorns, Berkshires, Cotswolds

Nine bulls from 9 to 14 months, cows, heifers and heifer calves; over 30 head on hand. No Berkshires to offer at present. A few shearing ewes for sale.

Chas. E. Bonnycastle, P. O. AND STA., CAMPBELLFORD, ONT.

**GEDARDALE SHORTHORNS**—Shorthorns of all ages, pure Scotch and Scotch topped, imp. and Canadian-bred, choice heifer, choice young bulls, also the stock bull Lord Fyvie (Imp.); anything for sale.

**Dr. T. S. Sprout, M. P. Markdale, Ontario**  
Shorthorns and Oxford Down Sheep  
Trout Creek Wonder at head of herd. Young bulls and heifers of richest Scotch breeding. Phone connection.

**Duncan Brown & Sons, Iona, Ontario.**

**Shorthorns**—Nine bulls and a number of heifers for sale at very reasonable prices.

**Robert Nichol & Sons, Hagersville, Ont.**







**Welcome Stock Farm Holsteins**

Out of "Netherlands Pride" (gave 55 lbs. milk as a three-year-old), by "Winnies Count Pasma," a nice straight, well grown, bull calf, quality all over, considerably more white than black, and nicely marked. Should be ready for light service soon. First check of \$45 takes him.

C. BOLLERT, J. LEUSZLER,  
R.R. No. 6, R.R. No. 1,  
Tavistock, Ont. Cassel, Ont.

**Holsteins of Quality**

Write us to-day for our proposition, telling you how any good dairyman may own a registered Holstein bull from a Record-of-Performance cow without investing a cent for him. **Monro & Lawless, "Elmdale Farm," Thorold Ont.**

**MAPLE SOIL STOCK FARM**

I have at present some young cows from three to five years old got by Sir Hegeveld John De Kol and bred to Idalin's Paul Veeman; also a few heifers and young bulls from eight to ten months old, sired by Idalin's Paul Veeman; also booking orders for spring stock. Belmont Stn., C.P.R.

H. C. Holtby, Belmont, P.O., Ont.

Purebred Registered  
**Holstein Cattle**  
The most profitable dairy breed, greatest in size, milk, butter-fat and in vitality. Send for FREE illustrated descriptive booklets.  
HOLSTEIN-FRIESIAN ASSO.  
F. L. Houghton, Sec'y, Box 127, Brattleboro, Vt.

**The Maples Record of Merit Holstein Herd**

A few choice bulls ready for service, sired by King Posch De Kol; also a few young bull calves, sired by Prince Aggie Meschilde, whose dam won first at Toronto, 1911, and sire's dam first in dairy test at Guelph, 1908 and 1909; his three nearest dams average over 25 lbs. butter in 7 days.

WALBURN RIVERS, FOLDEN'S, ONTARIO

**HOMESTEAD HOLSTEINS**

Headed by Canary Rachel Clothilde, whose dam, sire's dam and two grand-dams average over 27 lbs. butter in 7 days. Yearling bulls and bull calves, also one bull rising two for sale.

G. & F. GRIFFIN, Box, 43, Burgessville, Ont.

**Evergreen Stock Farm**

offers a choice lot of bulls ready for service, from high-testing, de-milking Record of Merit ancestors. Also a few females for sale. Herd headed by Francy Sir Admiral; dam's record 26.71, sire Sir Admiral Ormsby. Write for prices.

F. E. PETTIT, Burgessville, Ont.

Elmwood Holsteins. Choice bred, registered Cows, Heifers, Calves, Spring, Crop 1912. March, April and May delivery; Sired by Imported Y Rema Sir Posch and Elmwood Sarcastic, Grandson of Sarcastic Lad. Best breeding, right prices. Express pre-paid. Safe delivery guaranteed.

E. D. GEORGE & SONS, Putman, Ont.

**HOLSTEIN BULL**

If you want one of the richest herd bulls, and a grand individual, to head your herd with, write me. Will exchange for young females.

H. BOLLERT, Tavistock, R.R. No. 5, Ont.

**For Sale—Holsteins and Yorkshires.**

Six choice grade Holstein heifers, 2 years old, due to calve in March; choice bull calves from tested dams, \$25 each. Reg. Yorkshire pigs, \$11 a pair.

W. A. BRYANT, Cairnform, Ont.

**Glenwood Stock Farm 5 BULL CALVES**

fit for service, out of big milking strains, at low figure for quick sale. THOS. B. CARLAW & SON, WARKWORTH, ONT., Campbellford Sta.

**Ridgedale Farm Holsteins**

We have four bull calves left for sale, from high-testing dams; sired by Imperial Pauline De Kol, whose 15 nearest dams average 26.20 lbs. butter in 7 days. Shipping stations: Port Perry, G. T. R., and Myrtle, C. P. R., Ontario County.

R. W. WALKER, Utica, Ont.

Having need of some small change, the mistress of the house stepped to the top of the back stairs, Punch says, "Bessie," she called to the maid below, "have you any coppers down there?" "Yes'm—two," faltered Bessie, "but they're both my cousins, please, m'm."

**Your wife certainly will appreciate it when you bring home a can of SNAP**

Soap won't clean her hands, after filling the lamps, milking the cows, peeling potatoes and onions. SNAP banishes dirt and every odor without hard rubbing.

SNAP is soothing and healing—keeps the skin smooth and free of "chaps". Bring home a can—15c.



**QUESTIONS AND ANSWERS. Miscellaneous.**

**MAPLE-SYRUP MAKING.**

1. What is the nature and composition of what is called "sugar sand," found in boiling maple syrup? Is it not more plentiful as the season advances, and if so, why?

2. It is said by some of my neighbors that in finishing maple syrup, as the season advances, more boiling is required to reach the standard density as indicated by the saccharometer or thermometer, than with the early runs of sap; and also that the later syrup is more apt to crystallize?

3. Do you not think that this proposed new standard of the Inland Revenue Department for syrup and sugar is needlessly high? ONTARIO.

Ans.—1. Boiling, of course, drives off water from the sap. When the syrup becomes sufficiently concentrated, those constituents of the sap which require most water to hold them in solution separate out as a precipitate. The main constituent of this precipitate is calcium malate (malate of lime). This constitutes about 70 per cent. of the washed and dried sugar sand, which also contains about 12 per cent. of silica. It is the general experience that the sugar sand gives more trouble towards the end of the season.

2. The amount of boiling required to make syrup of standard density depends on the concentration of the sugar in the sap—in other words, on the sweetness of the sap. The sweeter the sap, the less boiling will be required. In some observations made by the New Hampshire Experiment Station in 1892-4, it was found that the sap towards the close of the season contained neither as much sugar nor as much solids as at the beginning of the season. The quantities did not, however, decrease continually, but fluctuated up and down. On the other hand, the richest sap on record (10 per cent. sugar) was obtained by Wiley, late in the season, from a tree which showed an unusually high average (5 per cent.) for the season. Syrup of standard density will not crystallize. It is possible that your neighbors overboil their late-run syrup.

3. No. Syrup below the standard in density is apt to ferment, and no cake sugar is in danger of exceeding the 10 per cent. limit in moisture. I am not sure about tub sugar, but this, as a rule, an inferior product, and its making ought not to be encouraged. As to the other points of the standard, none of them are, in my opinion, too high. The total ash might safely have been placed at 0.65 per cent. of the total solids, instead of 0.60. The requirements for lead precipitate and malic acid value are distinctly lower than those upon which the Inland Revenue Department has been basing its decisions for some years past. These older standards were found to be too high for the best quality of modern genuine maple syrups.

J. F. SNELL, Macdonald College.

On the subjects of the new standards adopted, W. J. Gerald, Deputy Minister of Inland Revenue, Ottawa, furnishes us the following statement from Dr. A. McGill, the Chief Analyst: "A 65-per-cent. solution of cane sugar has a specific gravity of 1.3575. We have fixed (Bulletin 228, p. 7) 1.320 as a specific gravity for standard maple syrup which contains 35 per cent. of water, the balance being essentially cane sugar, but containing small percentages of somewhat variable matters (calcium, malate, ethers, mineral salts, etc.). This specific gravity corresponds to 13.2 lbs., which closely approximates to 13 lbs. 3 ounces per imperial gallon. A difference of one ounce means a variability of less than half of one per cent., and is a negligible quantity."

**TRADE TOPIC.**

The attention of readers interested in telephone instalment is directed to the advertisement on another page of this issue, of the Kellogg Switchboard and Supply Co., Chicago, whose booklets, written by practical telephone men, tell how to build and operate rural companies, and are mailed free to applicants.

Belleville District  
**Holstein Breeders'**  
Second Annual Sale  
**April 3rd and 4th, 1912**

The greatest ever held in Canada, both in quality and members of high-class officially-tested cows and their progeny.

**175 Head Mostly Females**

Bulls, cows and heifers sired by the greatest bulls of the breed. Cows and heifers bred to and in calf to such bulls as Plus Berk, Inka Sylvia Beets Posch, Francy 3rd's Admiral Ormsby, Count Gerben, Pontiac Hermes, Count Segis Walker Pietertje and other high-class bulls.

Mature females with records up to 25 pounds of butter in 7 days. Numbers of them giving close to 90 pounds of milk per day. Two-year-old heifers with extra good records, up to 19,000 pounds of milk in official R. O. P. test.

For one, or for a carload, attend this great sale.  
For a catalogue, address:

**F. R. MALLORY, Frankford, Ont.**

**IN J. A. CASKEY'S CONSIGNMENT**

To B. D. H. B. Second Annual Consignment Sale, April 3rd and 4th, 1912, will be Clintonia Hartog De Kol 3rd, whose dam has an A. R. O. record of 32 lbs. of butter in 7 days, and 130 lbs. in 30 days. She herself has a 2-year-old record of over 17 lbs. of butter. Due to freshness after sale. Dolly Inka 1st De Kol, butter, R. O. M. 7 days, 23.5; 30 days, 93.5. Dam of Dolly Echo De Kol, butter, 25.77. Sister of Duchess Echo 1st De Kol, butter, 24.77. Six grand-daughters of Lord Netherland De Kol (104 A R. O. daughters. Thirteen other grand, good ones. All of the above bred to Francy 3rd's Admiral Ormsby, whose dam has a 7-day R. O. M. test of 29.16 lbs. of butter.

J. A. CASKEY, Madoc, Ontario.

**Fairview Farms Herd**

Is where you can see a son of Pontiac Korn-dyke, admitted by all breeders to be the greatest Holstein sire that ever lived. Look what his daughters are doing. Two of them with records over 7 lbs. each. Then, look at the work his sons are doing. HE IS THE GREATEST PRODUCING SIRE OF THE BREED, THROUGH HIS SONS. Every son of Pontiac Korn-dyke that has daughters old enough to milk is a sire of good ones. We can offer you several young ones that will give you great daughters.

**E. H. DOLLAR, HUEVELTON, N. Y.**

**SUMMER HILL HOLSTEIN CATTLE and YORKSHIRE HOGS**

Our senior herd bull, Sir Admiral Ormsby, is the sire of the world's record 2-year-old for yearly butter production. Also sire of the three highest record four-year-olds in Canada. The dam of our junior herd bull made 34 5/8 lbs. butter in 7 days, and gave 111 lbs. milk per day. Come and make your selections from over 70 head.

In Improved English Yorkshires we have won 95 per cent. of all first prizes at Toronto Exhibition for ten years. We are still breeding them bigger and better than ever.

Buy Summer Hill Yorkshires, the big, quick-maturing kind, and double your profits.

**D. C. FLATT & SON, R. F. D. No 2, Hamilton, Ontario, Bell phone: 2471, Hamilton.**

**Centre and Hillview Holsteins**—We are offering young bulls from Sir Ladic Cornucopia Clothilde, the average of his dam sire and grand dams is 662 8 lbs. milk and 30.58 butter, 7 days, and 2,750.80 milk and 114.5 butter in 30 days; also Brookbank Butter Baron, who is a proven sire. He is sire of champion 3-year-old 30-day, 2-year-old 7-day and 2-year-old 30-day. Long-distance phone. **P. D. EDE Oxford Centre P.O. Woodstock Sta.**

**Maple Hill Holstein-Friesians**—Special offering: Bulls from one to fifteen months old. The growthy kind that will give good service. One from a son of Evergreen March, and all from Record of Merit dams. Write for particulars.

**G. W. CLEMONS, St. George, Ont. Bell Telephone.**

**IMPERIAL HOLSTEINS** I can supply bulls ready for service and younger ones, also heifers out of R. O. M. cows, female relatives have records averaging 27.19 pounds. **W. H. SIMMONS, New Durham P.O., Oxford Co.**

**Woodbine Holsteins**—Herd headed by King Segis Pontiac Lad, whose sire's dam is the champion cow of the world. Sire's sire is the only bull that has sired five four-year-olds that average 30 lbs. each. Dam's sire is the bull that has sired two 30-lb. three-year-olds. His two great grand sires are the only bulls in the world that have sired two 37-lb. cows. Bulls and bull calves for sale. **A. KENNEDY, Ayr, Ontario.**

**Evergreen Stock Farm** High-class Registered Holsteins for Sale. A splendid lot of heifers rising one year old, and heifer calves, good enough for foundation stock. Come and see them, or write for what you want. Satisfaction guaranteed.

**A. E. HULET, Norwich, Ontario**

MENTION THE FARMER'S ADVOCATE WHEN WRITING ADVERTISERS.



## THE POOR DYSPEPTIC Suffers Untold Agony After Every Meal.

Nearly everything that enters a weak, dyspeptic stomach acts as an irritant; hence the difficulty of effecting a cure.

Burdock Blood Bitters will relieve all the distressing symptoms of dyspepsia and in a short time effect a cure.

Mrs. F. C. Cross, Berlin, Ont., writes:—"I have been troubled with my stomach for the last seven years and tried all kinds of medicine for it, but none of them ever cured me, for as soon as I would quit using any of them, the same old trouble would come back. Last fall I was advised to try Burdock Blood Bitters, which I did, and used four bottles, and now feel so strong I can do all my house work nicely and can eat almost anything without it affecting me in any way."

"Our boy is also using it; he always complained of pain in his stomach and all over, like rheumatism, and at the age of ten had to stay home from school. He hasn't quite used two bottles yet and is feeling good, can attend school regularly and eats heartily."

B.B.B. is manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

**AGENTS NEW HAND MACHINE**  
MAKES ROPE OF BINDER TWINE  
Any length or thickness. Twice as strong as factory rope. Makes \$4.30 worth of rope for 40c. Anyone can do it. Light to carry. Easy to demonstrate. Demand enormous. Low retail price. Quick sales. Big profits. Agents wanted in every county. Write for free sample to workers.  
**THOMAS MANUFACTURING CO.**  
4344 Barry St., DAYTON, OHIO

### Cattle and Sheep Labels

Size	Price	50 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 neighbors to order with you and get better rate. Circular and sample mailed free.  
**F. G. JAMES, Bowmanville, Ont.**

**Southdown Ewes** A few good shearlings, and two-shear ewes in lamb to my Toronto champion ram.

**Angus Cattle** Buy an Angus bull to produce steers that feed easily and top the market. **Robt. McEwen, BYRON, Ont.**

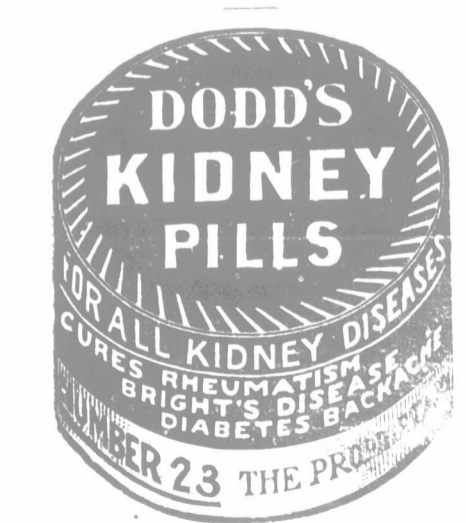
**Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs**—Present offering: Lambs of either sex. For prices, etc., write to **John Cousins & Sons, Harrisburg, Ont.**

**Chester White Pigs**  
O. I. C.  
Thoroughbred stock for sale. Apply to:

**GLEN ATHOL FRUIT RANCH**  
DAVID SMITH, Mgr. St. Catharines, Ont.

**Hampshire Hogs**—We have the greatest prize-winning herd of Hampshire Swine in Canada, bred from the best strains of the breed; stock of both sexes not related. **Hastings Bros., Cross St. P.O., Ont., Linwood Sta., C.P.R., Newton Sta., G.T.R.** Telephone in residence.

"Your honor," said the arrested chauffeur, "I tried to warn the man, but the horn would not work." "Then why did you not slacken speed rather than run him down?" A light seemed to dawn on the prisoner. "That's one on me, I never thought of that."



### QUESTIONS AND ANSWERS. Miscellaneous.

#### GATE PATENT.

As I have a new kind of a farm-gate, not in material, but in workmanship, how could I find out if any such gate has been patented or used? If I would send a sketch to an attorney he might do me out of it.  
B. W. J.

Ans.—Employ a solicitor of patents. There are several law firms in Ontario who make a specialty of such applications, and of patent laws. Preferably, one of these should be retained in the matter. If you write to Hon. Martin Burrell, Minister of Agriculture, Ottawa, who is at the head of the Patent Department, mentioning "The Farmer's Advocate," you can obtain a copy of the Patent Act of Canada, which will give full directions.

#### CEMENT FOR WALLS AND FLOOR—SIZE OF SILO.

I am intending to put a basement under my barn, and would be pleased to get some information.

1. How many barrels of Portland cement, and how many cords of gravel and of stone would it take for walls, barn 36 x 56 feet, wall 9 1/2 feet high, 12 inches thick, approach 16 x 16 feet, back wall 18 inches thick, side walls 10 inches and cover, about 8 doors and 15 windows out?

2. How much stone can be used instead of gravel, as I have a lot on hand?

3. How much reinforcing steel, and what kind would be needed for walls? Would not five railroad rails be sufficient for approach cover?

4. How many barrels of cement, and how many cords of gravel would be needed for first-class floor for all?

5. What is the best way to securely anchor barn to wall?

6. How is the best way to properly ventilate basement?

7. What size and shape windows are best, double sash hinged in center, or one piece?

8. What is the best size of silo to build to feed 15 to 20 head of cattle average feeding, and have some left for summer feeding? Is a 14-ft. silo better than a 12-ft. in many ways? **INQUIRER.**

Ans.—1. Mixing the cement 1 to 8 of gravel, it would require about 22 cords of gravel and stone, and about 85 barrels of cement for the entire wall and approach cover.

2. Stones can be used in any quantity in the wall, provided they do not come closer than two inches to the outside or inside, and are well surrounded by cement.

3. A little steel might be used to good advantage. Very little would be required in a wall built well. Five railroad rails should make a good support for the approach cover.

4. About 30 barrels of cement, and between eight and nine cords of gravel.

5. Few barns are anchored to the wall. Long bolts through the sills and into the cement would be a good idea.

6. The Rutherford or King system, or a combination of the two, is good. Fresh air can be taken in through the wall near the floor, and carried out through ventilators in the roof. The outlets are usually situated near the center of the building and should be built of boards doubled and matched.

7. The size must be determined by the number put in. Be sure and have enough to insure plenty of light. The hinged sash is handy, and makes a good window. The other style of window gives good results under certain conditions.

8. For twenty head of cattle, allowing 40 lbs. per day for five months, and 20 lbs. per day for 2 1/2 months summer feeding, would require a silo 12 feet in diameter and from 30 to 33 feet in height. If silo is built 14 feet in diameter, it would only need to be 25 feet high, and if built 16 feet in diameter it would need to be 18 feet in height. Twelve feet seems to be a good size for this number of cattle, to avoid too much loss from spoiling, it is necessary that a certain depth of silage be removed daily, and that your number of cattle, 12 feet in diameter, because it gives better results. If you can substitute keeping a few cattle, build a 14 feet wide, and the silo will be light and the feed will be better.

# Ruptured People— Try this for Relief and Cure

**No Loss of Time from Work—You Keep on Earning Money—No Belt, Elastic, Springs, or Leg-Straps to Wear—Sent on 60 Days Trial to Prove It**

#### Curing Begins At Once

This massage is so beneficial—so curative—that 199 people out of every 200 begin to get better and stronger almost the minute a Cluthe Truss is put on—so beneficial that among the thousands of people completely cured by this truss are some of the worst cases of rupture on record.

#### Free Book Tells All About It

So that you can judge for yourself, we want to send you—free—our cloth-bound book of advice—it is full of facts for the ruptured never before put in print—facts we have learned during forty years of day-after-day experience.

It explains the dangers of operation. Explains why wearing ordinary trusses is simply slow suicide. Tells why drug-stores should no more be allowed to sell trusses than a schoolboy would be allowed to perform an operation.—Also exposes the fake "methods," "appliances," "plaster pads," fake "free cure," etc.

And it tells all about the Cluthe Massaging Truss—how little it costs—how it ends all expense—how it is waterproof and can be worn in the bath—how it has no belt, elastic bands, springs or leg-straps—no "harness" of any kind. And it tells how you can get a Cluthe Truss on 60 days trial without risking a penny.

Book also tells—in their own words—the experiences of many who have tried this truss—gives the names and addresses of over 4,000—probably some of them right in your neighborhood.

Simply say in a letter or postal "Send me the book." Address us giving our box number—

**Box 109, CLUTHE COMPANY**  
125 East 23rd Street, New York City

Don't fail to get this book—the minute it takes to write us may free you from misery and suffering for the rest of your life.

You can try this—the greatest boon to the ruptured world has ever known—without having to risk a single cent of your money. It's a way to get well while working.

If you don't find yourself getting better right from the first, then it won't cost you a penny.

#### Trusses Like These Are a Crime



#### You Don't Risk a Penny

This is far more than a truss—far more than merely a device for holding your rupture in place.

We are so sure it will work wonders for you just as it has for thousands of others that we want to make a Cluthe Truss or Cluthe Automatic Massager especially for your case and send it to you to test—

And won't cost you a cent if it doesn't result in improvement—if it doesn't keep your rupture from coming out—when you are working, exercising, etc., all day long.

Don't judge this by other trusses. This is the only truss guaranteed to hold. And in addition to that the Cluthe Truss provides the only way ever discovered for overcoming the weakness which is the real cause of rupture.

While taking all strain off the rupture, this truss is constantly strengthening the weak ruptured parts—

Does that by automatically massaging them—this soothing, heating massage does for these parts exactly what exercise does for weak arms—soon restores their lost strength—soon makes them so strong that a truss is no longer needed.

## Imported Sheep

I am leaving for England about the middle of April to personally select my sheep. Anyone wanting imported sheep will do well to write me. Will import any breed. On account of my connections in England, I can import cheaper than any other importer. Write me at once for all information.

**C. HODGSON, Box 92, Brantford, Ont.**

### BLAIRGOWRIE STILL TO THE FRONT

Present offering: Shropshire and Cotswold ewes bred to high-class rams; also ewe lambs. In Clydesdales I have choice young mares and filly foals. In Shorthorns are several young bulls of serviceable age. Herd headers of quality.  
Myrtle, C. P. R. Sta. L.-D. Phone. **JOHN MILLER, JR., Ashburn, P.O.**

**Suffolk Down Sheep**—Shearing rams and ewes; also lambs. **James Bowman Elm Park GUELPH, ONTARIO**

**Aberdeen-Angus Cattle**—Extra good young bulls, the best in Canada. **NEWCASTLE TAMWORTHS AND CLYDESDALES**

Present offering: 15 boars, 1 on 2 mos. to 1 year. Sows same age, some bred, others ready to breed. Several yearling sows that have raised one litter each. All by imp. bar, dam by Colwill's Choice, Canada's champion boar, 1901, 2, 3 and 5. Also one or two choice Clydesdale fillies for sale. L.-D. Phone. **A. A. COLWILL, NEWCASTLE, ONTARIO**

When writing please mention The Advocate **Mac Campbell & Sons, Northwood, Ont.**

**Maple Villa Yorkshires and Oxford Downs.** We offer 30 splendid service boars; 50 strictly choice sows, bred and ready to breed; also ewes of quality bred to imp. rams. **J. A. CERSWELL, Bond Head, Ont.**

**The best Tamworths in Canada**—I have a particularly nice lot of young Tamworths just now of both sexes, from youngsters up to breeding age. If you want the best types of the breed, write me. **HERBERT GERMAN, St. George, Ont.** Long-distance phone.

**Woodburn Berkshires**—We are offering for sale 100 head of young Berkshires of both sexes and any sizes required. We can supply pairs or trios not akin; our Berkshires are not d. for strength of bone, length, depth and quality, conforming to bacon type. Saw and breeding stock a specialty. **E. BRIEN & SON, Ridgeway, Ont.**

**For Sale—Ohio Improved Chester Hogs.** Sired by first-prize hog at Toronto and London. Also reg'd Jersey Bulls, from 8 to 10 months, from high-testing stock. Write: **CHAS. E. ROGERS, Ingersoll Ont.**

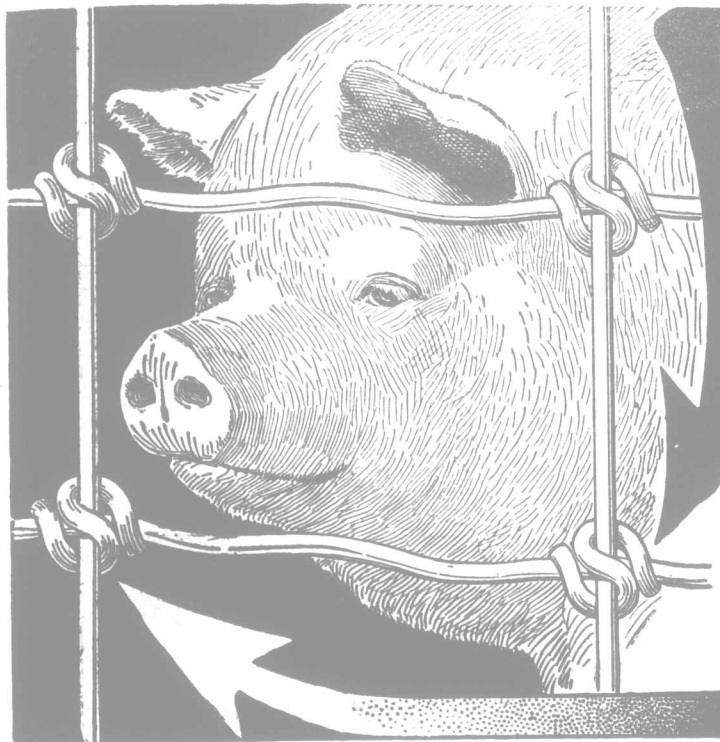
**Pine Grove Yorkshires**—Bred from prizewinning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction. **Joseph Featherston & Son, Streetsville, Ont.**

**Morrison Tamworths**—Bred from the prize-winning herds of England; choice stock for sale; also Shorthorns of the deep milking strain. **CHAS. CURRIE, Morrison, Ontario**

**ELMHURST LARGE ENGLISH BERKSHIRES**—Present offering: Selected sows, bred for spring farrow. Choice boars ready for service also young stock that get in 10 weeks of nursing imp., and out of imported dams. Satisfaction and safe delivery guaranteed. **H. M. VANDERLIP, Breeder and Importer CAINSVILLE P.O., England, Brantford and Hamilton Radial.**

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### You can't argue with Mr. Pig

You know how dead-set a hog always is to get out of the field you put him in. You know how much time and bother it takes to replace broken rails and plug up breaks in the fence after you have turned your hogs into pasture. You know how obstinate swine are—how hard it is to keep them where you want them. But do you know there is a fence made especially to do that very thing?—a fence that settles the argument with Mr. Pig?

### "Ideal" Fence keeps hogs where they are put

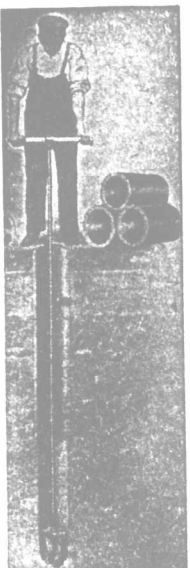
This Heavy, Hog-Proof "Ideal" Woven Wire Fence has all the best of it with the pigs. Each "Ideal" lock grips the upright and cross wires in FIVE DIFFERENT PLACES—grips them so they simply CANNOT SLIP—and thus the hogs cannot move the uprights sideways, nor the cross wires either up or down. The uprights are all of large gauge No. 9 wire—HARD (not soft) wire, heavily galvanized, and all in one piece. The strongest hog cannot make the fence yield. He has got to stay where he is put, when you fence with "Ideal." For it is

### The Strongest, Staunchest Fence Made

"Ideal" Fence is as strong as it looks—no small or soft wires in it; made wholly from HARD STEEL large gauge No. 9 wire, from top to bottom all the same. Drop us a card for neat folder and catalog listing of "Ideal" features and styles for every fence purpose. With it will come a sample "Ideal" lock. Don't buy fence till you see this. Address

THE MCGREGOR BANWELL FENCE COMPANY LIMITED WALKERVILLE ONTARIO CANADA

You can dig 40-foot Wells quickly through any Soil with our Out-fit at \$12.00 delivered



Write us to-day, and learn how you can start a profitable business digging wells for others on an investment of but \$12.00.

Works faster and simpler than any other method.

WRITE TO-DAY

Canadian Logging Tool Co., Ltd. Sault Ste Marie, Ontario.

Are you anxious to save time and money on the work you are doing on your farm at present, and to get larger crops from your farm or orchard? If so, let us send you, FREE OF CHARGE, our pamphlets on the use of

## Stumping Powders

USED FOR

Removing Stumps and Boulders  
Digging Wells and Ditches  
Planting and Cultivating Orchards  
Breaking Hard Pan, Shale or Clay Subsoils  
Etc., etc., etc.

Figure yourself what clearing your farm is costing now, or what you are losing in crops through not clearing. Write us about arranging demonstrations.

CANADIAN EXPLOSIVES, LIMITED  
Montreal, P. Q.

### DO YOU KNOW

THAT WORN-OUT LANDS MAY BE MADE PRODUCTIVE AND PROFITABLE BY THE JUDICIOUS USE OF THE RIGHT KIND OF FERTILIZER?

NOW IF YOU HAVE A PIECE OF LAND THAT WONT GROW ANYTHING BUT WEEDS, TALK WITH US ABOUT IT AND LET US SUGGEST THE RIGHT FERTILIZER

WE FEEL VERY SURE THAT WE CAN SHOW YOU HOW TO USE FERTILIZERS WITHOUT GREAT EXPENSE SO YOUR LAND WILL PAY

CONSULT US FREELY IT IS OUR BUSINESS TO KNOW ENQUIRIES FREELY ANSWERED AGENTS WANTED FOR TERRITORY NOT TAKEN UP BY THE W.A. FREEMAN CO. LIMITED HAMILTON ONTARIO



### SYNOPSIS OF CANADIAN NORTHWEST LAND REGULATIONS.

ANY person who is the sole head of a family, or any male over 18 years old, may homestead a quarter section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-agency for the district. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price, \$3.00 per acre.

Duties.—Must reside upon the homestead or pre-emption six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption may enter for a purchased homestead in certain districts. Price, \$3.00 per acre. Duties.—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

W. W. CORY,

Deputy of the Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.

**CHURCH BELLS**  
CHIMES AND PEALS  
MEMORIAL BELLS A SPECIALTY  
FULLY WARRANTED  
McSHANE BELL FOUNDRY CO.,  
BALTIMORE, Md., U. S. A.  
Established 1864

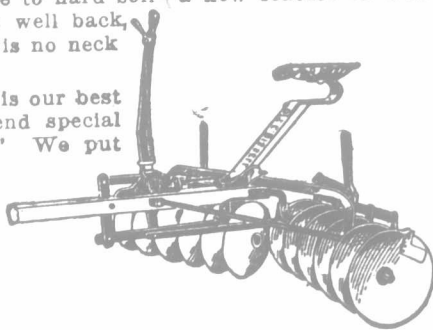


## The "BISSSELL" out-throw DISK HARROW

To settle all doubt about which is the BEST OUT-THROW DISK HARROW, we ask you to test the "Bissell" Out Throw in a field competition with other Out Throw Harrows.

The "Bissell" Out Throw has many features that have made the name "Bissell" famous in connection with Disk Harrows. It has plates of the correct shape. One gang is set slightly ahead of the other. The gangs cannot crowd or bump together and cause the Harrow to rock when you come to hard soil—a new feature in Out Throw Harrows. The hitch is well back, the draught is light and there is no neck weight.

The machine in actual use is our best advertisement. No need to send special travellers to sell the "Bissell" We put our name on every Harrow. If you would like to learn more about Disk Harrows, send to Dept W for free booklet of both out-throw and in-throw styles. 58



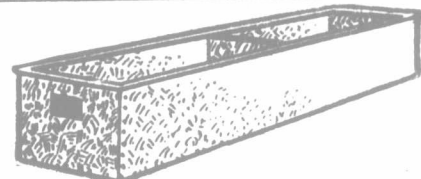
T. E. BISSELL CO., LIMITED, ELORA, ONT.

## EUREKA Harness Oil

KEEPS YOUR HARNESS SOFT AS A GLOVE TOUGH AS A WIRE BLACK AS A COAL

SOLD BY DEALERS EVERYWHERE  
The Queen City Oil Co., Limited.

MENTION THE FARMER'S ADVOCATE WHEN WRITING ADVERTISERS.



## Steel Water Troughs

Made of heavy galvanized steel, our Troughs and Tanks are strong, compact and durable. So successfully have they stood the test during the past five years that we are willing to ship any size you select to your station on the understanding that you can ship them back at our expense if not first-class in every detail. Write for catalogue H. We will build any size or style to order. Ask for quotations. Agents wanted.

STEEL TANK CO., TWEED, ONTARIO

## FARMS FOR SALE

Choice stock, grain and fruit farms for sale. We specialize in high-class properties, and aim at offering good value only. We have a special department devoted to listing and selling Ontario farms. Write for list.

UNION TRUST CO., LTD.

Real-estate Department,  
201 Temple Building, Toronto.

## INVENTIONS

Thoroughly protected in all countries. EGERTON R. CASE, Registered Patent Attorney, DEPT. H, TEMPLE BUILDING, TORONTO. Booklet on Patents and Drawing Sheet on request.



# GET A ROGERS BOOK FREE

**T**HIS big book shows you the best, easiest, cheapest way you can use Portland Cement Concrete to equip your farm with the most modern money-making labor-saving fixtures. Send for it, because it is the first book ever made that shows Canadians fully, simply and clearly, just how to build farm improvements for the Canadian climate. When you get it, you are helped with 170 special pictures to build anything safely and easily in spare time at small cost. You have never had such a helpful book before. To get it, send us \$1.00, and we give you \$1.00 worth of Rogers Portland Cement through our nearest dealer. This makes an article worth \$2.50 to \$7.50, and you have the book free of charge. Send to-day while our offer is open. Send now. We may withdraw it.

You can get Free of Charge  
Rogers Book on Cement { Regular Price \$1.00

## SAVE Cost of Building, Repairs, Fire Loss and Labor. This Book Helps You

Portland Cement Concrete stops the ravages of time, frost and fire on farm buildings and fixtures.

It is always cheapest to use compared with wood, brick or stone.

This Rogers New-Way book (regular price \$1.00 a Copy) tells how. Get it. Learn to use cement right.

Cement is very strong. You can make light or heavy construction with it at small cost.

Everything you make is permanent added value on your farm.

You never have to renew, repair, or replace good concrete work.

The principles are easy to learn. The Rogers Book gives them.

According to the way you handle cement, you use more or less of it and vary the cost. The Rogers New-Way cement book gives lowest costs.

Every structure in cement reduces the fire and lightning danger.

Cement tanks can neither rot nor rust, and make tight water containers above or below ground. By the Rogers New-Way book made about as easy to build as other fixtures.

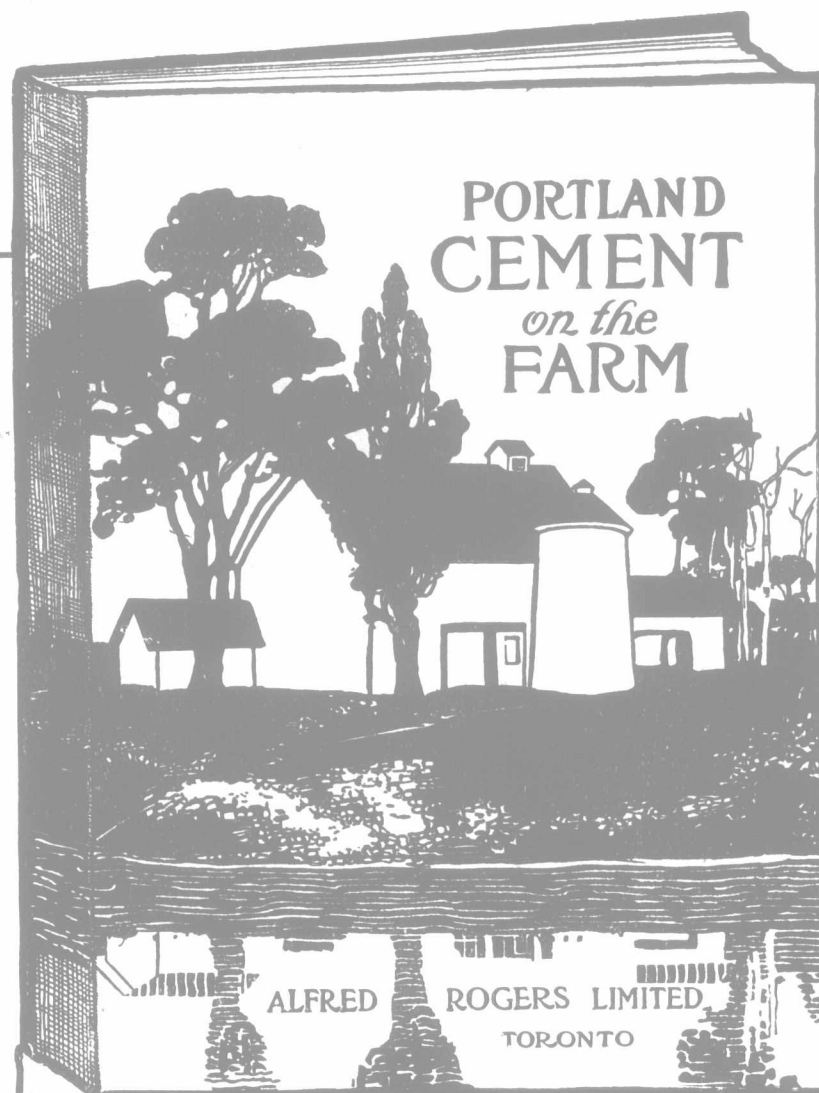
This handiness and adaptability of cement makes it tremendously useful for farm improvements.

Learn from the Rogers New-Way book to use concrete made from Portland cement and free your farm land of field stone, while you are bettering your farm buildings and fixtures for all time.

Less and less time and labor are needed for your farm repairs, as concrete takes the place of wood.

More and more income and bigger crops are produced as your labor is freed to attend to crop production instead of fixing dilapidated wood and repairing rotten fences in degrading weather.

Concrete is the most economical cost means of building on the farm. Remember that.



## Send Now Under this Liberal FREE OFFER

While the Edition Lasts

Rogers book, "Portland Cement on the Farm," is sold for \$1.00, but just now we include an order for \$1.00 worth of Rogers Cement from the nearest Rogers dealer, making Rogers Cement Book free. This is enough cement to make 6 posts for 100 ft. of concrete fence, to repair 3 chimneys, to make a hog trough, to make 2 hitching posts, 1 carriage block, 40 ft. of drain, 1 flight of door steps, 4 door sills, or 40 sq. ft. of cellar floor. These are all worth more than \$1.00 in actual use, and you get the cost of the book back in free cement. The book is worth big money to any farmer. It tells all master architects and builders know about cement for Canadian farm buildings. Send the \$1.00 to-day by express or post office order. Get the book and the order for cement. Both sent promptly. Act quickly because the edition is limited.

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# ALFRED ROGERS, LIMITED

231 WEST KING STREET

TORONTO

## Why

### Should You Get This Book?

Portland Cement Concrete is the one material that will make you more money in modern farming. It prevents loss and waste. It saves repairs and labor. It prevents fire. The Rogers Book makes concrete cost little.

The Rogers Book shows you exactly (and in a simpler way than ever before) how you can build on your farm, for yourself, easily, cheaply and quickly:

Porches	Barn Basement Floors
Verandahs	Barn Floors
Partitions	Barn Bridges
Foundations	Watering Troughs
Ice Boxes	Horse Stalls
Cess Pools	Granaries
Cisterns	Chicken Houses
Fire-places	Hog Pens
Floors	Manure Pits
Stairs	Manure Cisterns
Chimney Caps	Elevated Tanks
Flower Boxes	Feeding Floors
Hotbeds	Rain Leaders
Well Curbs	Concrete Roofs
Milk Coolers	Drains
Walks	Fences
Silos	Gate Posts
Cow Stables	Steps
Mangers	Bridges
Horse Mangers	Summer Kitchens
Root Cellars	Shelter Walls
Hog Troughs	Bins
Hen Nests	Chutes
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Just consider how one or more of these things would help you, if you had them? With this Rogers Book, you can have what you choose at one-fifth the cash cost you would have to pay out for them by any other method. The economy or labor-saving you enjoy afterwards is out of all proportion to the actual small cost and trouble, if improvements are built the way Rogers Book says.

That is why you should get this book, and get it now. You pay out \$1.00 for it, and get an order for free Rogers Portland Cement that will make you, say, a \$5 improvement. For \$1.00 you will have the \$5 improvement, and the book, and the knowledge this book gives you free of all charge. Isn't that an offer worth taking? Send to-day.