

MAY 29, 1919

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

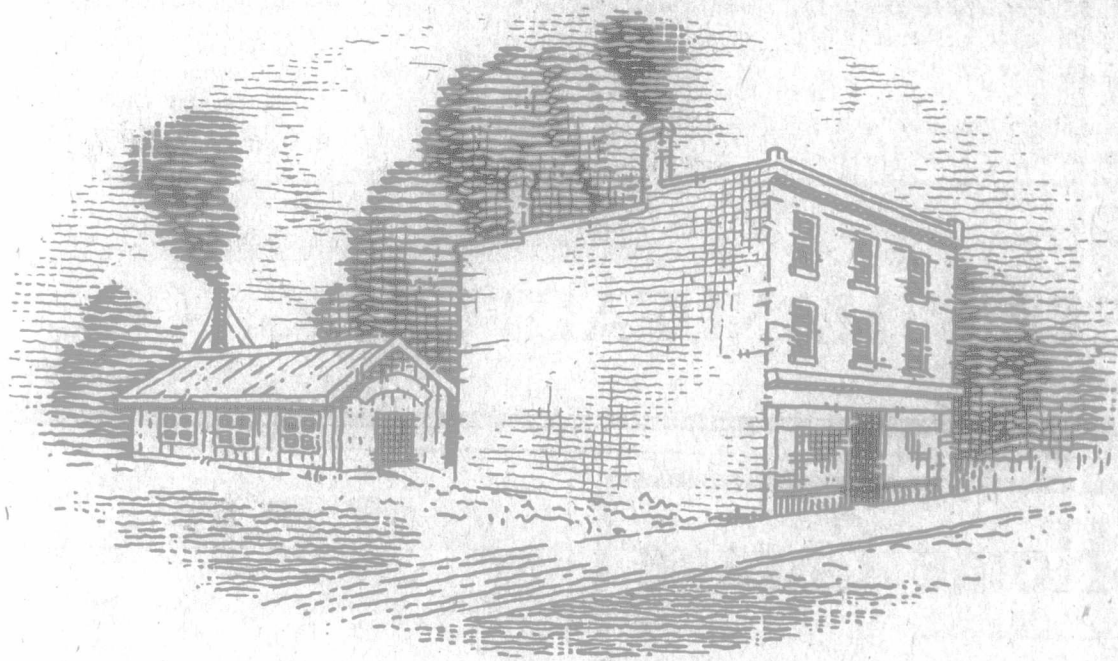
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LIV.

LONDON, ONTARIO, JUNE 5, 1919.

No. 1393



**T**HE business that started so courageously in this humble structure in 1847, to-day dominates the stove and furnace business of the British Empire.

From the small number of quaint wood stoves made in those early days the output has grown steadily until now—it comprises

### Thousands of Furnaces

in many styles and sizes and burning wood, coal or gas.

### Cooking and Kitchen Utensils

in infinite variety and in such vast quantities as would alone constitute a great industry and

### 100,000 Stoves

using every practical form of fuel—electricity, gas, oil, coal and wood.

This success—this healthy growth over such a long period of years—could come only from fair dealing with the people. On any question regarding heating or cooking appliances, what better source of advice could you seek than McClary's?

Any of this list of Booklets on heating or cooking will be sent, if you mention this paper.

"Service from the Kitchen"—About the Kootenay Steel Range.

"Magic of the Pandora"—About the Pandora Cast-Iron Range.

"Comfort in the Home"—On heating with the Sunshine Furnace.

"Satisfaction"—Dealing with McClary's Gas Ranges.

"McClary's Electrical Appliances"—On cooking with electricity describing McClary's.

"Household Helper"—Describing Florence Automatic Oil Cook Stove.

"The Story of a Range"—McClary's Simplex Combination Coal and Gas Range.

# McClary's

London, Toronto, Montreal, Winnipeg, Vancouver, St. John, N.B., Hamilton, Calgary, Saskatoon, Edmonton

See your local paper for name of McClary's dealer.

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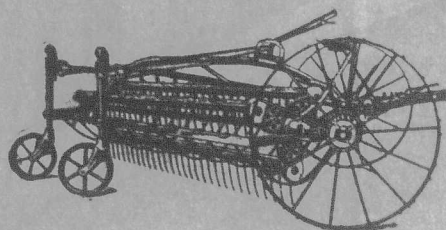


# —TO THE FARMER—A BUSINESS MAN—

THERE IS A DIFFERENCE OF FROM \$4 TO \$10 A TON IN THE PRICE OF IMPROPERLY AND PROPERLY CURED HAY

*The John Deere-Dain System of Making Better Hay Means Larger Profit to You*

## The John Deere-Dain System Left Hand Side Delivery Rake



"The Rake with the Inclined Frame"

Made by a company that are the pioneers of the continent in the making of "Quality" Hay Tools that are a standard of—

**DURABILITY  
EFFICIENCY  
SERVICE—**

Dain Hay Tools are recognized as leaders, and each machine combines many exclusive features of up-to-date, modern construction.

Investigate the improved design of the Dain System Rake as shown above:

It is practically all steel, and the steel arch over the frame forms truss and adds greatly to strength.

It is thrown in and out of gear without the use of a clutch and the parts that go with it.

Solid tooth bar attachment.

Adjustment of mesh for the main drive gears.

Every adjustment can be made from the seat.

Chilled bearings.

Semi-steel castings.

Light draft—Few working parts.

## The Dain System of Air-Curing Hay

Air-cured hay commands a higher price on the market than sun-bleached and sun-scorched, swath-cured hay.

The Dain Side Delivery Rake gently lifts and turns the hay into a loose, continuous windrow, leaving it in ideal condition for rapid, thorough curing.

When cured in this way the hay retains the rich, sweet, nutritive juices in leaf and stock, giving it a natural color and making it more valuable to feed.

The Dain will prove a profitable investment for any hay grower, as it not only increases the feeding and selling value of the hay, but also saves time in hastening the curing.

*The John Deere-Dain is not a Combination Rake and Tedder.*

Tedding hay is wrong.

Tedding tears a large percentage of the leaves from the stems and causes the loss of the leaves, which are the best part of the hay.

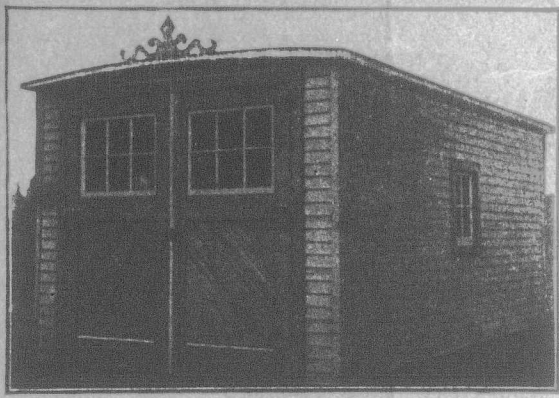
If your hay crop is caught by a shower, it is only necessary to drive straddle of each windrow with the Side Delivery Rake, and the hay is turned over in loose condition for curing.

Send us your name and address and we will mail you a beautifully illustrated booklet which fully describes the Dain System of air-curing hay. It tells you how to increase the value of each ton of hay. Say that you saw our advertisement in this Magazine.

See your nearest John Deere dealer

**JOHN DEERE MANUFACTURING CO., LIMITED**  
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## The Auto-Home Garage



is just what you need for your car. It is built in sections; any one can erect it. It is painted and glazed complete. Built in four sizes. Place your order early, have a neat warm place for your car in cold weather. Send for full particulars.

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**SIMPLY CAN'T BE CLOGGED.** The simple, scientific, carefully worked-out construction of the light running Gilson Silo Filler makes it absolutely impossible to clog the throat of the blower. The Gilson is the lightest running blower cutter made. It has broken all records for high elevation and rapid work with light power. A 4 h.p. operates the small size splendidly. Made in three sizes to suit any power. The Gilson is rightly called the

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because of its remarkable elevating powers, absolute safety, durability, strength and simplicity—it stands supreme. It has convenient and quick knife adjustment; solid steel-bound cutting wheel; patented safety reverse—and is guaranteed to cut and elevate MORE ensilage with the SAME power than ANY other ensilage cutter IN THE WORLD. Write to-day for catalogue and proof. Manufactured and guaranteed by—  
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*The Fence That's Locked Together*

It's close enough to keep small fowl in and strong enough to keep large animals out. Securely locked together at each intersection of the wires. It's many times heavier and stronger than poultry netting, and being well galvanized, will last many years longer. Top and bottom wires are extra heavy. No top and bottom boards required. PEERLESS Poultry Fence is built so strong and heavy, that but half the ordinary number of posts are required. It gives you real fence service.

**MADE IN CANADA**

Note the extra close spacing at bottom, no base boards required. Turns the small chicks, keeps small animals in or out.

The Peerless Lock holds the intersecting wires in a firm grip that is non-slipable. Compare it with any other poultry fence. The Peerless fence is built to stand any test.

It is durable. Send for our catalog—it's free.

**THE BARWELL-HOXIE WIRE FENCE CO., Limited**  
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**WE WANT TO DEMONSTRATE ON YOUR FARM**

We will send a Gilson Engine, any size, without charge, to any responsible farmer in Canada to try out on his own farm, at his own work.

Write for further particulars of free trial offer, catalogue, and special introductory prices.

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269 York St., Guelph, Ont.

**More Money**

May be quickly and easily earned IN SPARE TIME by any who will write to-day to the **GILSON MANUFACTURING COMPANY LIMITED**, 240 York St., Guelph, Ontario



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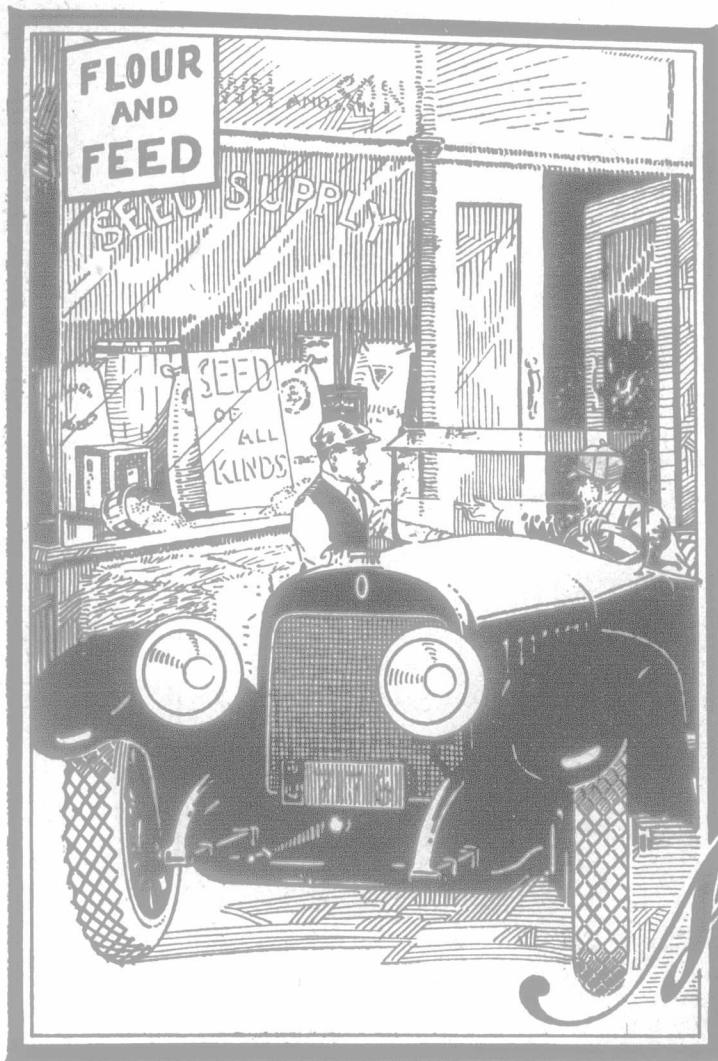


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# Mileage

- at cut prices

SEED may, or may not, be a bargain at cut prices. It depends on the crop it produces.

Tires may be dear at cut prices. It depends on the mileage they render.

So we do not offer you Goodyear Tires on a basis of tire prices. We offer them on a basis of mileage cost. And when you have finally obtained the last mile from a Goodyear Tire, you realize at just how low a cost mileage can be bought.

With the giant resources at our command we could probably produce a tire at a little lower price than anyone else. But every passing year more firmly convinces us that better tires, efficiently produced and marketed, will give the greatest value.

Apparently motorists have agreed with us, for they buy more Goodyear Tires than any other brand.

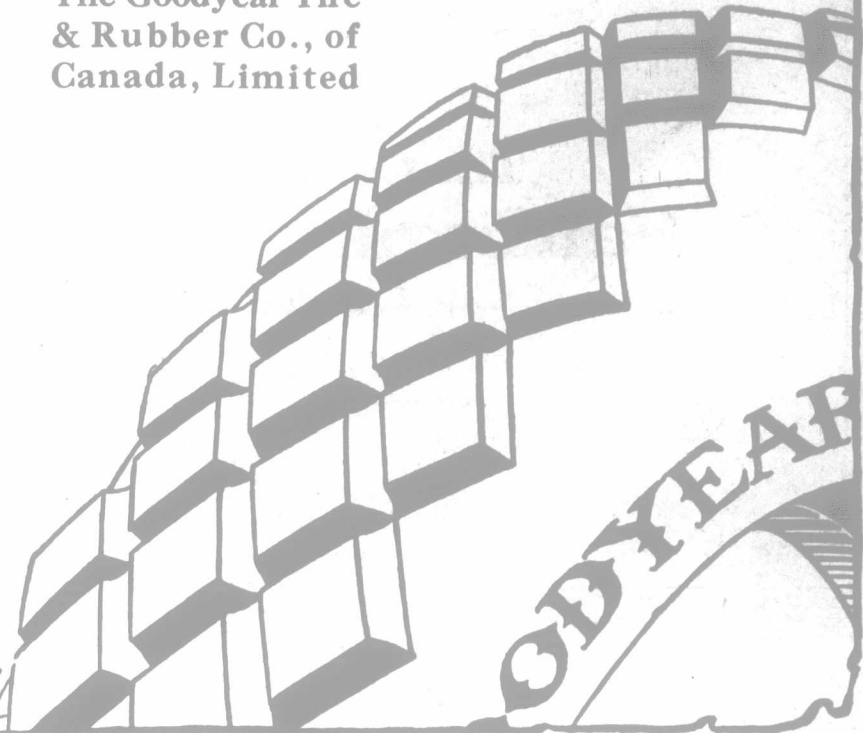
Surely you, too, will not allow a slight difference in first cost to stand in the way of lowering operating cost for your car, any more than you would allow the price of seed to ruin your crop.

See the Goodyear Service Station Dealer in town. He is selling mileage at cut prices.

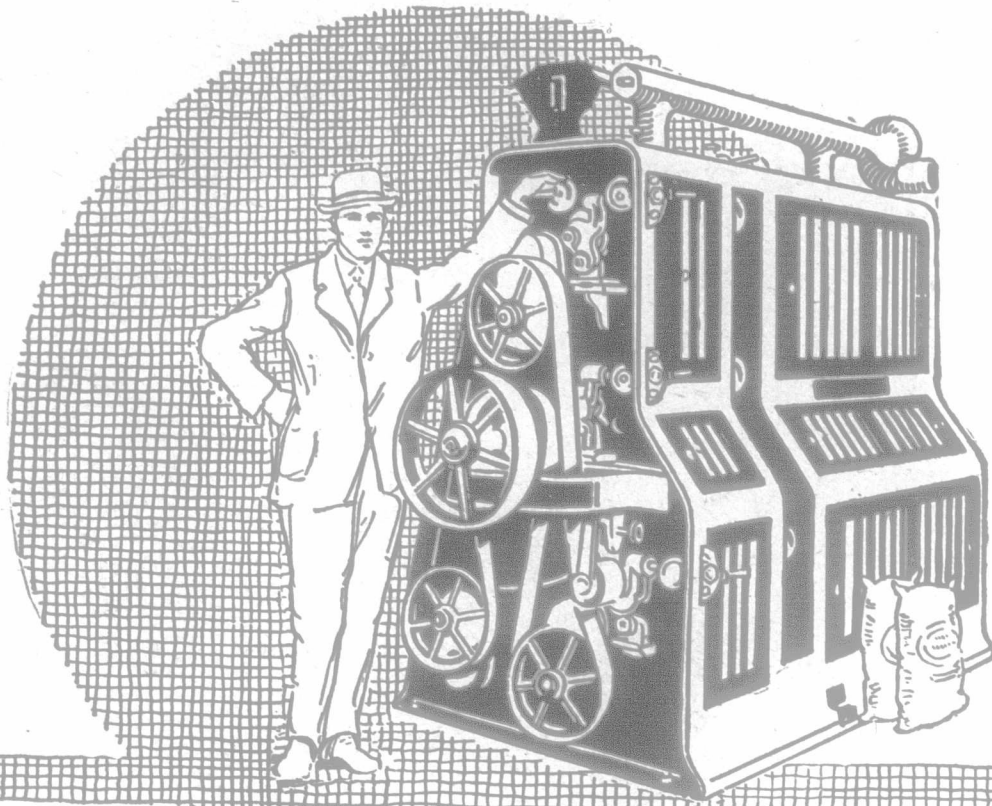
The Goodyear Tire & Rubber Co., of Canada, Limited

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in your community. Be the miller of the local wheat crop and return a better flour at a lower cost and a bigger profit to you. The Marvel Mill requires no previous experience. You—with no knowledge of milling—can return a higher grade flour containing all the natural oils and nut-like flavor of the grain in 45 seconds by means of this one-man, single-unit, self-contained mill. And you can do it at a smaller investment and lower upkeep cost than by the long process mill.

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## AS RELIABLE AS ITS NAME

"Received your churn safely and gave it a fair test; I am perfectly delighted with it," writes one recent purchaser of a "Reliable" Churn—and there is a reason.

You get your butter the easiest, quickest and most profitable way, when you use

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## RELIABLE CHURN

Its clever mechanism gives that efficient perpendicular stroke, but with a high-g geared rotary drive, and it is easier to keep clean, too, just lift out the smooth, white, double glazed jar and rinse.

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Noted for completeness of service. Plenty of pockets. Buttons can't wear off. Double and triple stitching where wear comes. Easy to slip on and off. Outwear all others. Ask your dealer for "Kitchen's," and insist on having our "Railroad Signal" brand

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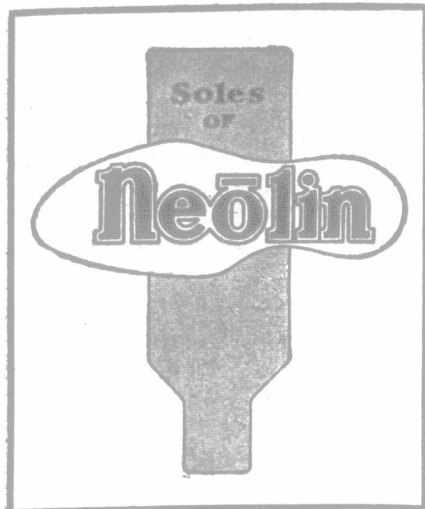
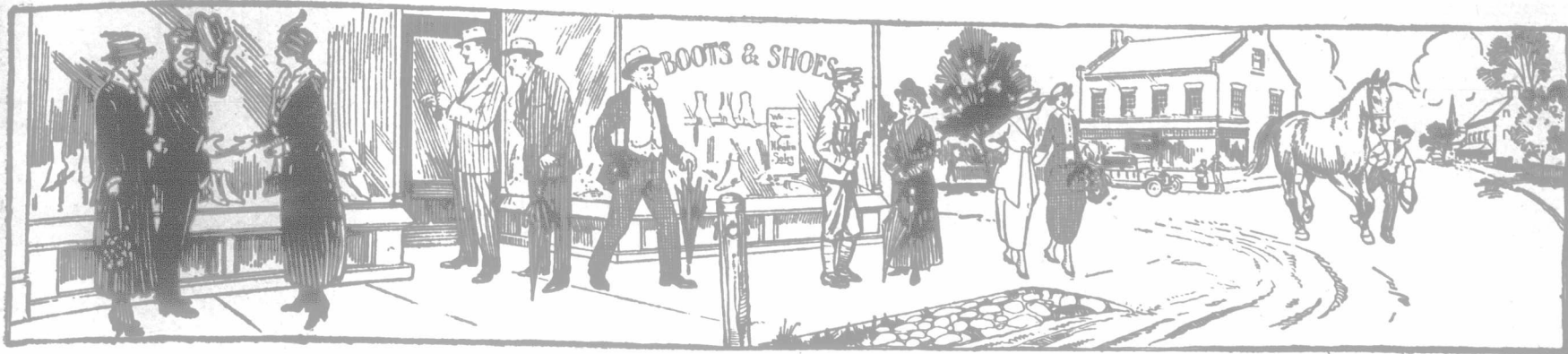
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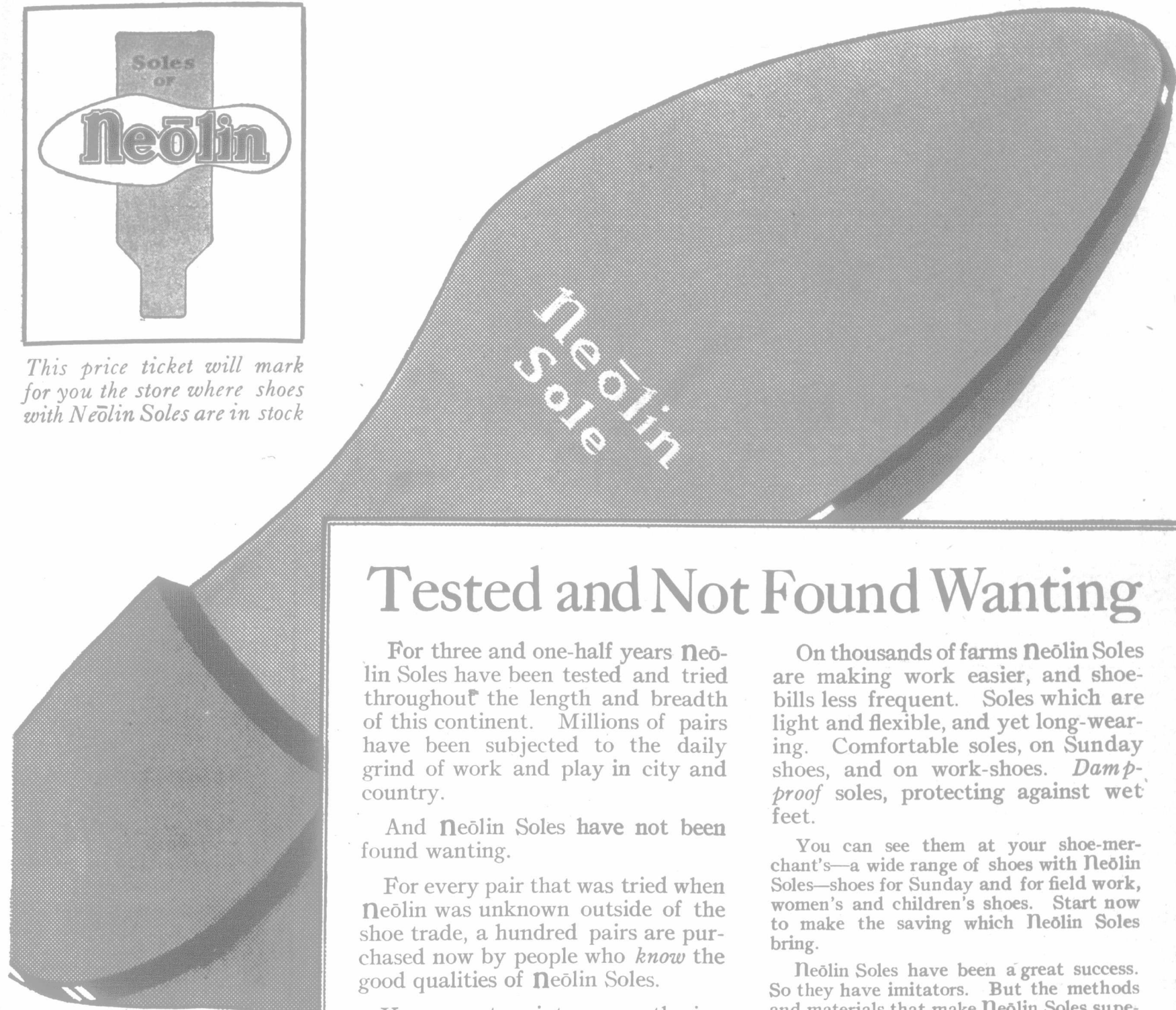
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This price ticket will mark  
for you the store where shoes  
with Neolin Soles are in stock



### Tested and Not Found Wanting

For three and one-half years Neolin Soles have been tested and tried throughout the length and breadth of this continent. Millions of pairs have been subjected to the daily grind of work and play in city and country.

And Neolin Soles have not been found wanting.

For every pair that was tried when Neolin was unknown outside of the shoe trade, a hundred pairs are purchased now by people who know the good qualities of Neolin Soles.

You cannot go into any gathering in America without passing people who are saving shoe costs, gaining foot-comfort, with Neolin Soles.

On thousands of farms Neolin Soles are making work easier, and shoe-bills less frequent. Soles which are light and flexible, and yet long-wearing. Comfortable soles, on Sunday shoes, and on work-shoes. Damp-proof soles, protecting against wet feet.

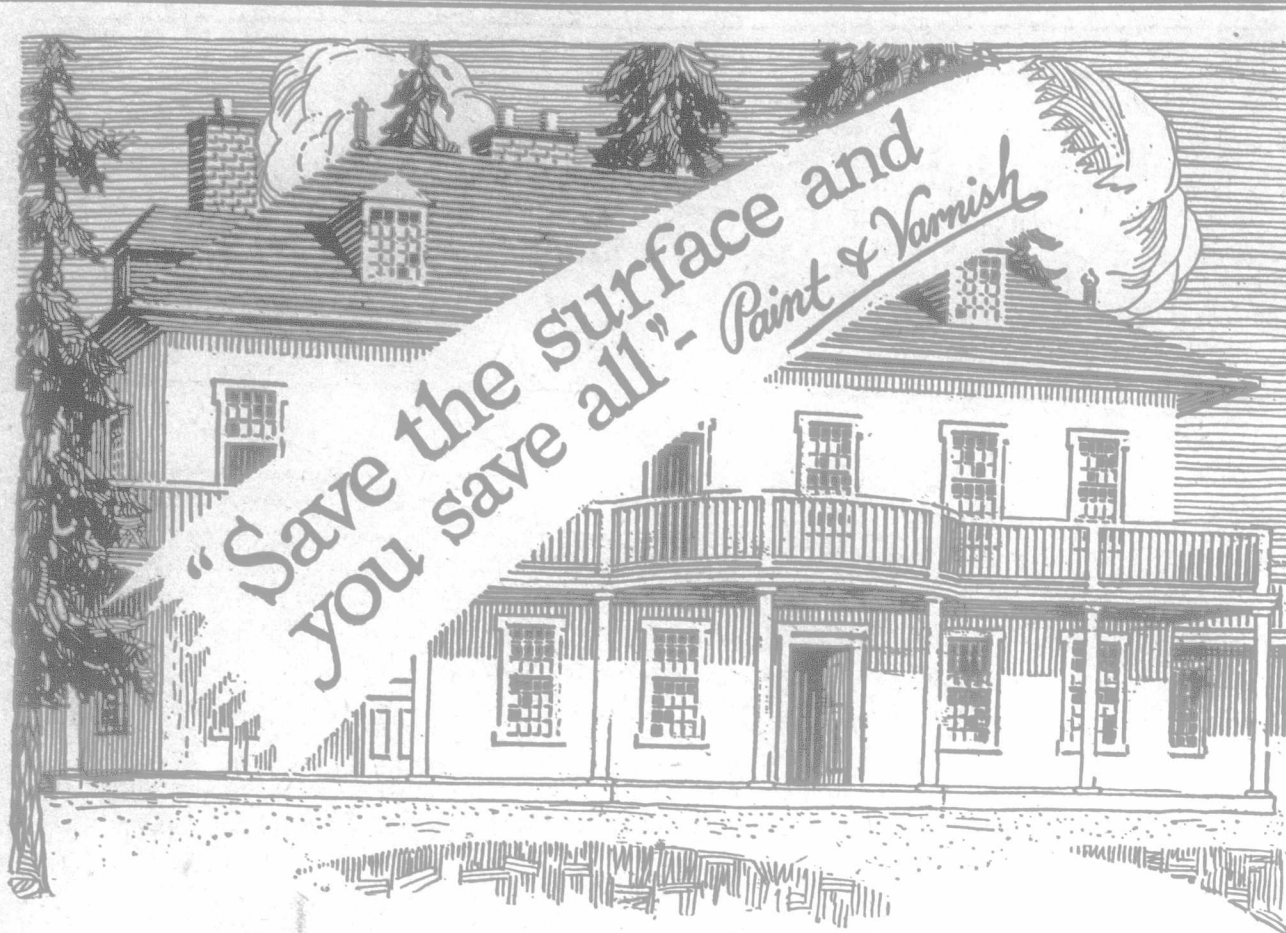
You can see them at your shoe-merchant's—a wide range of shoes with Neolin Soles—shoes for Sunday and for field work, women's and children's shoes. Start now to make the saving which Neolin Soles bring.

Neolin Soles have been a great success. So they have imitators. But the methods and materials that make Neolin Soles superior are known only to Goodyear. You can be sure of Neolin Sole quality only when you see the trade-mark "Neolin" on the bottom of the sole.

The Goodyear Tire & Rubber Co. of Canada, Limited

# Neolin Soles





Kent House, Montmorency Falls, P.O. Built 1778, by General Sir Frederick Haldimand, Governor General of Canada. Later the home of His Royal Highness, Edward Augustus, Duke of Kent (fourth son of King George III and father of the good Queen Victoria).

## What the Duke of Kent's Famous House tells us

**L**OOK at this house. Who would ever realize that it is 140 years old! What an example of property preservation by surface protection.

But it is only an example. The real point to appreciate is that if it is a house we own, or any other thing, its surface is its danger point. That is where disintegration begins.

Your floors—wood or cement—your doors. Their damage is sure, without surface protection. That's wear. Your steel garage, metal roof, metal parts of your wooden house. Their ruination is certain without surface protection. That's rust.

Stucco, and even cement, have their durability aided by protective coatings as well as their appearance enhanced.

Every manufactured article you own—your desk, your chair, comes to you with a necessary surface protection.

Everything with a surface needs surface protection—save the surface and you save all.

And so, may we say, don't paint and varnish merely for appearance. Watch the surfaces of all your property of every kind and see that they are given a coat of fresh protection as soon as it's needed. Loss from neglect is so much greater than the cost of protection.

**THIS ANNOUNCEMENT** is issued by the Canadian Save the Surface Campaign Committee, for the purpose of educating the public in the preservative and protective value of Paint, Varnish and Allied Products for the Conservation of Property, and has received the approval of the Canadian Trade Commission in the following words:

"The realization of the above objects will lead to employment during the Reconstruction Period and bears our entire approval.

THE CANADIAN TRADE COMMISSION

*James M. ...*  
Commissioner.

**"SAVE THE SURFACE AND YOU SAVE ALL" Paint & Varnish**



## "Galt" Galvanized Steel Shingles



The "GALT" Shingle locks together in such a way that there is no weak point in its entire construction, and it is ornamental as well. It is, therefore, the Ideal Shingle for Dwellings, Churches, Schools, Public Buildings, Barns, etc.

We also manufacture

Corrugated Sheets      Barn Ventilators  
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**THE GALT ART METAL COMPANY, LIMITED**  
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**OVERALLS**  
SHIRTS & GLOVES  
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**GRAND TRUNK RAILWAY SYSTEM**

## The Double Track Route

Between Montreal, Toronto, Detroit and Chicago

Unexcelled dining car service  
Sleeping Cars on Night Trains and Parlor Cars on principal Day Trains.

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



The crystal in a good dairy salt must be pure and dissolve readily. These qualities are always assured in

**Windsor Dairy Salt**  
Made in Canada  
THE CANADIAN SALT CO. LIMITED

## Steel Rails

for Reinforcing Bridges and Barn Driveways.

Cut any length.

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## How To Run A TRACTOR

Our complete practical course by mail on the construction, operation, care, and repair of all kinds of Gas and Gasoline Tractors. A simple home course, also ask about our course on automobile construction, running, etc. Write for free literature.

Canadian Correspondence College, Limited, Dept. E, Toronto, Canada.

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# The Farmer's Advocate and Home Magazine

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1866

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LIV.

LONDON, ONTARIO, JUNE 5, 1919.

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## EDITORIAL.

Parliament is being led in relays; a long session is a certainty.

That rooster is no more use in the flock; put him in the pot!

Don't forget to salt the cattle and sheep now that they are turned to pasture.

Use the weeder or light harrows on the corn field to break the crust and destroy weeds.

Stable the calves away from heat and flies during the day, and allow them out at night.

Stale, sour calf pails induce scours. Use hot water freely and expose the utensils to the sunlight.

Don't allow the weeds to get a start in the young strawberry plantation—a scratch in time saves nine.

Feed the young chicks plenty of skim-milk, and if they are not on free range supply an abundance of green feed.

Any rainy days can well be spent now on the hay-making machinery. Repair the broken parts and have everything in readiness.

Put down some eggs for next winter's use, and hurry the pullets along so they will lay early. The prospects are for high-priced eggs next winter.

There is usually a part of the summer when pastures are dry and parched and the milk-flow ebbs. That is when a summer silo, a special pasture or soiling crops are useful.

Keep the standardization of implement parts in mind during the summer, and out of your own misfortunes and inconveniences may grow a suggestion that will be helpful.

It is a lucky thing for labor that farmers do not put on a sympathetic strike. If such should happen there would be something worse than unrest—there would be hunger and upheaval.

A cool drink of water is quite as refreshing to a horse as to his master. Make some provisions whereby the team can be given a pail of water in the middle of the forenoon and afternoon.

Don't allow land to go uncropped. There are catch crops that will keep down weeds and produce fodder for winter feeding. A neglected summer-fallow should not be allowed to decorate the farm.

The Industrial Commissioners, now holding sessions throughout Canada, are hearing a great deal about the excess profits of the manufacturer. The Government should already be in possession of the facts concerning this ground for complaint, as they have had free access to the books of all concerns and have taken their toll of the excess profits. After all the controlling that has been done, after all the questionnaires have been answered, after all the reports have been made does the Government know nothing about actual conditions throughout Canada? The moderate labor element is only asking for a chance to live, and if the Government knows that capital is only making fair dividends why not inform labor that the country needs strong men to work the soil, and that relief will not be forthcoming until the population is more evenly distributed between country and city?

## The National Dairy Council Appointments.

The National Dairy Council of Canada, which was brought into existence last November is now a full-fledged organization with a salaried Secretary and General Counsel. The appointment of D'Arcy Scott to this important position cannot be looked upon by dairymen at large with feelings unmingled with regret, for his qualifications to serve the dairy industry as Secretary of the National Dairy Council are not such as may be acquired in the hard school of experience as producer, manufacturer or organizer. No branch of the agricultural industry is more important, more complex, or requires a greater practical and scientific knowledge concerning it than does the great dairy enterprise, which the Council was organized to foster and protect. The organization is not a unit in itself, but a composite grouping of associations whose actual foundations are to be found in the back townships of the various provinces. More than that, the manufacturers of dairy products, centralizers and distributors are also represented, which is only fair, and everything combines to demand wide experience and a sympathetic understanding on the part of the man who is to shoulder the Secretary's responsibilities. We understand the new Secretary owns and operates a dairy farm, but one cannot get the same perspective of dairying from a seat on the Railway Board as he does from an old-fashioned, three-legged milking stool. We have nothing to say against the Secretary as a man or as a lawyer; the point we wish to make is that the National Dairy Council might have obtained the services of a man better acquainted with the dairy industry, and with more experience in organization work. However, there should be no slackening in the efforts of dairymen generally to re-inforce the structure they have so successfully established. The Council which represents an industry whose product in the factories alone amounts to over \$100,000,000 annually demands support, and we urge producers particularly to aid the organization with united strength, so as to more effectively safeguard the interests of the great dairy enterprise.

## The Provincial Civil Service.

During the great war and since we have heard much about the value of discipline and morale. Sufficient morale will carry a nation past any obstacle of a military or civil nature, and we in Canada now require as large a measure of initiative, discipline, determination and morale as we ever did. These virtues are required in all branches of our national life, and particularly in the civil service, but there any semblance of such is blighted by the influence of the civil service machinery and the delicate flower fades and wilts before it has a chance to produce its fruit. A little political fairy lurks beside every desk; it haunts the civil servant like a bad dream; it watches every move he makes, and notes every word he says. There is no escape.

A Civil Service Commissioner is now ensconced in comfortable quarters at the end of a rather gloomy alley in the Parliament Buildings, Toronto. From this secluded nook a questionnaire is issued to all civil servants, and their classification is ostensibly based on their ability to answer the twenty questions thus presented. We cannot conceive of a more effective way to destroy morale or alienate the allegiance of employees to their chiefs or superiors. Ordinarily one expects to have his efforts recognized by those under whose direction he works, and thus obtain promotions from the hands of those empowered to dispense them. The Civil Service Commissioner has ignored the heads of departments, and signified that in his mind Jack is quite as dependable as his master. The Commissioner's scheme is a direct antithesis to established custom in the business world, where efficiency is the watchword. It is another barrier to good administration of departments, and will

only make the service less desirable and efficient than before. If good administration were demanded from department chiefs, they in turn being given some latitude and permitted to hire, fire, promote and retard employees, the civil service would take on new life because there are thousands of men thus engaged who are only asking for a chance to make good and be of service to their country. All our Governments, Provincial as well as Dominion, are shouldering the great responsibilities incident to public ownership, and the country cannot afford to perpetuate the antiquated and discountenanced civil-servant system which has become a symbol for indifference and inefficiency.

## Show What the Horse Can Do.

The horse is being relegated to a position in this country where it is used more and more for special purposes only, instead of serving man in all branches of agricultural and industrial life. In these days of haste it is not surprising that the roadster and park horse should give ground somewhat to the speedy motor vehicle and the fashionable limousine. Yet when it comes to a question of moving the heavy city truck or farm implements of any kind, the animal which has been man's best servant down through the centuries is being displaced, simply because it is not given a chance to demonstrate its worth.

The price of labor demands that one man must utilize more than two horses or his work will be unprofitable. This simply means that instead of hitching two horses to a truck or farm implement we must hitch four or six, and thus allow one man to accomplish what would otherwise require the time of two or three. We are prone to compare the two-horse team with a ten-twenty tractor, and then decide in favor of the latter on account of its superior power. This is unfair to the horse, which, if given a chance, would win back many of its former supporters and firmly establish itself for a long time to come.

One would naturally expect our agricultural colleges to lead the way in the investigational field, and show us how to get the most work done on the farm with least expense, but they have been negligent in revealing the undeveloped possibilities of the horse. We also have three breed associations in this country which champion respectively the Shire, Percheron and Clydesdale. If they were live organizations and could see that breed prosperity is dependent on the popularity of the draft horse generally they might become more democratic, and with a broader vision attempt to obtain for the draft horse a chance to make good.

Investigators in the United States have been working on and perfecting multiple hitches, through the use of which five, six, eight or almost any number of horses can be hitched and reined by one man. These hitches are being demonstrated all over the country so farmers and others can see them and understand the principle on which they work. The breed associations in Canada would be engaged in a very useful service if they would conduct similar demonstrations here at exhibitions and provincial or local plowing matches, where horses are usually assembled in considerable numbers. This would be a very interesting and instructive feature for the Provincial Plowing Match to be held at Chatham next October, but there will be many events throughout the season where farmers and others might be shown how to assemble more horses in one team so as to meet the demand for greater power.

Now that after a year's delay Dr. Grisdale has been made Deputy Minister of Agriculture, a few appointments at the Central Experimental Farm are in order. Too many "acting" officials is not conducive to harmony and efficiency.



## The Farmer's Advocate and Home Magazine.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

Published weekly by  
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### A Backward Season.

A backward season in the spring means rush for the farmer until the crops are harvested in the fall. Last year the weather was exceptionally favorable and the seed went in without a hitch. One operation seemed to follow another in logical order, and with little or no outside help farmers produced and harvested a remarkable crop. The volume of the harvest last year was taken as an indication by many people, unacquainted with rural conditions, that the agricultural industry was gaining in strength, and that farmers were capable of producing much more from the land than has been the custom in the past. Circumstances are vastly different this year. Seeding has been belated; grain was sown past the time when corn should be planted, and seed for the latter crop went into the ground at a rather late date. It is hard to catch up once we get behind the way we have this year. There are many cases where the land was worked while yet unfit, but from all appearances it was not an unwise move to get the seed in, where possible, even under unfavorable circumstances.

There are still fields that were too wet to seed, or where the grass got beyond control, and there are low spots where the seed never came or the young plants have been drowned out. These should not be abandoned and allowed to grow up with weeds. Buckwheat, which can be sown almost any time this month, will keep the weeds in check, and the grain will furnish a substitute for oats or barley or serve to mix with them. Millet is another crop that will furnish a very good roughage for cattle, and it, too, can be sown this month. Japanese Panic is the best variety to sow early, but if seeding is delayed until the last of the month perhaps Hungarian Grass would give a better yield. Swede turnips should not be forgotten, for with a little extra labor a field of roots will furnish succulent roughage that cannot be excelled even by silage. Partial summer-fallow, followed by rape, will clean a field and furnish very good pasturage for cattle, sheep or hogs later in the season. Make a war on weeds, and do not allow any fields to lie neglected through the summer months.

### Duncan's Toast List.

BY SANDY FRASER.

Ye'll mind I wis tellin' ye aboot bein' over at Duncan McGreggor's the ither day an' what like a sermon he preached to me before he remembered that he hadna given his horses their dinner an' went off tae the barn, leavin' me sittin' beside the stove smokin' my pipe.

When Duncan cam' back he started in again wi'oot loss o' time. "Talkin' about prohibition an' that sort o' thing," he says, "reminds me o' what seems noo like the best time o' my life. I suppose the last few years hae been juist as useful tae me in a way, seein' that I should hae a wee bit mair sense noo than when I wis young and as a consequence be in a better poseition to mak' use o' my time. But it's the same wi' a man as it is wi' the colts an' calves an' lambs that we will be raisin' on the farm, I'm thinkin'." While we're young we will be tearin' around, kickin' up oor heels an' feelin' as though this world wis a guid enough place to live in for aboot a thousand years, an' then some, maybe. But as we get aulder we cool doon quite a bit an' we begin to learn a thing or twa frae all the hard knocks we hae been gettin', and it's a pretty thick-headed sort o' an individual that hasn't been sobered doon an' had some common-sense pounded intae him by the time he has to quit here an' start in on the next round, wherever that may be.

"Hooever, I like tae be thinkin' an' talkin' aboot the auld times, an' I find it's one o' the best ways o' forgettin' the worries o' the present. Ye may think we wasted a guid many hours o' valuable sleepin' time in drinkin' toasts tae oorselves an' oor friends and tae 'bonnie Scotland' and sae on, but it wis a great way to promote sociability an' friendship. Ye can say that for it."

"I suppose, Duncan," says I, breakin' in on his moralizing, "that ye were sometimes hard put to it tae find objects enough to serve for all the toasts ye wad want to be drinkin'?" I've heard of some queer things in that line at several o' the banquets an' celebrations that my auld uncle used to be tellin' aboot. He wis quite a gay lad in his day, too, I used to be thinkin'. He used to say that when the company had drunk to everything they could think of they wad aye go back to the auld stand-by an' ilka person wad drain their glasses to 'the land o' cakes,' which wis anither name for Scotland, as ye may ken."

"Weel, we used to drink to the health of quite a number o' things in the course o' an evenin', sometimes," returned Duncan, "but I canna recollect that we ever ran out o' subjects an' quit drinkin' on that account. Sae lang as the drink didna rin oot we were a'richt."

"The first 'toast' wad generally be 'to oor noble selves' and everybody could drink tae that, ye may be sure. Then someone wad get up an' raise his glass to the day when we wad hae 'mair friends an' less need o' them.' Or 'them that loves us, or lends us a lift.' One auld chap I mind of used to always bring up this one: 'to thumping luck an' fat weans.' And anither one he had wis 'here's health to the sick, stils to the lame, claithes to the back an' brose to the wame.' And anither that I remember wis, 'to them that willna wish us weel, may the deil rock them in a creel.'

"One that we used to drink tae oorselves noo an' again ended up wi' 'and may the mouse ne'er leave oor meal pock wi' the tear in it's'e'e,' and a second somethin' the same; 'may we ne'er want a friend or a drappie to gie him.'"

"I suppose," I said, "that when ye had a wedding in the place that ye would hae a few toasts fitting for the occasion."

"Oh aye," returned Duncan, "or a funeral or a christening or anything like that. There wisna a celebration o' any kind that we didna hae something tae fit it. At one wedding I mind o' this one being given; 'to a cozy but an' a canty ben, to couthie women an' trusty men.' And then anither along the same line; 'to the ingle neuk, wi' plenty o' bannocks an' bairns.'

"I ken well that this health-drinkin' business wis carried a wee bit too far in those days," went on Duncan. "Hooever it wis intended to create guid feeling among friends an' neebors and maistly it did. This reminds me o' one mair. 'To the day we are climbin' the hill o' fortune, and may we no' meet our friend comin' doon.' Ye can see there is a considerable amount o' good-will in it all, Sandy, at ony rate," said Duncan, stoppin' for a meenute to light his pipe.

"Oh aye," I replied, "while the effect o' what ye were takin' lasted there wad be guid will enough. But what aboot the next day? Dae ye mind o' ever havin' a wee headache or anything like that?"

"Oh aye, I've had my experience," said Duncan. "There's always twa sides tae ony story, especially the one wi' a drink in it. Onyway that's a' a thing o' the past and ye willna find those sort o' doings in the Auld Land to-day. If Scotland isn't what they call 'bone-dry' altogether, it's gettin' nearer it ilka year. What sociability there is there noo ye will find maistly over a cup o' tea. Not entirely, of course, but there's not the whiskey drinkin' there noo that there wis once upon a time. It's like a story I mind o' hearin' one time aboot a 'drinkin' party that took place at Castle Grant, not far frae my ain auld hame. As it got on towards mornin' an' maist o' the guests were gettin' to have aboot all they could absorb, a couple o' Highlanders were on hand, by order o' the Laird, to carry these drinkers up-stairs tae their beds, it being taken for granted that by no ither means could they ever arrive at their sleeping apartments. But one or two o' the party, for some reason or ither, were able to walk a little and made oot to get up-stairs wi'oot help, much to the surprise o' the attendants. 'Weel, weel,' said one o' them, 'what-ffer is the world comin' to. It's sair changed times at

Castle Grant when gentlemen can gang to bed on their ain feet."

"Sae ye see, Sandy," concluded Duncan, "what kind o' an opinion they had o' the prohibition movement in Scotland aboot a couple o' generations back."

"Yes," says I, gettin' up an' puttin' on my cap. "I guess they didn't bother voting on the subject in those days. Beer an' wine wad be poor consolation for some o' those auld chaps, I'm thinkin'."

"It would that," replied Duncan. "It was in time they died."

### Nature's Diary.

A. B. KLUGH, M.A.

We have in Canada two species of Chipmunks, the Common Chipmunk, *Tamias striatus* of the east and the Little Chipmunk, *Eutamias quadrivittatus* of the west. The former is about 9½ inches long and ranges from the Atlantic to Manitoba, the latter is about 8 inches long, always carries its tail bolt upright, and ranges from Manitoba westward.

The Common Chipmunk is a species of the deciduous forest, and in regions where the forest has been cleared away, it inhabits the stone-piles, stone fences, the brushy borders of fields, and such patches of woodland as remain.

The home range of the Chipmunk is of very limited extent, Seton placing it at about two acres.

This species lives in burrows which are perpendicular for the first few feet, then horizontal for some yards, and then rise to a chamber a foot or so high and two feet in diameter, which is carpeted with soft grass. There is never a pile of earth at the entrance to these burrows, and in many cases this is accounted for by the fact that the Chipmunk has dug the burrow by tunnelling in at some point some distance away, and driving the tunnel to the surface at the point which is now the entrance. It then fills up the hole through which it started the tunnel, and which has a pile of earth about it. In some cases it is believed that the earth has been carried away in the cheek-pouches, but as far as I know no one has ever seen a chipmunk thus transporting the earth. In fact, common as this little animal is, there is a great dearth of observations on its exact procedure in burrowing, and if any of my readers have seen chipmunks thus engaged I should be very glad if they would communicate their observations to me.

There are galleries off the nest-chamber which are used for the storage of food.

The main food of the Chipmunk consists of nuts, acorns, berries and the seeds of various plants, though it also eats insects and occasionally snails, flesh and bird's eggs. In the spring I have noticed them digging up and eating sprouting beechnuts.

Its name *Tamias*—a steward, one who stores and looks after food—is well deserved, for this little animal lays up great stores of provisions. It stores nuts of various kinds, acorns, seeds of various plants. I have also noticed it storing the fruits of *Rubus villosus* the Thimbleberry, and observed one individual thus engaged for four days, carrying them from a patch of canes of this plant to its burrow. It happened that my tent was just beside its burrow, and we noticed that Thimbleberries were disappearing from a pail of this fruit which we had gathered, and set on the camp shelf. We shortly discovered that the thief was our little striped neighbor, who evidently thought this fine accumulation of berries was for his special benefit.

This species can carry large quantities of food in its cheek-pouches, as they can accommodate about a dozen hazel-nuts, four acorns of the white oak, or half a pint of seeds. It sometimes makes temporary hoards in some convenient place and then removes the food stored in them to its main granary at its leisure.

It uses these stores in the late fall, before it becomes dormant, and also in the spring when Chipmunk food is scarce.

The young, which number four or five, are born in the nest in May. By June they are sufficiently grown to make short excursions out of the burrow. By August they are full grown, but they appear to remain in the parental burrow to hibernate.

In the spring and particularly in the autumn the Chipmunk becomes musical. It sits up on a log or stump and utters its "Chonk-chonk-chonk-chonk" notes for considerable periods at a time. Both males and females join in this chorus, which resounds in all directions through the woods.

The time at which the Chipmunk hibernates depends entirely on the weather. If heavy frosts come in September it retires beneath the ground then, but if warm weather continues until the end of October it postpones its hibernation until the end of that month, and in southwestern Ontario it is occasionally seen as late as December in unusually mild seasons. The Chipmunk is not arboreal to any marked extent, but can climb trees with comparative ease if the occasion demands, and often does so to secure nuts or to escape an enemy.

The chief enemy of this species is undoubtedly the weasel, as this blood-thirsty little beast is able, with its long lithe body, to enter the Chipmunk's burrows, and if it finds a family at home it kills them all. Foxes and hawks also take their toll of this species.

There were great things claimed for the future of back-yard gardening, but the outcome seems to be that the majority of urban dwellers are content to let the farmer do the farming. It was not such a gloriously exhilarating pastime as many suspected.

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# Superior Types of Rural Schools.

BY SINCLAIR LAIRD.

DOES the one-roomed rural school have any possibilities of improvement at all? If consolidation is out of the question, and the people can only afford a one-roomed school, is the community justified in believing that nothing can be done with it? Its scope is limited by its architecture, but a really good teacher can often do wonders. A one-roomed school may be made attractive and may serve most of the purposes of the community. It may even provide a good community centre for the neighborhood.

## Tremaine Rural School.

Such is the one-roomed school at Tremaine, about five miles east of Rapid City, Manitoba. As the result of a debate that was held about 1915 on "The School Versus the Church as a Community Centre," the people in the neighborhood took a great interest in school affairs, and made up their minds to have a good school, which is now said by the inspector to be the best one-roomed school in his division. It is built of brick veneer and its architecture is suitable for its purpose. Measuring 24 by 40 feet, it has a high basement, nine feet high, fully finished and well floored. There is a movable platform, and seats can be provided for 150 people. So the basement is a good public hall for community meetings. For school purposes, the basement is divided into a gymnasium with horizontal bars, rings, clubs, dumbbells and boxing gloves. All of this equipment was furnished by voluntary contributions amounting to \$125. The gymnasium is open on two evenings a week to the whole community, which takes advantage of this privilege, because a resident of the district, who was a physical instructor, gave regular classes. During the day, the gymnasium is available for the children. In the other half of the basement there is a fine cooking range, a large cupboard, and a complete set of dishes and cooking utensils. This equipment cost about \$100, and is available for the use of the community if so required. Hot lunches are served to the children every day at noon. Both boys and girls are required to take turns at cooking, serving and washing up. In the future, the trustees expect to equip part of the basement with benches and tools for manual training.

Upstairs, the school room can accommodate fifty pupils. Besides the regular school room apparatus, good pictures decorate the walls and a neat bookcase contains the school library. Children enter the school through a porch, which opens into a large cloakroom. Next to it is the teacher's room.

The Tremaine rural school demonstrates what can be done with proper basement accommodation, and shows one way of improving the advantages of a one-roomed school at very little cost. In this school, the heating arrangements for the class room and for the basement are separate, so that in the evenings the people of the neighborhood can use the basement without requiring to heat the class room. At an additional cost of about \$1,000 for this extra accommodation, the people of Tremaine have built a school which gives them far more satisfaction than could otherwise be obtained by the additional interest on the extra capital outlay.

Another type of one-roomed rural school not quite so satisfactory as that at Tremaine, is seen at Hebron, Manitoba. This is a frame building with an excellent basement, containing a large playground, a finished room suitable for a kitchen, a furnace and fuel room, and lavatories.

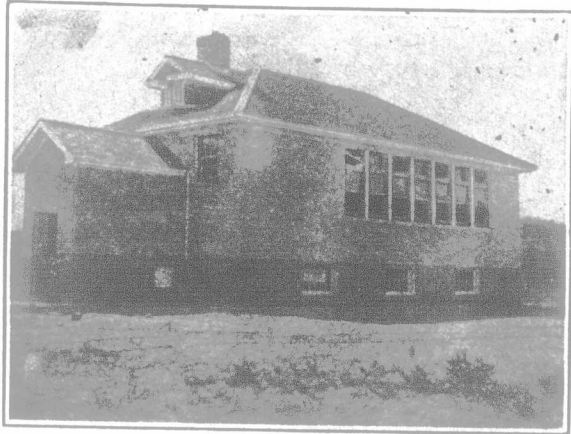
On the main floor are two cloakrooms and a teacher's room in addition to the class room. Such provision should be made a minimum requirement for all rural schools, but is not an ideal of what really should be the maximum.

## Porter School, Missouri.

The Porter Community School in Northeastern Missouri has changed from a small rural school into a community school, whose fame was gained by the devotion and insight of its teacher. The success of this teacher is due to the community spirit which was developed by the lady teacher. Gradually the feeling of faction and neglect disappeared; in its place appeared a desire for co-operation; a friendly feeling and mutual regard, until finally the people are proud of their community and uphold their school in all its activities. These now include a vocational school, agricultural short courses with the assistance of the extension workers from the State College of Agriculture, cadet work, musical organizations, nature study clubs, social clubs and other organizations for the benefit of young and old. The school was rebuilt through voluntary effort, great assistance being given by people conveying the building materials, excavating the site, constructing the fences, and painting the school.

Here again, the basement is a useful part of the building, containing a hot air furnace, drinking fountains, lavatories, and complete equipment for cookery. The class room has a library and a musical instrument for the teaching of music and singing.

But the grounds form one of the chief features. In addition to the flowers, shrubs and trees which are used for decorative purposes, the children have plenty of playground apparatus for games and play, and take full advantage of them. Five acres of land which were leased for some years by a resident of the community, are worked by the school, with the help of the adult farmers' club under the supervision of the extension workers from the State College of Agriculture. Demonstration plots show the value of rotation; the school orchard demonstrates the methods of fruit-growing and care of trees. Space is provided for experiments



The Tremaine School.

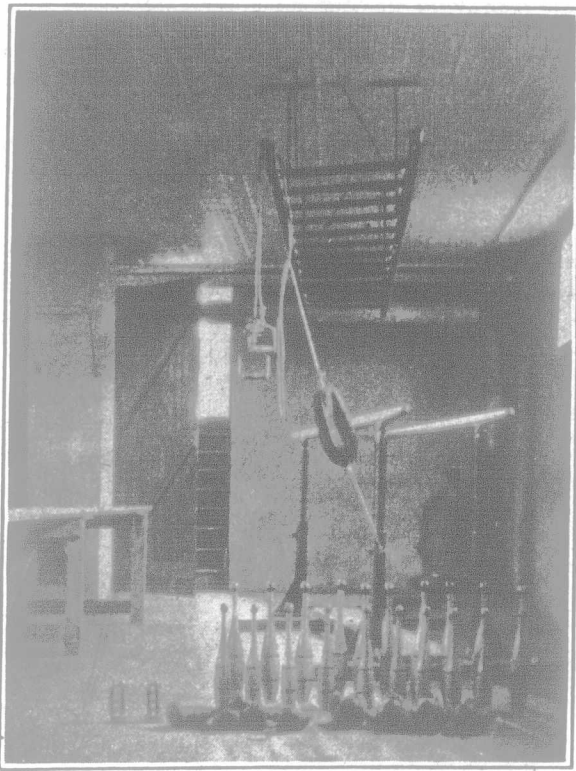
to show the value of different kinds of manures and fertilizers, and also the value of inoculation for alfalfa. Different crops are grown, such as corn, beans, peas, wheat, oats and clovers.

The school grounds include space for volley ball, base ball, horizontal bars, croquet and a giant stride.

Half a mile from the school, a frame house has been converted into a teacher's residence, where the teacher lives all the year round, and has a garden which is cared for during vacation time, as well as during school months by the teacher and the children. The teacher's garden is the laboratory for teaching the growing of vegetables.

The State Agricultural College gives short courses at this Porter School every year, and succeeds in drawing large crowds to the practical demonstrations. Perhaps extension work of this kind could be developed more fully by district representatives and agricultural demonstrators in our Canadian provinces. Probably the districts which have one-roomed schools need this service most of all.

Such community activities as meetings for band practice, farmers' clubs, women's clubs, music classes, bird societies, vacation school, are held regularly in this school house, which is thus used all the year round both for teaching the children and for helping the parents. In other words, the Porter School is a real community school serving the neighborhood twelve months in the year, and benefiting both young and old.



A Corner of the Basement in the Tremaine School.

## Kirksville Practice School, Missouri.

It is significant that in the same State of Missouri, a Normal School at Kirksville has developed a rural school department in charge of a special professor who trains teachers for the very kind of work which is so successfully managed in Porter School near Kirksville. In the grounds of this normal school, there is a model rural school used constantly for practice teaching by the students. In addition to being a practice school, it tries to show the latest and best developments in rural school architecture. After all, architecture does help the rural teacher or hinder her, as the case may be. If she only has one class room with no other accommodation, it is very difficult for her to introduce modern methods of teaching and special rural subjects. But if a good basement and proper equipment are available, it is possible for a live teacher to make a one-roomed school into a one-teacher school, for after all leadership and enterprise are more valuable than school architecture. At Kirksville, the rural department is

really an experiment station where new subjects and new ideals for the rural community are being tried out. In addition to the regular subjects which are compulsory in all countries, much attention is devoted to problems of rural life, such as the farm home, its sanitation and comfort; the values of food and cookery, and problems of clothing; and the work of the farm. Besides arithmetic, literature, history, geography and civics, a whole group of subjects such as agriculture, nature study, hygiene, cooking, sewing, manual training and art work are added. But although the subjects are thus separated for purposes of explanation, in the daily lessons there is no such separation. Each subject is connected with all others in the entire course through correlation and concentration. For example, nature study lessons are connected with reading and home geography, and in higher classes with home agricultural projects. These include the rearing of farm animals, garden problems and home problems. Such subjects form a basis for language and arithmetic work also. But each year the nature study work is intended to cultivate a love of rural environment and an appreciation of country life, and to prepare the way for the adoption of a farming career.

Such experimentation is not included in most normal schools, although it should be. Attempts have been made in some provinces to train high-school teachers qualified to give instruction in agriculture to senior pupils. The time is coming when we shall perhaps see normal schools attached to all of our agricultural colleges to give special training for the regular rural teacher who goes to a one-roomed rural school. The Kirksville practice school is not merely a practice school, but a demonstration school of the most modern developments in rural school practice. In other words, it prepares teachers not for what is, but for what should be and for what will be.

## "Standard" and "Superior" Schools.

Standardized rural schools have been developed in several of the United States. This has been done by the State Education Department publishing a standard of requirements which must be reached before a rural school receives endorsement as a standard school. For example, Michigan has published these requirements with photographs of typical rural schools which have reached the standard. A school which wishes recognition makes application to the County Commissioner, who inspects the school with an official from the Department. After approved, a metal plate bearing the words "Standard School" is placed on the wall. The unveiling of this plate is usually an important educational event in the community. Illinois grants diplomas to schools for satisfactory conditions in the school building and grounds. In addition, a standard plate is placed above the door on the outside. The average community does not have any standard by which to measure the efficiency of its schools. The parents believe that what was good enough for them when they were young is good enough for their children.

The rules for standard schools may deal with the school grounds, the building, the equipment and the qualifications of the teacher, the efficiency of the teaching and the general management. Uniform regulations are in existence in such States as Illinois, Michigan, Minnesota, Missouri, Ohio, Pennsylvania, Oregon and Alabama. In Oregon, the score card is printed and posted in the room. Whenever all the items reach the standard, the school obtains State recognition. It should be remembered, however, that standardization, while improving the physical conditions and even the teaching conditions of the rural school does not proceed far enough to make a rural school a real community farm school. It stops short unless a very exceptional teacher takes charge.

In more advanced sections of the United States, school officials have been anxious to possess a school as near the ideal as possible; so Illinois has established more severe conditions than those required for standard schools. These higher and more severe standards give recognition as a "Superior School," and a door plate with the words "Superior School" engraved upon it. The chief additions to the requirements are a cloak room for each sex, a library room, manual training room with equipment, and equipment for teaching sewing and elementary agriculture. There must also be a parent-teacher's club to secure the co-operation of parents and the children. In short, the "Superior School" must be equipped with everything for the best teaching, must have a teacher of superior qualities, must do excellent work, and must have the co-operation of parents to maintain a high standard. The important feature of a superior school is the co-operation of teacher, pupils, parents, trustees and tax payers.

A full page is required for a summary of such requirements in the State of Kansas, and an explanation of this summary requires a bulletin with twenty pages of small print.

Nebraska score card for standard rural schools takes three pages, of which the last page is worth giving in more detail. After 85 points are given for grounds and buildings (ten points) the teacher (25 points) organization of school (15 points) building (15 points) equipment (20 points), forty points are left for results (20 points) and country life agencies (20 points). The results are estimated by the number of those who attend and complete the eighth grade and who then proceed to a higher school; other points being percentage of attendance and percentage of enrolment. The country life

Continued on page 1096.



## THE HORSE.

### Preventive Treatment of Joint-Ill.

A simple treatment adopted at the Carlton Stud of Messrs. James Forshaw and Sons, as a safeguard against joint-ill will save breeders many troubles with their foals. The treatment was adopted by the late James Forshaw, and has been consistently carried out ever since. When the foal is twelve hours old an injection is given of about a pint of warm water (about the temperature of milk when freshly drawn from the cow), to which a little soap has been added. The quantity of soap required is so small that it is sufficient to rub a little on the hands and wash it off into the water to be injected by an enema or rubber ball syringe, the latter being preferred. The whole of the liquid is slowly injected into the rectum. Even if there are signs of looseness or purging after this treatment the dose must be repeated in twenty-four hours.

The reasons for the process are thus explained. Examinations of the young foal often revealed the presence of hard dung, which in many cases could not be discharged until dissolved by the soap solution. This obstruction retarded the cleansing process, and the system became poisoned. A second injection is given because even though the foal may have shown signs of looseness small, hard balls of dung have been found in the passage, and great importance is attached to thorough cleansing of the bowels. Without venturing any opinions as to the cause and cures of joint-ill, which are matters for the scientists who are engaged on research work, the fact remains that at Carlton there has not been a case of joint-ill for twenty years, and it is also important to know that the farmers in the districts surrounding the stud who have adopted the practice, have also had a remarkable immunity from this trouble.

Another simple form of preventive treatment is adopted in Messrs. H. and R. Ainscough's old-established Burscough Shire Stud, in which there are at present fifteen out of sixteen mares in foal. A few days before foaling time iodide of potassium (five grams to each meal) is mixed night and morning with the mare's food, and this quantity is given every second or third day. For three or four days after foaling the same dose is supplied daily, and then every alternate day until the foal is eight or ten days old, after which time outbreaks of joint-ill are rare. In numerous cases on farms in the district a timely dose of iodide of potassium given to the dam—the foal gets the benefit through the mother's milk—has had the desired result.—Live Stock Journal, (Eng.).

## LIVE STOCK.

### Contagious Abortion.

Contagious abortion is an insidious disease which is a scourge to the cattle industry. Not only does it decrease the present crop of calves but there is usually difficulty in getting a cow in calf again, and in many instances it leaves the cow sterile. A cow which aborts once may abort again, and in the meantime contaminate the bull and the entire herd. Clean cows bred to an infected sire will in all likelihood contract the disease, abort, and spread the germs to other cows which they come in contact with. There is no use in minimizing the seriousness of the disease. It lurks in the most unsuspected places. The pure-bred is as liable to infection as the grade herd. Premature birth is not the only symptom of abortion, but following in its wake is retained placentas, sterility, calf cholera, etc., all of which decrease the stockman's returns, completely upset his plans and seriously affect the live-stock industry. All stockmen should be united in stamping out the scourge. True, no man cares to placard his stable with "My herd is affected with contagious abortion!" but if the fact is concealed care should be taken not to spread the germs. No breeder should use a bull known to have been bred to a diseased cow, and likewise no man should ask a breeder to use his herd sire on a cow which he knows has aborted. A stockman cannot be blamed for not taking the neighbor's cow. There is always a risk, and the disease running through a herd means not only the loss of calves but also a decreased milk supply.

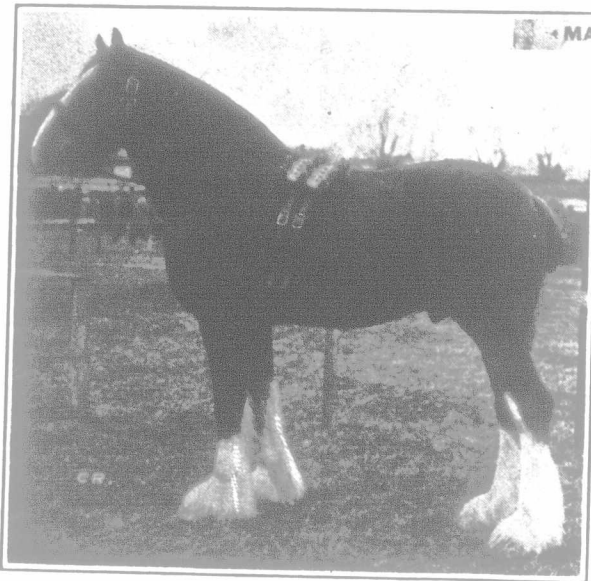
In many herds an occasional cow aborts but little is thought of it, and it is not until several cows abort that the owner's suspicions as to the real nature of the trouble are aroused.

The disease may find its way to the herd through the purchase of a cow that is infected, or from breeding to an infected bull. It is believed that the germs will be carried on stable utensils, and on the attendant's clothes, shoes, etc.; therefore, care must be taken at all times to prevent the disease making inroads into the herd. It is common for the disease to be virulent for one, two or three seasons, and then the herd will appear practically immune, the cows breed regularly and no complications are evident.

The trouble has more or less baffled stockmen and veterinarians. Various theories as to contamination and eradication of the disease have been expounded, and many forms of treatment have been advocated and tried. Apparently the germ enters the uterus before or shortly after conception, and vaginal discharges and faeces of diseased animals may contaminate the feed of all cattle coming in contact with it.

For a time the feeding of methylene blue was strongly advocated as a control method of the disease. In some herds it apparently gave results, while in others, when the drug was fed until everything was blue, there

was no appreciable effect. Feeding carbolic acid, as high as four or five teaspoonfuls per day for a period of three weeks, has evidently given results in some herds, while in others the effect was nil. It appears that immunity is established in two or three years, but there is always the danger of heifers contracting the trouble, thus keeping the disease in a virulent form for many years. Valuable as drugs may be in the control of the disease, cleanliness must not be lost sight of. Isolating cows at certain times, burning or burying foetuses and after-births, disinfecting stalls, utensils, etc., and douching the vagina of the female and the organs of the bull, are methods of treatment which all should practice. Whether the disease is in the herd or not it is well to wash out the cows after calving with a mild disinfectant, and the hind parts of the cows should be washed occasionally. Failure to observe the rules of isolation, sanitation and disinfection results in the disease becoming rampant and lingering in the herd



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First 3-year-old Clydesdale at Kilmarnock, 1919.

even after the mature cows become practically immune. The disease has been cleaned up in herds by strict adherence to the above mentioned three essentials in stamping out any contagious disease. In Bulletin 253, on "Dairy Cattle," by Messrs. Leitch, King and Sackville, the following paragraph appears, under the heading of abortion:

"The methods of handling an infected herd are isolation of aborting, or about to abort, cows from the rest of the herd, disinfection of stalls and gutters about the infected animals, and burning or burying all discharges and bedding from aborted cows. Added to these is the necessity of flushing of the vagina and washing of the exterior genitals, tail and thighs with an antiseptic solution till all discharges cease. The sheath of the bull should be cleansed with an antiseptic after each service. The best disinfectant for internal work, is a three-per-cent. solution of carbolic acid, phenol or chloral naphtholeum, or a ten-per-cent. solution of boracic acid, which has the advantage of not being so harsh as to cause severe straining, which sometimes is the result from the first-mentioned disinfectants. For external use and disinfection of stalls and gutters, etc., use a solution of carbolic acid, zenoleum, or any other like coal-tar product, double the strength mentioned

above. For use in disinfecting the stables a two-per-cent. solution of corrosive sublimate will also be found very efficient. One of the frequent results of abortion is temporary loss of the breeding powers of the female. Good feeding and frequent flushing of the vagina, to expedite the healing of the organs after abortion, is the best treatment for this condition."

Dr. Williams, of Cornell University, who has given the disease a good deal of careful study, gave the following conclusions in a bulletin which he published:

"It is recommended to use for this purpose warm, feebly disinfecting solutions, such as 0.5 per cent. bacterol, lysol, cresol compound, or any other soapy, coal-tar disinfectant. The soapy character tends better to dissolve the mucus in the vagina and cleanse the membrane more efficiently. More recently we have been using 0.25 or 0.5 per cent. Lugol's solution with apparently most excellent results. The solution should be introduced into the vagina at about the normal body temperature, 100 to 105 degrees F. The vagina should be filled, in order that it may be fully dilated, the folds of mucosa obliterated, and the solution brought into contact with every part. It is best introduced by means of a gravity apparatus in the form of a 5-gallon vessel for medium or large herds, armed with a stop-cock at the bottom, to which is attached a pure gum horse stomach tube. The vessel should then be suspended upon a manure or feed track, or upon a special wire track by means of a pulley, so that it may be easily moved along behind the row of cows. The horse stomach tube is introduced through the vulva into the vagina, and the fluid is allowed to enter the vagina by gravity.

"The bull is to be handled in the same manner. The solution should be applied before and after each service by a similar, though smaller, gravity apparatus with a pure gum horse catheter for introduction into the sheath. While the fluid is passing into the sheath, the operator should prevent its escape by pressure upon the outlet until every part is well dilated and all mucous folds obliterated, so that the solution comes into contact with every portion of the mucous membrane.

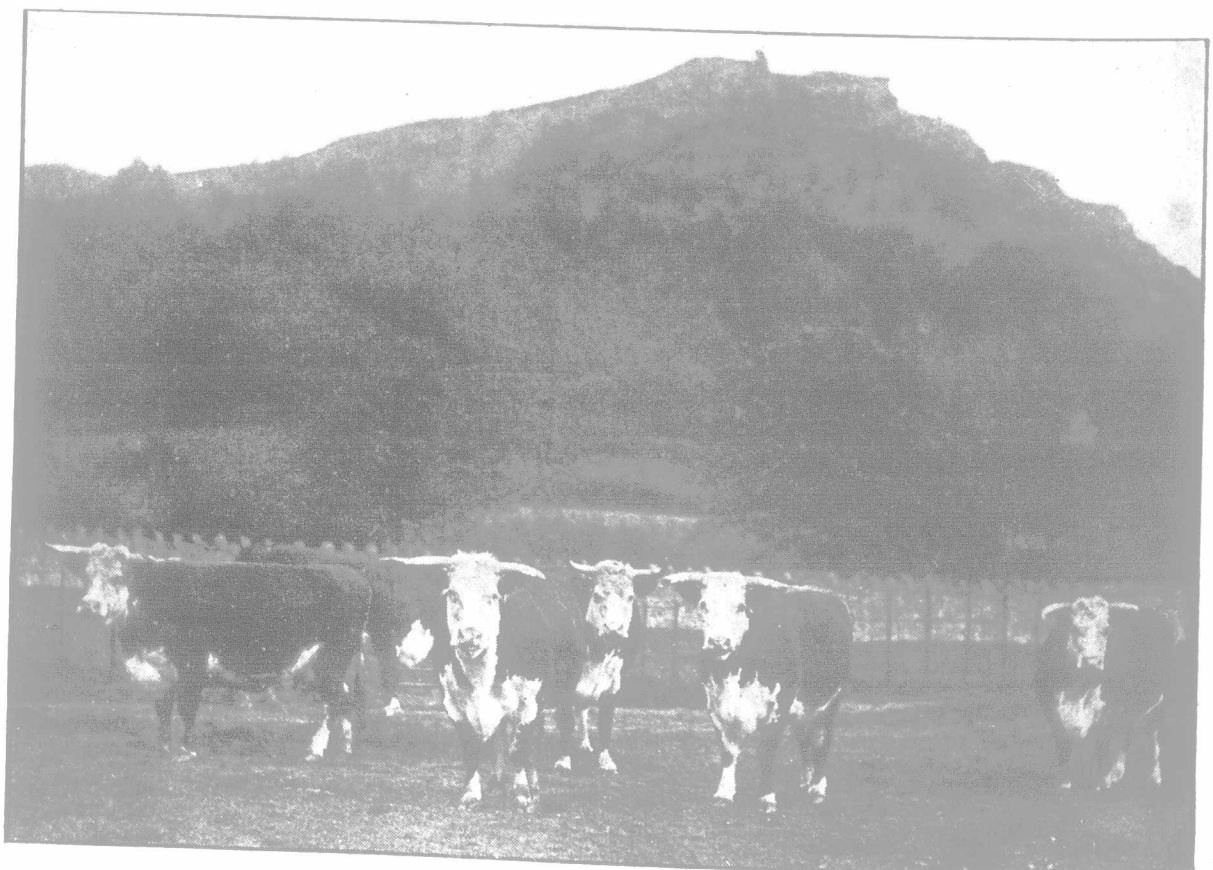
"Immediately after cows have calved or aborted if there be retained placenta or uterine discharge, the uterine cavity should be at once carefully disinfected and the disinfection repeated once or twice daily so long as the cervical canal is freely open, in order to overcome the infection present, and thereby do all possible to prevent sterility and to avoid abortion during the next pregnancy.

"It is even more important that the vagina of heifers, whether virgin or previously bred, and cows shall be systematically disinfected for a period before and after breeding, until conception is assured."

The Health of Animals Branch are experimenting with serums and vaccines in an endeavor to find an effective and practicable means of controlling contagious abortion. From the results so far obtained there is reason to believe that a serum can be obtained to counteract the trouble.

Breeders should always be on the alert regarding this disease. It is folly to wait until half the cows in the herd have aborted before applying any form of treatment. When the first symptoms appear use every precaution regarding isolation, sanitation and disinfection. One cannot be too careful. Using disinfectants before and after breeding, and also after a cow calves is a means of prevention of this trouble which causes a loss of thousands of dollars yearly.

Don't forget that sheep and cattle on pasture require salt.



Herefords Grazing in the Foot Hills.

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**Suggestions About Self-Feeders For Hogs.**

"Experiments at Ottawa, Brandon and Lacombe all point to the feasibility of the self-feeding method for finishing hogs, and to the fact that it gives results equal to hand feeding with a reduction of from 60 to 80 per cent of the labor of feeding." So says G. B. Rothwell, Assistant Dominion Animal Husbandman, Central Experimental Farm, Ottawa. Experience for a number of years at Ottawa has shown that the type of self-feeder as used in the United States, for the most part, is not suitable for use in Canada, where we use ground feeds largely. Meals will not feed through a self-feeder nearly as well as whole grains, and some device is necessary that will serve as an agitator to prevent a bridge-like mass of meal forming over the opening and preventing the hogs from getting at it. This has been largely overcome at Ottawa by modifying the control board, which regulates the amount of feed let down, so as to provide a hinged flap as indicated in the accompanying diagram. Where the hinged flap is not provided there is no way of preventing the feeder from clogging, unless the meal is poked down with a stick from above, but with a hinge near the bottom of the control board the pigs will dislodge the meal themselves by rooting at the control board and pushing it inward, thus loosening the meal. This point is most important in the construction of a self-feeder, according to Mr. Rothwell, since the efficiency of this method depends entirely upon the pigs having a supply of meal or grain always available.

Any kind of feeder will be satisfactory where it is to be used near the buildings so that it can be examined at least once each day. Where it is to be used in the pasture field, however, and visited only when it needs refilling, it must be of such a type as to feed readily and constantly. The standard type of self-feeder as used at the Central Experimental Farm is about 6 feet long, two feet eight inches wide and three feet high. These dimensions apply only to the feed bin, the peak of the roof being more than 3 feet from the bottom of the feeder and the troughs project out from the sides for varying distances. Troughs 9 inches wide are very satisfactory for mature pigs, but smaller animals

need narrower troughs to prevent them getting inside and lying down, thus soiling the feed. An illustration of a completed feeder is also shown herewith, and it will be seen that a feeder 6 feet long thus provides 12 feet of trough space. Half feeders can also be used for pen feeding. These can be used for weaning litters and need have no agitator, since some one is always around every few hours. The standard type as shown can be built at home for about \$12. Matched lumber should be used for the inside at least. The third illustration shows a larger type of feeder 12 feet long and having four compartments, so that different kinds of feed may always be before the pigs. It is well to note also, in the diagram and the 6-foot feeder, where the roof opens only on one side, that leaking at the joint is prevented by overlapping slightly, the lid being hinged to blocks fastened to the stationary half of the roof.

Mr. Rothwell stated that excellent results were secured from weaning pigs on the self-feeder last year. Conditions were, however, particularly favorable to a slow, gradual weaning, accomplished largely by the pigs themselves after they were at least 5 weeks old. A number of sows were housed in pens from which the litters could escape to another compartment where self-feeders were placed. If given skim-milk in addition to the meal there should be no check in growth, and the litters can be carried right along on the self-feeder.

Ordinarily, however, when pigs are weaned in the usual way, the self-feeder should not be used before the pigs are three months old. Trouble in this connection usually arises from the fact that when young pigs are given access to all the meal they will eat after and then go for the skim-milk. Afterwards they swell up like balloons and become stunted in growth. Skim-milk is always preferred for young pigs, but tankage is a substitute if fed in quantities no greater than the pigs want it. In other words, it should be fed from a small compartment in the self-feeder.

In any case small pigs should be gradually accustomed to feeding from a self-feeder. At first use a feeder that allows only a small quantity of meal to run down, feeding, at the same time, twice a day from a trough as usual, but in diminishing quantities, for about a week. Pigs up to three months require a ration fairly free from fibre, and on this account pasture or roughage are no more desirable than a self-feeder up to this age, unless under a prolonged weaning period as mentioned above. For very young pigs under these conditions, a mixture of oats, shorts and middlings is best with skim-milk in addition. All these feeds tend to build up bone, sinew and muscle. At three months of age a little corn can be introduced into the ration and at

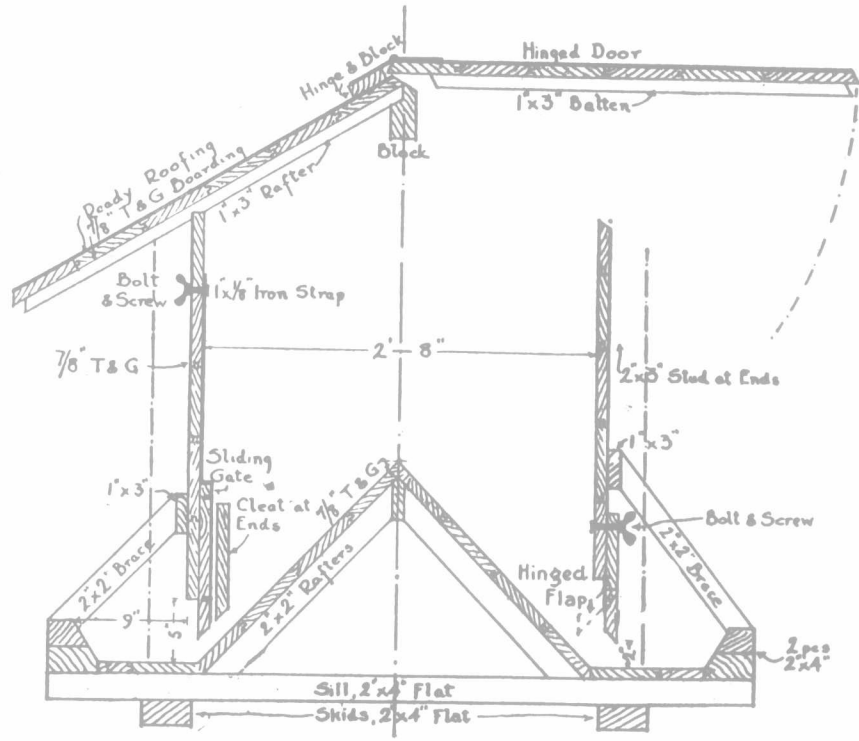


Diagram of Self-feeder Showing Two Arrangements of the Control of Feed Slide.

four months equal parts of corn, shorts and oats, or barley, shorts and oats can be used. Barley is practically equal to corn, although it is hardly as palatable. At about five to six months the corn can be increased, using a little tankage fed from a small compartment in the self-feeder unless skim-milk is used.

For market hogs from the age of 4½ months up to marketing age the self-feeder is difficult to beat. There is some doubt as to whether younger pigs on pasture will forage sufficiently if meal from a self-feeder is available in unlimited quantities, and experiments are to be conducted this summer to determine this point. As a general thing also, the self-feeder cannot be used with best results on little pigs, sows with litters and pregnant sows. In fact, when used with breeding stock of any kind, there is too great a tendency to put on fat with a self-feeder. Pigs will eat slightly more meal when hand fed than when on a self-feeder, but they will get to market weight faster on the latter. "The self-feeder was primarily designed for feeding on pasture," said Mr. Rothwell, "but our experiments for the last three years with winter feeding show that there is even more of an advantage in using a self-feeder indoors."

Buy a good pure-bred female and lay the foundation for a registered herd.

**Docking Lambs.**

Although the tail is useless either from a breeder's or butcher's standpoint in many flocks docking is not practiced or else it is done in a slipshod manner. All lambs should be docked when from ten days to a few weeks of age. It is neither a difficult nor dangerous operation. A good method is to leave the lamb standing and with a sharp knife cut the tail from below upwards allowing knife to slip between the segments of vertebra at about the second joint from the junction with the body. This method causes little or no shock to the lamb and the bone is not crushed as it is liable to be when the chisel and mallet are used. If bleeding continues a handful of flour or like material placed on the wound will very often clot the blood and stop the flow. If bleeding is profuse a string might be tied tightly above where the tail is to be severed. As a precaution the knife should be sterilized in some antiseptic solution after each operation. In Pamphlet No. 16 of the Live-Stock Branch Messrs. Stanfield and Morton give the following reasons why docking pays:

"The tail is useless and a detriment. Manure gathers on a long tail, but when docked this cannot occur. Maggots often appear on the rumps of lambs and sheep where manure is caked. These pests cause considerable loss and stop growth. In the case of small lambs, often the manure cakes so hard that it is impossible for the bowels to act and death follows. Docking is a sign of careful management. It makes the animal more attractive and, therefore, easier to sell. A buyer will not purchase the neglected flock until he has purchased all the good quality lambs. All ewe lambs should be docked because it makes breeding easier and does not waste the strength of the ram. A long tail obstructs and impedes during the breeding season."

When docking the lambs the males to be kept for breeding purposes should be castrated. Far too many sheep owners neglect this and as a result suffer financial loss. All grades and scrub pure-bred male lambs should be altered. It is not good business to raise buck lambs to feed off and a scrub pure-bred should not be permitted to perpetuate his kind. In castrating it is a common practice to clip the end of the scrotum and draw the testicles. By cutting the end of the scrotum it ensures a free opening at the bottom and avoids later trouble. It pays to castrate market lambs. Messrs. Stanfield and Morton give the following reasons for castrating in the above mentioned pamphlet.

1. Castrated lambs are not as restless as ram lambs and attend to their business better which is getting fat and ready for the block.
2. Wethers are easier to fence and herd on the farm.
3. Wethers do not annoy the ewe and ewe lambs in the flock. The wether lambs can be left in the ewe flock without danger. Ram lambs must be separated or breeding will take place.
4. On the same feed and under the same conditions wethers will grow bigger and fatter than ram lambs.
5. If the market in the Fall drops and becomes dead, the wethers may be carried over but the ram lambs must be sold at any price.
6. Finally and most important, wethers sell at a premium above ram lambs on the market.

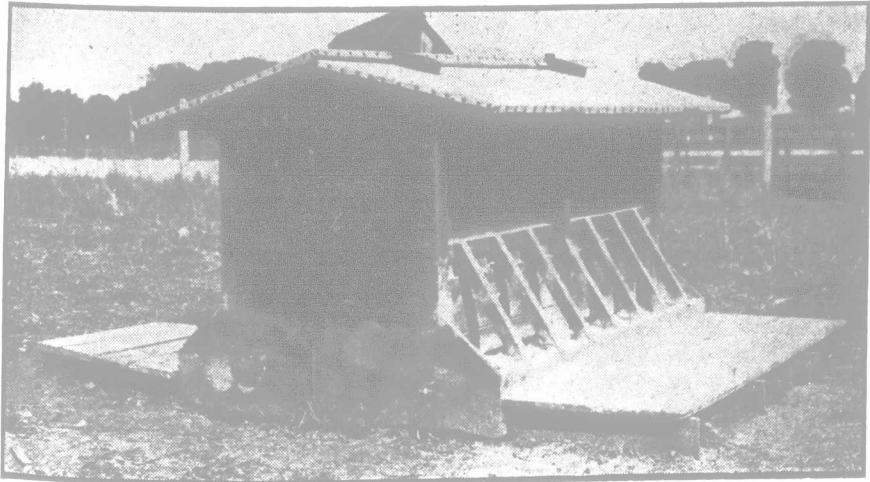
With everything in favor of castrating the lambs destined to be fattened why is it that so little castrating is done in Ontario flocks? Think it over; there is usually a difference of several dollars a head in favor of altered lambs over bucks of the same age on our markets and the reason is obvious.

**Starting Right.**

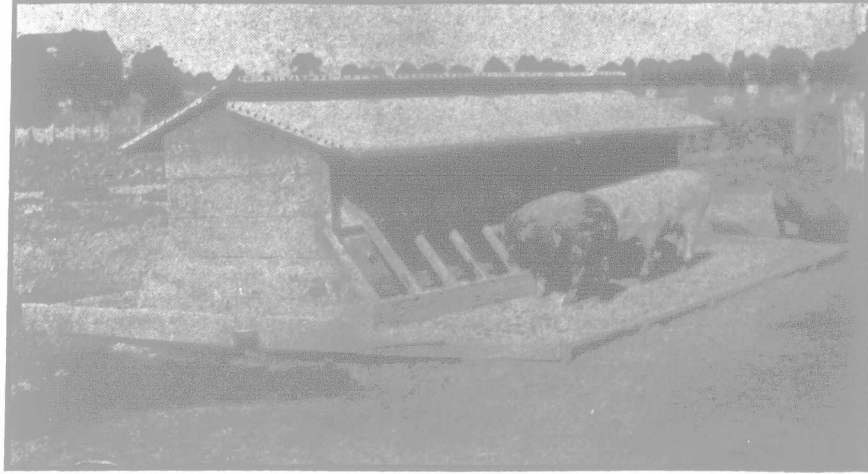
EDITOR "THE FARMER'S ADVOCATE":

I read your paper with a great deal of pleasure. I was asked by a neighbor the other day what job I liked best on the farm, and I told him I liked them all fairly well, but the one I liked best was sitting with my feet in the oven reading "The Farmer's Advocate."

After being off the farm for about ten years I came back to the soil last fall. I bought a pure-bred bull and heifer calf with which to build a herd of pure-bred stock. They cost me about three times as much as scrub calves, and a number of farmers thought it was wasting money. If health, weather, and a hundred and one other things which we have to contend with, do not "buck" me too much, I will show some of these careless, tumbledown



A Standard Six-foot One-compartment Self-feeder.



A Four-compartment Self-feeder, with Twelve Feet Feeding Space to a Side.



critics how much money I wasted on the foundation stock.

We need something in the country to encourage farmers to "grade up" their stock. We need more fairs and exhibitions in our small towns. This I think is a great help to farmers, especially to farmers' sons who are beginning to take some interest in the stock, etc. It is to be hoped our local Government will give us the grants which they saw fit to cancel last year. This matter should be brought to the attention of our Government through the medium of our Farmers' Institutes, and the Government should be urged to continue the grants this fall as in past years. Now, when the prospects are bright, everything possible should be done to encourage farmers to "grade up" their beef herds.

Prince Co., P. E. I.

L. P.

## THE FARM.

### Superior Types of Rural Schools.

Continued from page 1093.

agencies which receive credit for twenty points, include corn club, pig club, garden club, cooking club, sewing club school fair, victrola or similar instrument, promotion exercises, field meet, debating society, rural community club or school improvement club, hot lunches, supervised play, playground equipment. A standard school must secure 100 points out of a possible 125, and a school reaching 115 points will be placed among the schools of "Merit."

It would be an excellent thing if all our Provincial Departments of Education would adopt a score card for marking the efficiency of our rural schools and have various points thoroughly understood by school trustees, parents and tax payers. They would then know whether their school was really as efficient as they believed it to be, and if it could be improved in some particular of which they were at present ignorant.

But after all, these "Standard" and "Superior" schools are dependent for their success upon a live teacher with gifts for leadership and with a rural spirit. The present difficulty in rural school work is the problem of retaining efficient teachers in a one-roomed school. This will always be a difficulty, but where consolidation has been adopted and where teachers' residences have

through the clubs, ordered sparingly as they didn't want to be loaded up with high-priced seed to carry over for another year. Many of the dealers tried in vain to find out what farmers would need but the farmers refused to tell them, so when seeding time came on there was a rush for red clover, and the demand was found to be away beyond the supply. This created a greater demand for alfalfa, alsike and sweet clover. Prices commenced to advance on them and they were soon brought up so that, of the small bulk seeds, timothy was the only seed of which there seemed to be enough to go round. From such circumstances it would appear good policy to buy early and avoid the rush.

Another drawback growing out of a scarcity of any one seed when prices go soaring is to use more of the lower grades of seed. Consequently, it was observed that more number two and three grades were in evidence than usual and, as one might well expect, there were some line samples in these grades put out which would be too close to the limit in both appearance and weed seed content. This again led to some questionable devices in handling those kinds of seed which require to be graded both by wholesalers and retailers. For instance, a local dealer was misled to label a certain standard timothy, which grades No. 2 in appearance but No. 1 in purity, put up by a large Chicago firm, as No. 1 seed. The seed was bought from a jobber in seed from Montreal, a wholesale grocer, who said he sent out the seed just as it came to him. The misdemeanor was a violation of Section 7 of the Seed Control Act, which says that other designation marks than those required must not overshadow them. In the case referred to, No. 1 for purity was printed with darker material and was more conspicuous than Grade No. 2. Consequently the local dealer had placarded his pail sample of seed as No. 1. When his attention was called to it he saw his mistake and remedied it. This was different from another case where on two bags of alsike the figure No. 2 had been deliberately changed to look like No. 1. Some dealers who had one and two grades of seed would have the bags which graded No. 1 placed so that it was quite conspicuous, while the No. 2 grade had its markings to the wall. Again, cases were noticed where sample bottles or cans with seeds in them for advertising would have grade No. 1 on what graded No. 1, but the other lots which graded lower had no designation on them other than the kind of seed. Apparently the object in both these cases was that pro-

of good alsike seed. The wet weather means too much growth for seed. The soil may be too wet to pasture off the rank growth. Clipping this rank growth may be practicable. However, as one extreme follows another, and last year was an excellent one for alsike seed production, this may be reversed this season. However, it may be a fine season for the production of red clover seed, as the crop last season wasn't very heavy nor of the best quality. At any rate, the markets are so bare of seeds that every effort should be taken to produce these seeds in quantity. Present conditions point to an excellent growth of grass and hay, consequently a good second growth of red clover is looked for. There are many parts of Ontario where excellent clover seed could be produced some seasons, but little or no attention is paid to it. It is high time to correct such mistakes. The hope is expressed that this year, at least, this may be done.

Seed Branch, Ottawa.

T. G. RAYNOR.

### Making Sweet Clover Hay.

EDITOR "THE FARMER'S ADVOCATE":

As it is nearing the time for sweet clover haying, I feel I should give my experience along that line. Last season we started the mower on June 14—none too early for here—and cut 30 acres as fast as we could. As soon as the first field was well dried in the swath, which took three days, we raked it in light windrows early in the day as soon as the dew was off, but we did not allow it to become so dry and crisp but what all the leaves remained on. Using the hay loader, we put it in quickly and kept it well distributed through the barns, not tramping it any more than could be helped. This hay came through in perfect condition, and was relished by all the stock. In thirteen cuttings of alfalfa we never had better hay than this crop of sweet clover. It is the best rough feed for milch cows we have ever had. We have two 12 by 35-foot (or twin) cement silos, one of which containing last season's corn is not touched and will supply next winter's feed of silage. Thanks to the sweet clover hay for this saving, we will have no corn to hoe this summer. We have 25 acres of sweet clover looking fine for this coming crop. In the year 1916 we had 20 acres of this clover, very heavy, and which got rather coarse before it was cut, near July 1. We raked this up in light windrows with a side-delivery rake, in the forenoon of the second day; in the afternoon we turned it over with the same rake, throwing two rows together and coiled it up. We let it stand three days, with no rain, then hauled it in and mowed it in deep. It kept perfectly and made grand feed. It is better run through a cutting-box when coarse as that was. In 1917 we cut the crop about the middle of June and handled it the same as in 1916, but the rain came every day after it was coiled, soaking it to the ground, and considerable of it molded. The same year the red clover around here, which was cut early to obtain a crop of seed, met the same fate. Corn is called king, but sweet clover is a strong rival. It is better feed, more cheaply handled, enriches the soil, and grows well where corn will do nothing.

York Co., Ontario.

W. J. LEGG.

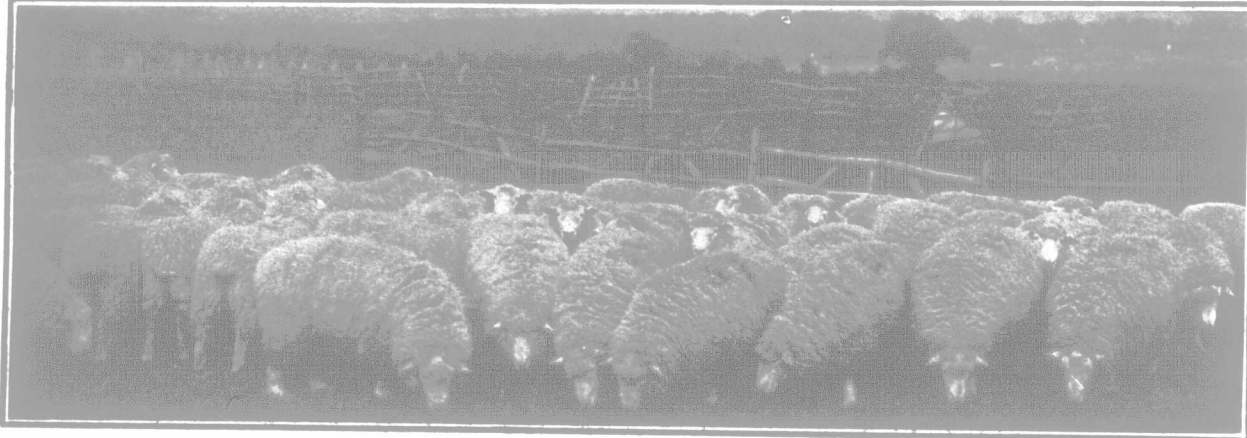
### Price Control in Agriculture.

EDITOR "THE FARMER'S ADVOCATE":

Not long ago I saw in one of our dailies a very good cartoon in which "Food" and "Wages" were standing on a high scaffold with a ladder leading therefrom. Each of these worthies was pointing to the ladder and urging the other to "go down first." Food, wages, transportation and manufacture seem so inextricably interwoven in their welfare and existence that it is difficult to say what the future holds out in the way of profits and prices. Primarily the production and price of food governs or is used as an excuse to govern the rise and fall of wages, transportation tariffs, price of manufactured goods, etc. During the last three years the buying power of a dollar bill in food alone has dropped very materially. The wage earner wants to live as well as he did three years ago, so he says to his employer, "I must have more dollars to buy food and clothes." And he backs up his demand with a union strike. To keep things going, the employer adds a percentage to the freight tariff or the cost of the manufactured article as the case may be.

Now if the farmer were as favorably placed as the working man and the so-called "Big Interests," when these put up their prices he would say, "The commodities I cannot raise and have to use in my work and life, the cost of getting my stuff on the market, my men's wages have all risen in price; I must have more for my produce or go out of the business. I will combine with my brother farmers and hold my produce until the consumer gives me enough for my goods to give me a living profit." Then the other interests would take another hitch up, and who knows where the thing would stop?

But Providence has ordained that farmers shall only by unremitting toil and strict economy make enough to keep soul and body together by selling as fast as they produce. The fact that they furnish a product more or less perishable also robs them of any independence they might otherwise obtain through union. So that in the last analysis it is food or rather the helplessness of the farmer that keeps prices down, and not the agency which causes them to soar. They have to sell as soon as they produce and take what a grudging trade will give them, in prices based, not on value or



A Flock of Romneys in Their Native Land.

been built, this difficulty has been very much lessened and almost removed.

If a country community cannot obtain a consolidated school which is the ideal, it should certainly strive for a school with a status of a standard and superior school. The requirements in each case to be laid down by the Provincial Department. The old red school house with no standards should cease to be the source of education for our young Canadians in rural districts.

### Problems of the Seed Trade.

EDITOR "THE FARMER'S ADVOCATE":

Now that the season for handling farm seeds is practically over, some observations may be in order as to how the trade was carried on during the season, and what lessons one may learn from the year's experience. The season has been a peculiar one in many respects, and there have been a number of surprises both for buyers and sellers. The bulk of the seed went out this year in a wonderfully short time, and a good deal of it was shipped by express to meet the rush orders for clover and grass seed. While the warning went out last summer that the supply of red clover seed was bound to be short, there were many farmers who did not take the matter seriously, and who might have saved a lot more of the second-growth clover for seed than they did. However, a good deal was saved, but it was sold last autumn for very moderate prices compared with what has prevailed for seed this spring. Many farmers who didn't grow any seed, but who usually buy, had the impression that there would be plenty of seed from some source and postponed buying until they were assured as to how the new seeding would come through, and after that they thought that prices couldn't possibly stay so high so they waited until the last minute, so to speak, before they bought their stock, which this season proved too late for many. The farmers' clubs, too, figured most conspicuously this year and added a lot of uncertainty to the retail trade. The local seed merchants, not knowing just how much would be needed outside what was being supplied

spective purchasers could draw the inference that all the seed handled by such dealers was No. 1. Still another case was where "choice" was used with No. 2 grades. All such acts might very well be considered as violations of Section 8 of the Seed Control Act, but which might be hard to prove to the satisfaction of a magistrate if tried out in the court. One dealer this year, who was fined the maximum amount for violating the seed law and whose co-operation it has been very hard to secure, as this was his fourth or fifth offence where he has been before the court, to say nothing about some cases which may have been overlooked on previous occasions, was found to have rejected seed of red clover in a wholesale seed firm's sack and marked No. 2. There might be some difficulty in satisfying the court that this was the same seed as was shipped in this bag, if it should go to court.

What lessons may the purchasers of seeds learn from these acts? Not by any means that all dealers have done these things, but there has been a tendency on the part of too many to err in this direction. Dealers are often found who think, to judge from their remarks, that they are handling a better grade of seeds than they really have, for when asked what grades they are handling they say No. 1 grade, or No. 1 and 2 grades. Often the bags and invoices show nothing above No. 2 grades. Consequently no purchaser of seeds should take everything for granted, but they should investigate for themselves and see how the bags are marked, etc. If any suspicion arises they should notify the Seed Branch, Department of Agriculture, Ottawa, that an inspector's services were wanted to examine the seed, or they should take an official sample themselves and send it to the Department to be reported upon. If any test number is on the package that should be mentioned on the form of complaint. Seed grain of all kinds has been plentiful in Eastern Canada and of good quality. Seed corn, too, has been plentiful and of excellent quality for the most part. From all present indications it would be wise for farmers who may have suitable clover fields for seed to keep them for that purpose this year, in order to have enough seed to go around another season. So far the season doesn't look favorable for a crop

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T. G. RAYNOR.

## Clover Hay.

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W. J. LEGG.

## Agriculture.

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cost of production, but on scarcity or abundance of supply.

### Farmer Never Has Controlled Prices.

It has been proved, time and again, that the farmer cannot control prices either as an individual or in combination; and as a farmer I am afraid he never will. Take a concrete case to illustrate the point. A concern is turning out farm implements. If the management is endowed with good business foresight and grip, the raw material has been purchased at wholesale and at lowest price. The employees are trained to highest efficiency, and all waste is eliminated. To the cost of the implement is added the desired profit, and it is sold at the desired price, subject to slight fluctuations, i. e., the manufacturer, whether he be alone, or, as is more often the case to-day, the industry in combination, controls the price of the output. If the output exceeds the demand the manufacturer says: "These are not perishable, we will hold them."

On the other hand, the farmer after years spent in breed selection, learning how and what to feed for best gains, how to grow feeds or where best to purchase them, produces one hundred pounds of pork that cost him twenty dollars. The farmer cannot say, "I want to make 10 per cent. profit on that pork, and will sell it for \$22.00." He has to take the price set for the time being by the packers or wholesalers, a price which will allow them to sell and make their desired profit. Nor can the farmer, if the market does not suit him, hold, because his commodity is perishable.

There may be conditions under which he may sell his twenty-dollar pork for twenty-five or even more, but more often conditions compel him to sell under cost. Occasionally food prices do materially strengthen but it is through no control of the producer, nor does it mean a greater profit for him as a rule, because at such times the cost of production is generally greater.

A good example is furnished by the last three years when the curtailment of labor in production and the increase of consumption by the armies and their dependent accompaniments created a necessary insistent demand considerably in excess of supply. The cry of food shortage brought and has kept up the price of foods. It was not through any action or influence of the producer, nor have the profits to the producer been much, if any, greater than before. If he has received twice as much for his produce his wage sheet, equipment, clothing, feeds, fertilizer, etc., have jumped in the same or greater proportion.

There is another condition in which scarcity of food may bring high prices, and this condition may obtain in the near future. Food prices will undoubtedly continue high until next autumn, then there may be a depression of prices dependent on, and modified by, the ability of the rural population of the world, or at least the northern hemisphere, to raise the large crops they hope to, and also on the character of the season.

### When Prices Will Fall.

The impetus that has been given production will have a tendency to carry it into surplus; supply will exceed demand and prices will drop below cost of production. The power and influence of organized labor will keep up the price of their commodity, and the pendulum of production will swing to the minimum, because of the drawing of labor from the farms where low prices of farm produce will not allow payment of wages that can be obtained in other industries. Then lessened production will create a scarcity, high prices will ensue, and the pendulum of production will swing back to maximum. Thus, if no outside controlling factors interfered to steady prices, we would have a more or less regular vibratory motion of prices and production, the time of vibration depending on the number of months or years it takes to mature the particular product. This has been well illustrated in the last twenty-five years in the pork trade, especially in Ontario, where production and prices have played a very evident game of see-saw. Now all this vibratory tendency is undesirable and interferes with the stability of trade and industry, and it leads to the feeling that our Governments should exercise a certain degree of control in regard to prices in every department of the national industrial household.

### Price Control Dangerous.

One can readily see that absolute control of prices by any national authority covering a sufficient period of time to allow any industry or number of industries to lay definite plans as to production and extension, would be fraught with much danger to trade. No man can bank on the future. At any period some unforeseen distracting influence may operate to upset all plans. Witness the state of affairs at present in connection with the wheat price in the United States. Either the Government stands to lose or it will have to go back on the guaranteed price. That is, no one nation can do this thing. The United States has guaranteed to her wheat raisers a price of say \$2.50 (not the actual price) per bushel until after the harvest of 1920. Canada, South America, or some other country without such a guarantee sells wheat to the other nations at \$2.20, and even sells to U. S. millers at that price. Then about the only thing for the U. S. Government to do is to buy the wheat from the farmers, sell it at a loss of 30 cents per bushel and turn the loss back on the people.

But it would seem to be quite possible to have price control work smoothly and very beneficially under the direction of a League of Nations. To-day such authorities as the nations food controllers are expressing the opinion that food and fuel control boards should be a permanent institution in every nation.

Undoubtedly in the future international trade re-

lations will be closer, stronger and freer than ever before. All industrial intercourse between nations should be broader and more unselfish than ever before. The thought in the future should not be, for instance, what will Canada gain by trading with this or that country, but can we establish such trade relations that the benefit will be mutual. In nations as in individuals a square deal on both sides leads to pleasant relations and a future extension of business. The popular conception of the jurisdiction of a League of Nations probably limits it to the policing of the different countries, the making of international laws as to armament, etc., and the settlement of international disputes. If, however, the different nations were to make food control permanent, and this would also mean the control of price, then why should not that control become international as well. This would obviate "cornering," "profiteering," lessen congestion of trade in any one place or country, tend largely to eliminate the speculator or middleman, and bring the consumer nearer to the producer.

An expert system of crop estimation, such as already exists in the International Institute of Agriculture, could regulate the trend of trade and price each year. Such price control would not necessarily mean higher prices but steadier prices, and lower prices to the consumer through the deletion of unnecessary accessories. Something of this kind must be done to stabilize agriculture and make it sufficiently attractive to lead more good business men to take it up as a profession.

As agriculture stands to-day unorganized, misrepresented by public opinion unrepresented in the parliaments of the country, at the mercy of labor, industrial and political organization, men of business ability will not take it up nor remain with it if they have started. True, organization is existent in a weak, disunited scattered sense; but as yet no national body of real executive power, which represents agriculture as a whole, and which could make its influence felt in improved legislation exists in Canada or, in fact, in any of our American countries.

Efficient organization in agriculture must come in the next twenty years; whether from the Governments, in response to the demand of a semi-starved urban population, or from an enlightened and educated agricultural people.

Annapolis Co., N.S.

R. J. MESSENGER.

## CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

### The Live Stock Club Movement.

If there is any activity in which the boys, girls and young farmers of Ontario can engage, that will eventually lead to better agriculture in the Province of Ontario, it is in the direction of improved live stock. The general run of our horses, cattle, sheep and swine will stand considerable improvement, and any advancement in this regard will reflect on the whole agricultural industry. Farmers sometimes get set in their way, but the boys and girls like to try out new things, and when they once get interested in live stock, crops, the garden or anything about the farm their enthusiasm usually makes for very satisfactory results. In this connection it is worthy of note that the Ontario Department of Agriculture, through the Agricultural Representatives, is encouraging the live stock club movement, and R. S. Duncan, Supervisor of Agricultural Representatives, recently informed a representative of "The Farmer's Advocate" that there are now between twenty-five and thirty of these clubs in actual operation, or getting under way. There is one sheep club and several pig clubs, among the number. In the County of Waterloo the club movement is under the direction of the Waterloo County Board of Agriculture, and it is organized on broad lines. There it is called a Live-Stock Club, and the applicant can obtain any kind of live stock desired of specified ages. Club members can obtain Clydesdale or Percheron fillies, one year old or older if wished. In dairy cattle breeds, Holsteins, Ayrshires and Jerseys are promoted and heifer calves, six months or thereabout, can be obtained, or yearling heifers which have been bred. The same rules apply to beef cattle where Shorthorns, Aberdeen-Angus and Herefords are the recognized breeds. In sheep, lambs or shearlings are given out, and in swine seven-weeks-old pure-bred sows are distributed.

The clubs in the various counties differ to some extent, but the object of all is the same and, therefore, in general principles there is considerable similarity. Just as an example of the rules under which the clubs carry on this work, we desire to reproduce a few of the regulations set down by the Waterloo County Board of Agriculture. The regulations adhered to in this particular county are quoted as much on account of convenience as of preference, for the work is conducted much the same in all counties where the agricultural representatives endeavor to suit the work to local requirements. In Waterloo they have fifteen rules which must be adhered to, but we shall only quote a few of them in order to give readers some idea of the objects of the club:

Those who are eligible for members are Waterloo County farm boys and girls between the ages of twelve and twenty-five years.

Boys and girls may apply for one female of not more than two classes of live stock, except in sheep where they may apply for two females.

Boys and girls are advised to select breeds of animals

kept on the home farm, or at least breeds that predominate in their section so that there may be no difficulty in securing good sires.

A written guarantee must be given that all females will be bred to a registered male, same breed.

It is to be clearly understood that the animal and her progeny shall be the sole property of, and shall be managed by, the boy or girl with the advise of the parent.

Purchasers will be required to pay cash. If credit is required they are advised to consult with their local banker, who will have a knowledge of the scheme. Practically all banks of the County will lend money at six per cent. for this purpose.

Those under fifteen years of age are advised to select sheep or pigs. By good management in two years' time these animals should give enough profit to buy a heifer.

An effort will be made to have special classes for these animals at school fairs and at fall fairs.

An entrance fee of fifty cents per member will be charged to pay the cost of buying the animals.

In other counties, and under different circumstances, the applicant for an animal gives a note in payment, and this is endorsed by the parent or guardian. The note covers in full the cost of the animal, transportation charges, feed, etc. In cases where the child has taken a calf under six months of age, the note may be renewed at the banker's discretion on payment of interest and part of principal. In some counties, also, an auction sale is held each year at which the club members dispose of their surplus stock. It has been customary in some instances, too, for the applicant to give a note for a certain number of months, at the end of which time all the animals distributed are put up at auction. If the young folk who have purchased animals tentatively desire to make them permanent property they re-purchase them at the sale and make payment in full.

One customary stipulation is that records be kept of the feed consumed by the animal, or animals, and the gains made. In the case of dairy heifers, complete records of production are to be kept after the animal freshens. This gives the club member some idea of the cost of production and the profits which accrue. The results compared with the average of the farm herd is usually a good object lesson and a splendid advertisement for the better class pure-bred animal.

In certain localities local pure-bred associations are giving considerable assistance, going so far in some instances as to look after the purchase of animals, and adjusting payment. In such cases they usually arrange for an annual event at which judging competitions are held and worth-while prizes are distributed.

When the young folk take an interest in the live stock about the farm they usually encourage the parents to keep a better type, but unless the child can boast of actual ownership of at least one animal, the interest is liable to dwindle and wane. The club movement furthermore necessitates business transactions on the part of the young, and thus dissipates at an early age that lack of confidence where finances are concerned.

## AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

### Magneto Troubles.

When trouble arises with the ignition system, the first step is to determine whether the trouble lies in the magneto, the wiring, or the spark plugs. In the majority of cases the trouble will be found in either the wiring or the plugs, especially in cases where only one cylinder misses fire, and these parts should be tested first, before attempting to do anything with the magneto.

Special magneto plugs should be used with high-tension magnetos because of the intense heat of the spark. Spark plugs with small, thin wire points are soon destroyed by the magneto. The best are none too good for continuous service.

To locate a misfiring cylinder, disconnect one of the high-tension cables from the plug while the engine is running, and allow cable to spark to the engine frame instead of to the plug. If the engine slows down when cable is disconnected, proceed to the next plug and remove that cable, and so on until a cylinder is found whose speed is not affected by the removal of the cable. The removal of the cable from a faulty plug will not cause the engine to slow down. Remove this plug and clean, or replace with a new one as the case may require. Foul or broken spark plugs cause misfiring or irregular explosions in the cylinders accompanied by loud reports at the end of the exhaust pipe.

See that all of the wires, both primary and secondary, are making good contact, and are bright and clean where fastened under binding screws and terminals. Make sure that the insulation of the high-tension cable is in good condition, and clean off any oil that may have collected on it. Do not allow the wires to touch any metal work nor allow the wires to cross or come into contact with one another. See that wires are not broken.

If the trouble does not lie in the wiring or spark plugs, examine the circuit breaker contact points and determine whether they are pitted or burned. If they are, remove them from the magneto and file them to a flat, even bearing with a small, fine file. See that the points have not burned away so far that they fail to make contact when the cam releases the roller. Wash out any dirt or oil that may be present on the circuit breaker with gasoline. Faulty circuit breaker causes



irregular firing, the trouble not being confined to any one cylinder. A flat cam roller may cause every cylinder in the engine to miss, one at a time.

A dirty distributor or one covered with a deposit of carbon dust from the wear of the brush will sometimes cause the cylinders to receive the spark at the wrong time, causing the engine to stop suddenly, or knock heavily at intervals. Clean the carbon dust out of the distributor with a cloth moistened with gasoline.

After several years of service, the magnets may become weak and require remagnetizing. The magnetos will generally last two or three years before remagnetizing is necessary, and often much longer than that. The magnetizing should be performed by the makers or by a man that makes magneto repairs a specialty. Weakening magnets do not cause sudden stoppages as a rule, but cause a gradual decrease in the power of the engine, with increasing misfires at low speeds, and they also become evident through increasing difficulty in starting the engine.

A broken or defective "stopping" switch may cause the engine to stop suddenly by short circuiting the primary current. See that the switch is in the proper position when starting the engine. Be sure that the ground connection is clean and tight between the magneto and engine frame. Imperfect ground will cause an open circuit.

See that there is no "back lash" or lost motion in the gears that drive the magneto, as this results in bad timing. A loose gear or driving pinion may stop engine completely, as many a missing key that originally held the gear on the driving shaft. The magnets sometimes loosen on the magneto frame, and cause a poor spark. Tightening the magneto screws will remedy this trouble.

Dead engine, starting troubles, misfiring with loud reports at the end of exhaust pipe, and sudden stopping of engine can usually be traced to the ignition system. Continuous heavy pounding may be caused either by the ignition being too far advanced or to preignition. Try the effects of slowly retarding the ignition. If this does not reduce the pounding, cut out ignition altogether by means of the switch, with the throttle open. If the engine continues to run without spark, still pounding away, the trouble is due to preignition. Pour a little kerosene into the spark plug hole or a little turpentine and let stand for a while. This treatment may loosen the carbon deposit that causes the trouble. If this does not remedy the trouble, the inside of the combustion chamber and the top of piston must be scraped free from the carbon scale.—From "Gas Engine Troubles and Installation."

### Care of Storage Batteries.

1. Keep voltage above 1.8 at all times. While batteries should not be discharged below the point where the voltmeter registers 1.8, they should not be recharged oftener than necessary. The maker generally specifies a fixed voltage (usually 1.9) to which the battery should discharge before recharging is started.
2. Do not handle cells roughly or subject them to excessive vibration.
3. Keep the solution above the tops of the plates.
4. Do not short-circuit cells, or draw a greater current from them than specified in the maker's directions.
5. Do not charge cells faster or with a greater current than specified by the makers.
6. Be sure that the charging current travels through the cells in the direction opposite to that furnished by the cell when discharging.
7. Begin recharging a battery as soon as discharged.
8. Open vents when charging.
9. Remove plates from jar occasionally, and clean out any sediment that may collect in the bottom.
10. See that no white deposit or "sulphate" covers the active material on the plates.
11. When plates are removed from the electrolyte make inspection as rapidly as possible, not keeping the plates exposed to the action of the air any longer than absolutely necessary, as the air rapidly oxidizes the spongy lead.
12. Note the color of the plates. If they show lighter than at the time of a former inspection, they should be treated for "sulphating."
13. Give the batteries an over-charge about once every month, not oftener.
14. Incessant over-chargings waste current and loosen the active material.
15. Cut off charging current when negative plates "boil" or give off quantities of gas.
16. Keep the specific gravity of the electrolyte at the point specified by the makers.
17. Be sure that the separators are in place between the plates, and remedy short circuits that are caused by loose active material bridging the plates or by buckled plates coming into contact with one another.
18. Keep the temperature of the cells below 100 degrees F.
19. Repair any leaks of the electrolyte from the jar at once.
20. Keep the cells insulated from each other and from the ground. Keep the jars and insulation dry.
21. Be sure that nothing drops into the electrolyte, and that the water and acid are as pure as can be obtained.
22. Do not use an ammeter for testing cells of storage batteries.
23. Test cells frequently with voltmeter. A sudden drop in the voltage may be caused by sulphating.
24. Cells that are to stand idle for a considerable time should have the electrolyte removed and replaced with distilled water.

26. Clean terminals, wires and connections frequently, that are used on storage batteries. Corroded connections often are the cause of open circuits. Paint with paraffine.

27. Loss of capacity may be caused by insufficient electrolyte, by dirt in the bottom of the cell, by sulphating, by short circuits in or between the cells, by shedding of the active material, by excessive heat or cold, by impure electrolyte, and by contraction of the spongy lead.

28. Be sure that plates have not broken loose from the battery terminals. Look over battery connection lugs (lead) occasionally, as the lead joints often break and open the circuit.—From "Gas Engine Troubles and Installation."

### Commoners Discuss Standardization of Implement Parts.

Late in May the Committee on Agriculture and Colonization of the Dominion House of Commons raised and discussed the question of standardization of farm implements, particularly repair parts most commonly required. The subject was first introduced at a meeting by A. B. McCoig, Kent, Ont., who moved, seconded by S. F. Glass, East Middlesex, that the matter be taken up at a regular meeting of the Committee. Readers will perhaps be familiar with the fact that at the last annual meeting of the Ontario Association of Fall Fairs and Exhibitions and of the Nova Scotia Farmers' Association this subject was discussed and some reform approved of. Every farmer at least is familiar with the great disadvantage he faces as a purchaser in having to put up with the high cost of repair parts and the difficulty in obtaining them quickly.

At the beginning of the meeting referred to Mr. McCoig was asked by R. C. Henders, Chairman to

are required, for instance, for the dyke grasses of the Maritime Provinces than for the prairie grasses; and European countries require a lower cutter bar than do the prairie provinces because European farmers are more particular about saving all of the straw. However, the speaker stated that manufacturers want to put out as many of one type as possible because increase in volume for each type lessens the cost of distribution. He had never heard of standardizing repair parts and thought the logical thing would be to standardize types before attempting to standardize repair parts and believed this impracticable except by law. To standardize parts it would be necessary to discard patterns, jigs and dyes and to make some changes in other parts than those standardized. He agreed, however, that it would be quite feasible to standardize certain parts but was not prepared to say how far this could go. It was quite obvious in his opinion, that if manufacturers have to carry large stacks of repair parts for all different sizes, types and kinds of machines the cost of distribution and therefore the purchase price to the consumer is higher than would otherwise be the case.

Chairman Henders mentioned standardization of the width of binder canvasses and standardization of bolts, which for many makes of machines are not now threaded alike. Jno. Harold, Brant, recalled the great advantage to manufacturer and farmer of the amalgamation of the Harris, Massey and Patterson concerns in 1902, through which elimination of many types of farm implements was secured. He pointed out also that through the work of the Conservation Commission of the War Industries' Board in the United States 287 patterns of rubber tires had been reduced to 3 and that stoves were reduced 50 per cent, and agricultural implements 40 per cent, during the war. Since the war United States manufacturers have asked the Government to continue the existence of some body of this nature. J. W. Edwards, Frontenac, thought action in this matter should come from this committee

but reiterated the opinions of other speakers that no move should be made that would put a damper on the initiative and inventiveness of manufacturers. The little things that could be easily standardized were the most troublesome to the farmer.

Dr. J. H. Grisdale, Deputy Minister of Agriculture was present, and was asked to speak. He stated that the matter has been attracting the attention of the Department of Agriculture for some time and that the Dominion Experimental Farms system was very much interested in the matter in as much as they were probably about the largest users of farm implements in the Dominion. He could see no reason why standardization could not be easily accomplished with many small articles and

mentioned binder chains, carriers and blower pipes. An investigation has been started on all the experimental farms to determine the wear and tear on different parts of implements and on different soils. He said he expected to secure some results in four or five years.

S. F. Glass made a motion which was seconded by J. W. Edwards and carried that a committee consisting of Messrs. Henders, McCoig, MacNutt (Saltcoats), Best (Dufferin), Harold, Kay (Missisquoi), and Dr. Grisdale, be appointed to draw up a resolution and report at the next meeting of the Committee.

## THE DAIRY.

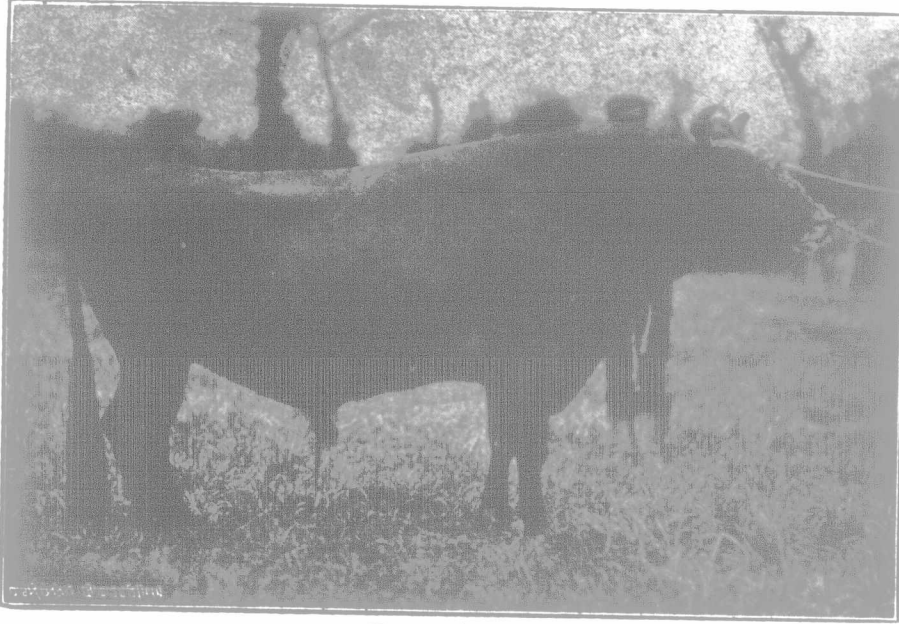
### Parturient Trouble in Cows.

#### Parturient Paresis or Parturient Apoplexy—Commonly Called "Milk Fever."

This is a disease peculiar to cows. Its nature and pathology are not thoroughly understood. Many theories as to the cause, the condition of the internal organs during the disease, the manner in which treatment effects a cure, etc., are and have been, advanced, but no person has yet been able to prove his theory correct. A post mortem of an animal that has died of the disease without complications does not reveal anything definite.

Cows that are heavy milkers, or in gross condition, or both are more liable to an attack than others, but cases have been noticed in animals under mostly all conditions, except that there are no cases on record of it occurring following the first calf and very rarely the second.

**Symptoms.**—The first symptoms are usually noticed from about 6 to 48 hours after parturition, but cases have been known to develop shortly before or during the act, while on the other hand it may occur several days after the act. In fact cases, the symptoms of which are identical with those of this disease, and which yield to the same treatment are occasionally noticed in cows during the period of lactation. This still further



Rower (Imp.)

This bull, now owned by John Pringle, London, Ont., is the sire of Rower's Draconis, which recently won the Theatre Cup, the most coveted prize on the Island of Jersey.

introduce the subject, which he did very intelligently from his knowledge of the implement business. The speaker referred to the great necessity and advantage to Canada of increased production secured as economically as possible. It is admitted that under present conditions the use of agricultural implements is not nearly as economical for the purchaser as it could be were there some standardization of repair parts effected. Many machines are thrown away after a few year's use, said Mr. McCoig, because some small repair parts are no longer obtainable and the machine rendered useless. He spoke of cutter bar sections, guards, and ledger plates on mowers and binders, rake teeth, cultivator teeth, plow points and wagon arms and nuts, as being in great need of standardization and urged that this would not only benefit the farmer but the implement manufacturer as well who would be in a much more favorable position on foreign markets if he could point out that all these parts on machinery of Canadian manufacture were interchangeable.

Col. Arthurs, Parry Sound, said that one of the best examples of the need for this improvement occurred in connection with the Canadian Expeditionary Forces during the war. A great number of wagons of Canadian manufacture were taken to England for war purposes but found quite useless, simply because the parts were not interchangeable. Consequently, it was necessary to use the less serviceable and inferior English wagon because it did not possess this handicap. He favored standardization of type as well as wearable and easily breakable parts and claimed that thousands of dollars are thrown away every year on this account. The manager of one of the implement companies was called upon to speak for the manufacturers and this gentleman stated that the agricultural implement business is the outgrowth of many years development. Instancing Quebec he stated that 18 or 20 different wagons are demanded by purchasers in various sections of the Province. In the Maritime Provinces also when the large manufacturers of wagons first sought a market there, they had to meet the demand for many types of wagons first established by the small wagon shops that formerly were to be found in every small village. Moreover, different cutter bars

confuses these cases.

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## DAIRY.

### Udder in Cows.

#### Prevention of Paresis—Comk Milk Fever.

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confuses matters, re the nature of the trouble, as while these cases of paresis are apoplexy, but cannot be called "Parturient."

The first symptoms usually are uneasiness, stamping of the feet, whisking of the tail, a staggering gait, a dilation of the pupils of the eyes, and a glistening appearance of the same, (this is known as an amaurotic condition) and an indifference to her calf and surrounding conditions. The pulse at this stage is usually frequent and strong, but soon becomes weak but more frequent. The temperature is below normal and continues so unless complications occur, hence "Milk Fever" is a misnomer, but on account of its common use we may be justified in using it. The symptoms increase in severity sometimes very rapidly, in other cases very slowly. She more or less gradually loses control of her muscles and will lie or fall down. She may or may not be able to regain her feet. If she should she will soon go down again, and after a variable time is unable to rise, and partial or complete coma soon becomes evident. She will assume one of two positions, either lying flat with limbs, head and neck stretched out, or lying well up upon the sternum with the head turned backward and muzzle resting on the flank. If the head and neck be straightened and then let go, they will immediately go back to the former position. This tends to give the impression that there is a contraction of the muscles of that side of the neck, but, if the patient be turned on to the other side the head will take the same position on the flank of that side. In some cases there is well-marked delirium before coma becomes well marked. When coma is complete the patient pays no attention to anything, has no sensation and practically no power of motion. In fact she appears as dead except from the fact that she breathes. Respiration is sometimes almost normal, but usually more or less noisy (called stertorous.)

**Preventive Treatment.**—After many years of study and investigation, and the use of many drugs of different natures, it has been discovered that a full udder tends to prevent an attack. Hence prevention largely depends upon allowing the udder to remain practically full for about 3 days after parturition. It is also wise to feed lightly for a few days before parturition. When nature is allowed to take its course, even with cows that are in high condition and heavy milkers, cases of the disease are few. In such cases the calf nurses frequently but takes little at a time, hence the udder remains, practically full. Where practicable the calf should be allowed to nurse the dam for at least 3 days, in most cases better make it 4, after which she may be milked dry in the usual way with reasonable safety. When for any reason, this plan cannot be adopted, a little milk should be drawn frequently, but in no case should more be drawn than sufficient to prevent udder trouble, for at least 3 or 4 days after parturition. It must be understood that while this treatment is usually successful there are exceptions. It is not unknown for a cow to be apparently all right in the evening to have produced a smart calf and be down and comatose from the disease next morning, hence preventive treatment sometimes fails and we cannot tell why.

**Curative Treatment.**—In the very early stages the cow loses the power of swallowing. This symptom is not noticeable until efforts are made to give medicines by the mouth, when more or less of the fluid will enter the larynx and pass down the windpipe to the lungs. If sufficient reach the bronchial tubes to fill them the cow will die of suffocation in a few minutes. If a less quantity enter it will cause mechanical bronchitis which usually causes death in a few days, but in rare cases does not prove fatal. Hence no attempt should be made to give drugs by the mouth. In some cases it is necessary to give medicines to keep up the heart's action, but this must be given hypodermically by a veterinarian, who will give strychnine.

We have stated that "a full udder tends to prevent the disease." In like manner distension of the udder tends to cure.

So far as immediate results are concerned it appears to make little difference what is used for this purpose, so long as it is not of a directly irritant nature. The gland may be distended with fluid or inflated with oxygen gas or air. Inflation is considered the better plan. The effects of distension are remarkable and appear incredible to those who have not observed them.

The udder should be washed with a warm disinfectant fluid as a 5 per cent. solution of one of the coal tar antiseptics or carbolic acid. It is good practice to draw all the milk in order that it may not interfere with inflation. A rubber or cotton sheet should be placed under the udder to keep it clean, and the syphon through which the gas or air is to be introduced should be disinfected in the solution and then carefully introduced into the milk duct and the gas or air forced into the quarter until it will hold no more. It is then good practice to tie a tape tightly around the teat to prevent escape of gas, or air. Each quarter is filled in this way. It is wise to fill the back quarter first, as even in cases of complete coma the patient often revives sufficiently to sit up before the last quarter is filled in which case the lower teats are hard to get.

It is good practice to now massage the udder well every 1/2 hour until the patient regains her feet, which is usually in an hour or less. If not up in at most 4 hours inflation should be repeated. The tapes should not be allowed to remain on the teats for more than an hour. The patient must not be milked at all for 24 hours after inflation, then a little milk should be drawn every 4 or 5 hours for the next 24, after which she should be milked and fed in the usual way. After inflation up to 48 hours afterwards she should be fed reasonable quantities of laxative, easily digested food.

Oxygen gas is considered the safest for inflation as it is pure and cannot cause udder trouble. Com-

pressed gas can be procured in cylinders with the necessary apparatus, from wholesale druggists.

Sterilized air, is also pure and should not cause udder trouble. Apparatus for this treatment can be bought from any dealer in veterinary instruments. This mode of treatment is usually followed, as, when carefully conducted it is both safe and effective, and much less costly than gas. Air injected through a rubber tube with a teat syphon at the end, by an ordinary bicycle pump gives the same immediate results, but there is greater danger of udder trouble following as the air may be contaminated. WHIP.

### Record Prices at Pine Grove Dispersal Sale.

One of the greatest dispersal sales ever held on the continent was staged at Pine Grove Farms, Elma, N. Y., on May 27-28-29-30, when that great herd of Holsteins was offered to the public by Oliver Cabana Jr. Pine Grove Farm, is the home of Rag Apple Korndyke 8th, an outstanding sire of the breed. He is nine years old, but in appearance does not look over four or five years of age. He went under the hammer for \$60,000, going to the bid of A. W. Green, of Ohio. His son, Rag Apple the Great, termed the "world wonder bull," was purchased by R. A. Pointer, of Dearborn, Mich., for \$125,000. While only a little over two years old he weighs 2,200 lbs. His dam is Segis Fayne Johanna a 50-lb. cow. He has a 48 and a 47-lb. sister. His five nearest dams each made world records, which will give some idea of the quality of blood which flows in this herd sire's veins. Segis Hengerveld Fayne Johanna a six-year-old cow, and probably the best individual of any of the high-record cows, brought \$40,000. She is a daughter of Segis Fayne Johanna. One of her daughters brought \$22,000, and another one \$20,000. Vikina Johanna, a sixteen-year-old cow and dam of the 50-lb. cow sold for \$10,000. She is in calf to Rag Apple Korndyke 8th, Fairview Korndyke Mata, an eight-year-old cow, brought \$35,000. These prices give some idea of how the Holsteins sold at this sale. Seven, eight, ten, twelve, and even fifteen, thousand dollars were paid in many cases. Choice stock was offered to the public and record prices were paid.

### J. B. Hanmer Banqueted by His Neighbors.

On Tuesday evening, May 27, the Norwich Board of Trade and the live-stock breeders of the district tendered J. Beryl Hanmer a banquet, in honor of his having developed the world's champion cow for butter-fat in Rolo Mercena De Kol, a Holstein cow of splendid quality and conformation and one which is capable of manufacturing feed into milk rich in butter-fat. She is an outstanding cow and with her daughter, a 38-lb. heifer, and several other head is consigned to the National Guarantee Sale, at Philadelphia, by Mr. Hanmer, where it is expected she will bring a price which will exceed past records. In the vicinity of Norwich there are a large number of Ayrshire and Holstein breeders who, while rivaling each other in the development of their favorite breeds, still maintain an excellent neighborly spirit and to the number of over three hundred gathered at the banquet to do honor to their neighbor and fellow-breeder.

During the afternoon a motor trip was taken through the district in order to give visitors an opportunity to inspect the herds and to become acquainted with the different breeders in the vicinity. The first stop was made at the Borden Condensery, which, by the way, is one of the largest receiving plants for whole milk in Canada. The party then called at the farm of John McKee and inspected his herd of big, deep high-quality Ayrshire cows. The herd is in good condition and from the aged matrons down to the youngest heifers give every indication of being heavy producers, and, we understand, the average test for the herd is four per cent. or a little better. It will be remembered that Jean Armour, the first 20,000-lb. Ayrshire cow, at one time graced the pastures of this farm. Her fourteen-year-old full sister is still manufacturing milk on the same farm. J. B. Hanmer's farm was next visited and all were interested in seeing the champion cow and her progeny. The cow is in splendid condition and is keeping up her heavy flow of milk remarkably well. Mr. Hanmer is an exceptionally good feeder. He has made a study of feeds and understands the business as well or even better than many a breeder of more mature years. From Mr. Hanmer's the party proceeded to other breeding establishments in the district. It was estimated that the investment in stock on the farms visited during the afternoon would total well over half a million dollars. There are farms in Oxford County which are second to none in the Province. Many of them are fully equipped with Hydro power and the accessories which can be used where this power is available.

At eight o'clock the banqueting hall was crowded and a splendid repast was supplied by the Norwich Ladies' Aid. John McKee, as toast-master, was never in better form, and apparently was quite at home among the Holstein men. In a few pithy remarks, Mr. McKee referred to the development of the dairy industry in the district, mentioning some of the high-record cows which have been developed in both Holstein and Ayrshire herds, and congratulated Mr. Hanmer on his great achievement. Malcolm Schell, ex-M. P. for South Oxford, in a toast to "Our Country," referred to the excellent standing of Canadian-bred Holsteins which held the world's record for both milk and butter pro-

duction, as well as holding the record price for annual selling at public auction. Mayor Buchanan, of Ingersoll, responding to the same toast, asked for a better feeling between country and city, capital and labor, and cautioned the farmers as to linking up with labor that is now asking for a 44-hour week when the world should be working on the old schedule to pay off the great war debt. Beryl Hanmer, the guest of the evening, thanked the town Board of Trade and the breeders of the district for the honor bestowed upon him. He gave a great deal of the credit for his success to the work of the older breeders of the district. Professor Dean was present and made a few timely remarks. Hon. G. S. Henry, Minister of Agriculture, cited the great advancement of Canadian Holsteins since the herd book was founded in 1883, giving great credit to the Agricultural Commission which was appointed in 1880. He also touched on the present Government plan now under consideration regarding the replacing of scrub bulls with pure-breeds. C. F. Bailey, Deputy Minister of Agriculture, also touched on this topic and stated that it was believed there were 50,000 scrub bulls of all breeds being used in Ontario alone, and if the breeders would come forward with suggestions and each one strive to replace a scrub in the district with a pure-bred it would not be long before some plan similar to the Stallion Enrollment Act could be carried out. The toast to "The Holstein Cow" was responded to by W. A. Clemons, Secretary of the Holstein-Friesian Association. Some interesting figures were given showing the advancement of the breed in Canada, as well as in England, South Africa and other countries. He also referred to the advantage breeders would derive from reciprocity in records with the American Association which would be in force very shortly. Mr. Clemons stated that Dr. Tolmie, the President of the Canadian Association, was practically responsible for getting this through. A number of other speakers made very fitting remarks touching upon the splendid possibilities Oxford County afforded for the advancement of the dairy industry. The afternoon visit to the herd and the banquet was thoroughly enjoyed by all who attended.

## HORTICULTURE.

### The First Fruit Crop Report.

The first fruit and vegetable crop report for the present season has just come to hand, and in it the Fruit Commissioner has compiled the most recent information from the whole Dominion regarding prospects for fruit and vegetables. Practically all the information contained in this first report is based on the blossom and there may be very appreciable changes during this month and next.

The latest report from Nova Scotia, dated May 28, was to the effect that the blossom was coming out slowly and was very heavy. One wire said "the heaviest show since 1911, and all varieties equally good." This coincides with reports the Commissioner has received by mail. It is said that growers are spraying more than ever and taking a keener interest in their orchards than at any time since the embargo prevented exporting to Great Britain.

Wet weather has prevailed throughout all Ontario and trees are very late coming into bloom. In the Trenton district a large crop is expected, except in such varieties as Spy, Ben Davis and Baldwin. In the neighborhood of Brighton all varieties except Duches and Wealthy promise a full crop. Baldwins and Ontarios however, are nearly all killed. From Oshawa comes the word that a 50 per cent. increase over 1918 is expected. Trees wintered well in the vicinity of Cobourg and showed a good blossom. There should be a bumper crop, also, in Prince Edward County.

Prospects are hardly so favorable in Western Ontario. Lambton County has a light bloom on many of the later varieties, particularly Baldwins and Russets Greening and McIntosh are full, as are most of the early varieties. Spy, Baldwin and Greening are estimated at 50 per cent. in Middlesex County, while Ben Davis, Duches and King show a 100 per cent. prospect. Winter varieties promise 80 per cent. and fall varieties 50 per cent. in Elgin County. In Norfolk County winter varieties promise 70 per cent., and fall varieties 60 per cent. This estimate has been made regarding cared-for orchards. A medium crop is expected in the Georgian Bay District.

It is expected that the crop will undoubtedly exceed that of 1918 in British Columbia, and in the Okanagan Valley a 50 per cent. increase is looked for. Favorable reports come from Vancouver Island, Kootenay Valley, and the Creston District.

About twenty-five per cent. of all trees were killed in Quebec during the winter of 1917-18, but in spite of this there is the promise of a fair production this year.

There was a gorgeous display of bloom in the Niagara district about the middle of May, and growers are looking for a bumper crop of peaches, plums and cherries. Leaf curl is bad at St. Catharines and at points on the Niagara River. Definite estimates will be made with more accuracy in regard to these crops after the June drop.

Space does not permit of a review concerning the fruit prospects in the United States, but they are generally considered very good.

Owing to the continued wet weather, which prevented vegetable growers from getting on the land, there is likely to be a very large curtailment in vegetable production.



## FARM BULLETIN.

### Parliament Gets Squared Away for the Budget Speech.

At long last the head of the Canadian Government leads the Canadian House of Commons. Sir Robert Borden, Union Government leader and Prime Minister, returned to Ottawa on Monday, May 20, and appeared for the first time this session in the House of Commons that afternoon. Hon. A. L. Sifton returned from Europe with Premier Borden, so that there are now only two Cabinet Ministers still overseas, namely, Hon. Sir Geo. E. Foster, Minister of Trade and Commerce, and Hon. C. J. Doherty, Minister of Justice. Sir Edward Kemp, Overseas Minister of Militia, returned some time ago. While no very important legislation affecting Canada as a whole has been discussed since the titles debate, the House has gradually become aroused to the conditions of industrial unrest, but neither members nor Cabinet Ministers appear to have made sure that they can do anything about it. It is true that the Acting Minister of Trade and Commerce has announced that opportunity will be given for a discussion of the High Cost of Living. No doubt this troublesome factor is at the bottom of much of the industrial unrest, and a discussion of the matter by the House would clear away all misunderstandings—perhaps. Then, too, the Government has appointed a Royal Commission on Industrial Relations which is still touring the country gathering evidence on which to base their report to the Government. The Government, however, seems to be more hopeful of this Commission than anyone else, because it is scarcely probable that a group of men, sitting in state for a day or so in each of the large centres in Canada should be able to solve the very difficult problems brought about through the disagreement of capital and labor. One cannot help but think of the arm-chair critics and self-appointed economists who regularly solve the rural problem between stations in a railway coach, or criticize the business management of farmers from the back seat of an automobile.

The day after his return, Sir Robert Borden did take the opportunity to reply in an extended manner to a question put by Major G. W. Andrews, Winnipeg, Centre, regarding the attitude of the Government toward the present unrest. The Premier stated that the Government was committed to certain fundamental principles with regard to the situation in Winnipeg and said:

"In the first place, we are absolutely determined that law and order should be maintained; and, in the second place, we are of the opinion that members of the Civil Service cannot be permitted to disregard their public duties and to dislocate the public service under the conditions which have arisen in the city of Winnipeg."

Sir Robert further alluded to the beneficial results expected from the Industrial Relations Commission, and read certain principles which were adopted by all the nations represented in the Peace Conference at Paris, and which were included in the Peace Treaty as presented to the Germans. These principles would set forth desirable improvement in the relations between capital and labor as follows:

"First.—The guiding principle above enunciated that labor should not be regarded merely as a commodity or article of commerce.

"Second. The right of association for all lawful purposes by the employed as well as by the employers.

"Third.—The payment to the employed of a wage adequate to maintain a reasonable standard of life as this is understood in their time and country.

"Fourth.—The adoption of an eight-hours day or a forty-eight hours week as the standard to be aimed at where it has not already been attained.

"Fifth.—The adoption of a weekly rest of at least twenty-four hours, which should include Sunday wherever practicable.

"Sixth.—The abolition of child labor and the imposition of such limitations on the labor of young persons as shall permit the continuation of their education and assure their proper physical development.

"Seventh.—The principle that men and women should receive equal remuneration for work of equal value.

"Eighth.—The standards set by law in each country with respect to the conditions of labor should have due regard to the equitable economic treatment of all workers lawfully resident therein.

"Ninth.—Each State should make provision for a system of inspection in which women should take part, in order to ensure the enforcement of the laws and regulations for the protection of the employed.

"Without claiming that these methods and principles are either complete or final, the High Contracting Parties are of opinion that they are well fitted to guide the policy of the League of Nations; and that, if adopted by the industrial communities who are members of the League, and safeguarded in practice by an adequate system of such inspection, they will confer lasting benefits upon the wage earners of the world."

Sir Edward Kemp, Overseas Minister of Militia, made a very lengthy statement in the House on Tuesday, May 27, with regard to the work of his Department overseas since November, 1917. It would be difficult to report the substance of everything the Minister said, but the following paragraphs are extracts which should be of interest to readers:

"Those who have lost relatives in the war derive a great deal of comfort and consolation in being able to visit the graves of their dead and to read the headstones, and as time goes on such a pilgrimage will become

increasingly the custom. On the 13th of April, 1917, an organization known as the Imperial War Graves Commission was constituted by resolution passed by the Imperial War Conference, which consists of a large number of representative men. Canada's representative in that organization is the High Commissioner for Canada, Sir George Perley. There are 160,000 isolated graves on the battlefields of France and Belgium, and the total number of graves of British soldiers in those areas is comprised as follows: United Kingdom, 452,730; Canada, 43,631; Australia, 35,131; New Zealand, 11,393; South Africa, 4,450; South Africa, Native Labor Corps, 535; Newfoundland, 888; India (natives), 5,665; and British West Indies, 956. This represents a total of British graves in France and Belgium of 555,379.

"I have heard people say that it would take three years to get our soldiers back, in view of all the circumstances. I am happy to be able to say that if peace is not signed pretty soon, all our soldiers will be back in Canada before peace is signed. There will be in England after the end of this month about 80,000 Canadians. Nearly all our troops are out of France. The troops that went to the Rhine returned to Belgium some time before they went back to England. My latest report, which is dated May 19, says that at that time there were 4,516 Canadian troops in France.

"We have quite a nucleus for an air force. Nineteen of the latest and best air machines were presented to us by the British Government, sixteen through the Overseas Club and three through the Imperial Air Fleet. In addition to that we expect to get from the British Government ninety-two aircraft, made up as follows:

- 30 only Avro two-seater biplanes.
- 12 only single-seater-camels (Scout fighters).
- 50 only two-seater D.H. 9. Day Bombing Machines.

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"This is a gift from the British Government whenever we wish to accept it, and, in fact, I understand it has already been accepted. There are many other aircraft which are available for Canada. Of captured enemy aircraft there are 21 Fokkers, 39 various other enemy aircraft and 5 Gothas, which, including the nineteen to which I referred to before, make 84.

"During the period we have been at war it is gratifying to record that our soldiers have been awarded 17,000 medals, honors, and awards, including 53 Victoria Crosses, 1,885 Military Crosses, 19 Distinguished Flying Crosses, 1,204 Distinguished Conduct Medals, and 6,610 Military Medals."

The House continues to mark time, for the most part, awaiting the delivery of the budget speech, which has now been definitely announced for Thursday, June 5. The Committee on the inside civil service continues to take evidence from Deputy Ministers as to the possibility of reducing the number of civil servants, but get but little satisfaction. Dr. J. H. Grisdale, the newly-appointed Deputy Minister of Agriculture, was examined last week and spoke very frankly with regard to the difficulty of disposing of employees who are either too old to do good work or are inefficient. He favored superannuation for the former and "firing" for the latter, stating that there were three or four in the department he would fire "to-morrow," if he could. The Civil Service Act, however, allows no officers of the Department to either take on or discharge an employee. All must be done through the Commission. We hardly expect the Committee to get anywhere, because they scarcely know enough about their subject to get at the truth.

#### Steamship Companies vs The People.

Earlier in the session we referred to a bill presented by J. E. Armstrong, East Lambton, designed to place steamships on Canadian inland waters under the control of Board of Railway Commissioners. On Wednesday, May 28, Mr. Armstrong moved the substance of this bill as an amendment to the Consolidated Railway Act which was under consideration. Boats owned by railroads are now under the control of the Railway Commission, but Mr. Armstrong's amendment was for the purpose of bringing under the control of this Commission, the boats on our inland waters and those doing coastwise trade. These boats are subject to no control of any kind as regards either, tariffs, tolls, trade arrangements or the time and manner of calling at ports. Canada has spent many millions of dollars in building canals and harbors, deepening rivers and in improving in other ways our inland waterways. To carry on this service, besides capital expenditures, the people of Canada pay about \$1,500,000 every year with no return in money and with no check upon the operations of steamship companies. To us it would seem that no discussion of any length should be needed to precede the adoption of the amendment but to our surprise, it was defeated after considerable discussion by 61 to 36. The most surprising thing of all was to see Hon. J. D. Reid, Minister of Railways and Canals, lead the rest of the Cabinet and all but three of the opposition in a strong attack on this measure for the protection of the public. Support for the amendment came from Union Government supporters, assisted only by D. D. McKenzie, and W. D. Euler, North Waterloo. The whole thing was really the most disgraceful exhibition of Canadian parliamentary conduct that has taken place so far this session and there have been some instances that would make one sit up and wonder. Nothing, however, had up to this time taken place that showed up so brazenly the influence of big interests with the men elected by the people to safeguard their interests. It does seem to us that there could be no possible argument against the

amendment, especially since no one wishes to put undue checks upon legitimate trade and commerce. Surely the Board of Railway Commissioners could be expected to do the fair thing by the companies. However, as a victory for the steamship companies there was no discount on it whatever. There is this that should be said nevertheless, and it is that if members had all been in their places when the vote was taken there is a strong probability that the amendment would have carried. A division should be taken on the third reading so that voters can see how individual members stand on this question.

#### The Agricultural Estimates.

Friday, May 30, finally saw the passing of the agricultural estimates, which showed an increase of \$487,818.40 over last year. On the whole, perhaps the discussion on the estimates should be considered satisfactory although very few members were present and of these only a very few knew enough about the Department of Agriculture to criticize or discuss the estimates intelligently. Only the Minister, however, has details of the estimates so that no one else is in a very good position to know just how to detect the weak spots if there are any. All they have is an item of, say, \$800,000 for the development of the live-stock industry and the discussion cannot help but be very general unless someone has a special grievance or a knowledge of the various lines of work undertaken by each branch. We regret that space does not permit us to give a full resume of the discussion that did take place as this covers 40 pages of Hansard, but readers who are interested should be able to obtain a copy of the Hansard of May 30 through their local member. Quite a lengthy general discussion occurred during which the Minister was highly complimented on the appointment of Dr. J. H. Grisdale to the position of Deputy Minister and many candles were lit in the kitchen of the opposition to guide the Minister himself back into the Liberal fold. Jno. Best, Dufferin, urged the erection of an interior elevator for the farmers of Ontario, as has been asked for previously by deputations of The United Farmers of Ontario and Dr. S. F. Tolmie, Victoria City, B. C., urged the erection of a cold storage terminal at Halifax in order to encourage live-stock production. Dr. Tolmie, who is President of the National Live-Stock Council, also spoke at some length on the possibilities for live stock development in Canada. The following statement by the Minister is also somewhat noteworthy since it deals with a condition of affairs in agricultural education in Canada that has long been unfortunate and wasteful:

"There is expended in Canada through the Federal and Provincial Departments of Agriculture approximately \$7,500,000 annually. I am convinced that from the national point of view we are not getting the results from that expenditure that might be secured. In my judgment, there should be closer co-operation and better co-ordination between the federal and provincial activities. I found on making inquiries that in many cases federal and provincial activities were overlapping—that both federal and provincial departments were in certain cases carrying on the same line of work. Now that is a waste of effort, and I might add also, a waste of money. At this particular time when our national expenditure is mounting very rapidly, and we shall have to face in the future heavy taxation and probably difficulties in raising the necessary revenue, it is of the greatest importance, not only in the field of agriculture, but in every other field, that there should be the closest co-operation and co-ordination between federal and provincial activities. I have already mentioned this matter to a few provincial ministers of agriculture, and they were quite sympathetic with the idea. This is an important matter, and I hope it will be more fully inquired into during this year."

The Minister also announced that he would include in the supplementary estimates the sum of \$50,000 for the establishment of accredited herds of cattle free from tuberculosis, in Canada. An outline of the accredited herd system was given in "The Farmers Advocate" recently.

#### E. S. Archibald Gets Directorship of Farms.

E. S. Archibald, who has been Dominion Animal Husbandman since 1912, steps up and succeeds Dr. J. H. Grisdale as Director of the Dominion Experimental Farms System. Mr. Archibald was born at Yarmouth, N. S., and was the first to receive a diploma issued by the Nova Scotia Agricultural College, at Truro. He entered the third year class at Guelph in the autumn of 1906 and graduated in 1908. Subsequent to this he was for a time Instructor in Agriculture and Experimentalist at the Nova Scotia Agricultural College, which position was vacated for that of Professor of Agriculture and Farm Superintendent at the same institution. In June of 1912 he accepted the position of Dominion Animal Husbandman, in connection with the Experimental Farms System, and during the last seven years has paid considerable attention to all branches of the experimental work in connection with the Government farms, in addition to his own special duties as Animal Husbandman; Mr. Archibald has thus acquired a very intimate acquaintance with the extensive system over which he now presides and the broad knowledge of general agriculture, so acquired, will be invaluable to him and the industry as a whole.

In view of the fact that it is an avowed policy of the Minister of Agriculture to promote officials, it is expected that G. B. Rothwell, who has been a very successful and efficient assistant to Mr. Archibald, will receive the appointment of Dominion Animal Husbandman.



# Toronto, Montreal, Buffalo, and Other Leading Markets

## Week Ending May 29.

### Receipts and Market Tops.

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

	CATTLE						CALVES					
	Receipts		Top Price Good Steers (1,000-1,200)				Receipts		Top Price Good Calves			
	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending	
Toronto (Union Stock Yards)	5,051	3,901	7,164	15 25	15 75	15 00	2,151	1,620	2,485	18 00	16 00	17 00
Montreal (Pt. St. Charles)	320	378	895	15 00	15 50	16 00	1,720	2,202	1,892	13 50	15 00	14 50
Montreal (East End)	374	363	627	15 00	15 50	16 00	1,432	1,549	1,815	13 50	15 00	14 50
Winnipeg	1,661	1,393	1,755	14 00	17 00	14 00	41	146	101	14 00	17 00	15 00
Calgary	1,559	2,441	1,414	14 00	16 30	14 50						
Edmonton	286	356	580	14 50	12 25	16 00	41	212	119	14 00		14 50

	HOGS						SHEEP					
	Receipts		Top Price Selects				Receipts		Top Price Good Lambs			
	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending	
Toronto (Union Stock Yards)	8,652	6,131	5,729	23 25	20 50	23 00	494	450	417	17 50	12 00	20 00
Montreal (Pt. St. Charles)	1,423	853	1,576	22 25	20 75	21 25	176	155	208	10 00	12 00	
Montreal (East End)	593	565	732	22 25	20 75	21 25	228	187	218	10 00	12 00	
Winnipeg	1,118	5,669	5,271	20 50	19 50	21 00	51	56	247		18 00	
Calgary	1,407	340		20 25	19 60		210		3,748	15 00		15 00
Edmonton	343	613	449	20 25	19 00	21 00						

### Market Comments.

With the exception of the prices paid for a few loads of choice heavy export cattle, which sold at record figures, quotations during the week were again lower on all grades of cattle. Good butcher cattle declined 25 cents per hundred on Monday, and sustained a further drop of 50 cents to 75 cents on Wednesday. The following day trading was in a demoralized condition, and fully six hundred cattle remained in the pens unsold. On Monday one commission firm was filling an order for heavy cattle for shipment to Switzerland, buying for this purpose some three hundred head. In anticipation of an export outlet a number of choice loads of cattle were in the pens. Thirty-three head averaging fourteen hundred and eighty pounds, from the farm of George Rountree, Kleinburg, York County, Ontario, sold at \$17, a record price for the year. Two loads fed by Stauffer and Hallman, of Waterloo, Ontario, and averaging fourteen hundred pounds, sold at \$16.25, while the balance of the shipment was bought at prices ranging from \$14.75 to \$16.25. Outside of these sales, trading was slow and prices lower. The outlook for higher prices does not appear very bright at present. American prices have gradually fallen to lower levels, a decline of \$2 to \$3, being noted there in the past six weeks, and quotations now being below those of Canada; the hot weather prevailing during the past week, together with labor troubles, has curtailed local consumption, consequently abattoirs buy very sparingly; these were the factors contributing to the decline. Steers of ten hundred to twelve hundred pounds, sold generally up to \$14.50 per hundred on Monday, and a few at \$15; on Wednesday nothing in that class sold above \$14.25. Of the handy-weight butcher steers and heifers under ten hundred pounds, one choice load averaging nine hundred pounds sold at \$14.40, on Monday; other loads were weighed up from \$14 to \$14.25, while the bulk of sales were made from \$12.75 to \$13.50. Cows and bulls were weaker in sympathy with other grades of cattle. A few bulls sold early in the week at \$12.50, and a few cows at \$12.75, while quotations fell later to \$12 and \$12.25. Medium quality cows sold from \$10.50 to \$11.50, and common from \$9 to \$10. There was a fair demand for stockers and feeders, and prices ranged from \$12 to \$13.75, according to weight and quality. Common stockers sold at \$9 to \$11. The calf market ruled stronger than during the previous week; a few choice veal calves sold at \$18 per hundred, while the majority of the choice veal moved from \$15 to \$17, medium from \$12 to \$14, and common from \$10 to \$12. Lambs and sheep were lower. Spring lambs sold from \$10 to \$17.50 each; light sheep from \$12 to \$14 per hundred, and heavy sheep from \$9 to \$11 per hundred. The hog market was weaker and prices declined \$1 per hundred. Fed and watered hogs sold at \$23.25 per hundred on Monday, while on Wednesday and Thursday the price paid was \$22.25 per hundred. Of the disposition from the Yards for the

CLASSIFICATION	No.	TORONTO (Union Stock Yards)			MONTREAL (Pt. St. Charles)			
		Avg. Price	Price Range	Top Price	Avg. Price	Price Range	Top Price	
STEERS heavy finished	305	\$15.48	\$14.25-\$16.25	\$17.00				
STEERS 1,000-1,200 good	978	14.28	13.25-15.00	15.25	33	14.25	14.00-14.50	15.00
STEERS 700-1,000 common	89	12.83	12.00-13.25	13.50	73	14.00	13.50-14.50	14.50
HEIFERS good	763	13.68	13.00-14.25	14.50	13	12.50	12.00-13.00	13.25
HEIFERS fair	178	11.55	11.00-12.25	12.25	3			
HEIFERS common	20	10.00	9.50-10.50	10.50				
COWS good	399	11.40	11.00-12.25	12.75	8	11.75	11.00-12.50	13.00
COWS common	421	9.87	9.00-10.50	10.50	39	9.25	8.00-10.50	10.75
BULLS good	90	11.49	11.00-12.00	12.50	8	12.00	11.00-12.50	12.50
BULLS common	62	9.50	9.00-10.50	12.00	60	9.75	9.00-10.50	10.50
CANNERS & CUTTERS	16	7.00	6.50-7.50	7.50	13	6.25	5.00-7.00	7.00
OXEN					17	11.00	10.00-12.00	12.50
CALVES veal	2,149	14.25	13.00-16.00	18.00	747	12.25	11.00-13.00	13.50
CALVES grass	2			8.00				
STOCKERS 450-800 good	86	12.04	11.50-12.50	12.50				
STOCKERS 450-800 fair	33	10.86	10.00-11.50	11.50				
FEEDERS 800-1,100 good	116	13.75	13.00-14.00	14.00				
FEEDERS 800-1,100 fair	31	12.98	12.50-13.25	13.25				
HOGS (fed and watered) selects	8,115	22.86	22.25-23.25	23.25	1,266	22.25	22.25-	22.25
HOGS (fed and watered) heavies	7	23.25	22.25-23.25	23.25	28	21.00	21.25-	21.25
HOGS (fed and watered) lights	293	19.55	19.25-21.25	21.25	50	20.25	20.25-	20.25
HOGS (fed and watered) sows	231	18.78	18.25-20.25	21.25	69	18.25	18.25-	18.25
HOGS (fed and watered) stags	6	18.25	17.25-18.25	18.25	10	15.25	15.25-	15.25
LAMBS good	99	14.30	10.00-17.50	17.50*	43			*10.00
LAMBS common	26	12.00	11.00-13.00	13.00	14			*8.00
SHEEP heavy	115	10.46	9.00-12.00	12.00				
SHEEP light	165	12.82	12.00-14.00	14.00	16	12.50	12.00-13.00	13.00
SHEEP common	89	7.71	5.00-9.00	10.00	103	10.50	10.00-11.00	11.00

per hundred higher; the best cows selling for \$13, and a number of sales being made at \$12 to \$12.50. One lot of thirteen cows averaging nine hundred and seventy-five pounds sold at \$11.50, with common cows from \$9 to \$9.50. Good heavy bulls and the best young bulls ranged in price from \$12 to \$12.50, and common bulls sold from \$9.50 to \$10.50. On the two markets there were thirty-one hundred and fifty calves; prices were in most cases from \$11 to \$13, with some sales at \$13.50, and some down to \$9 and \$9.50. In addition to the three hundred and twenty cattle offered for sale on the Pt. St. Charles Yards there were three hundred and forty-five head of heavy steers from Toronto, Whitby, Waterloo and other points in Western Ontario for shipment. The sheep and lambs were very common quality, and sold from \$8 to \$10 each for spring lambs, while thin sheep sold up to \$11, and good sheep from \$12 to \$13. Hogs remained at \$22.50 off cars, for selects throughout the week; there was a reduction of \$4.00 per hundred on sows, \$7 on stags, from \$1 to \$2 per hundred on heavies, and \$2 per hundred on lights, from the price for selects. PT. ST. CHARLES.—Of the disposition from the Yards for the week ending May 22, Canadian packing houses and local butchers purchased 1,762 calves, 29 canners and cutters, 262 bulls, 535 butcher cattle, 1,516 hogs and 208 lambs. Canadian shipments were made up of 49 milch cows and 20 butcher cattle. Shipments to United States points consisted of 130 calves. The total receipts from January 1 to May 22, inclusive, were 12,923 cattle, 29,633 calves, 26,523 hogs and 6,120 sheep; compared with 13,355 cattle, 27,542 calves, 26,088 hogs and 5,312 sheep, received during the corresponding period of 1918. EAST END.—Of the disposition from the Yards for the week ending May 22, Canadian packing houses and local butchers purchased 1,815 calves, 587 butcher cattle, 673 hogs and 218 lambs. Canadian shipments were made up of 141 hogs. Shipments to United States points consisted of 16 butcher cattle. The total receipts from January 1 to May 22, inclusive, were 15,006 cattle, 21,148 calves, 14,553 hogs and 6,451 sheep; compared with 11,675 cattle, 24,177 calves, 15,505 hogs and 5,203 sheep, received during the corresponding period of 1918.

### Directorship

The Dominion Animal Husbandry and Poultry Branch, under the direction of Dr. J. H. Grisdale, has succeeded in securing the Dominion Experimental Station at Yarmouth, Nova Scotia, a diploma issued by the Government of that province. Dr. Grisdale entered the service of the Dominion Department of Agriculture in the autumn of 1906 and to this he has been attached ever since. He is an expert in the field of animal husbandry and has a very extensive knowledge of the various breeds of all branches of the Dominion Department of Agriculture. He has been in the Government service for over ten years and has acquired a very extensive knowledge of the various breeds of all branches of the Dominion Department of Agriculture. He has been in the Government service for over ten years and has acquired a very extensive knowledge of the various breeds of all branches of the Dominion Department of Agriculture. He has been in the Government service for over ten years and has acquired a very extensive knowledge of the various breeds of all branches of the Dominion Department of Agriculture.

week ending May 22, Canadian packing houses purchased 1,178 calves, 4,182 butcher cattle, 7,286 hogs and 110 lambs. Local butchers purchased 719 calves, 436 butcher cattle, 63 hogs and 352 lambs. Canadian shipments were made up of 61 calves, 417 stockers, 531 feeders and 22 hogs. Shipments to United States points consisted of 562 calves, 550 butcher cattle and 23 feeders. The total receipts from January 1 to May 22, inclusive, were 122,432 cattle, 25,348 calves, 142,947 hogs and 27,812 sheep; compared with 103,490 cattle, 26,858 calves, 160,676 hogs and 11,180 sheep, received during the corresponding period of 1918. Montreal. Following the fairly heavy run of cattle and consequent decline in prices during the previous week, receipts were very light. There was active demand for the few cattle offered, and prices advanced from 50 cents to \$1 per hundred. There was a great range in the quality of the steers offered, but all sales were made between \$13 and \$14.50 per hundred. A nice pair of steers, less than one year old, averaging about seven hundred pounds each, sold for \$15 per hundred. Fat cows and cows in fair flesh sold about \$1

per hundred higher; the best cows selling for \$13, and a number of sales being made at \$12 to \$12.50. One lot of thirteen cows averaging nine hundred and seventy-five pounds sold at \$11.50, with common cows from \$9 to \$9.50. Good heavy bulls and the best young bulls ranged in price from \$12 to \$12.50, and common bulls sold from \$9.50 to \$10.50. On the two markets there were thirty-one hundred and fifty calves; prices were in most cases from \$11 to \$13, with some sales at \$13.50, and some down to \$9 and \$9.50. In addition to the three hundred and twenty cattle offered for sale on the Pt. St. Charles Yards there were three hundred and forty-five head of heavy steers from Toronto, Whitby, Waterloo and other points in Western Ontario for shipment. The sheep and lambs were very common quality, and sold from \$8 to \$10 each for spring lambs, while thin sheep sold up to \$11, and good sheep from \$12 to \$13. Hogs remained at \$22.50 off cars, for selects throughout the week; there was a reduction of \$4.00 per hundred on sows, \$7 on stags, from \$1 to \$2 per hundred on heavies, and \$2 per hundred on lights, from the price for selects. PT. ST. CHARLES.—Of the disposition from the Yards for the week ending May 22, Canadian packing houses and local butchers purchased 1,762 calves, 29 canners and cutters, 262 bulls, 535 butcher cattle, 1,516 hogs and 208 lambs. Canadian shipments were made up of 49 milch cows and 20 butcher cattle. Shipments to United States points consisted of 130 calves. The total receipts from January 1 to May 22, inclusive, were 12,923 cattle, 29,633 calves, 26,523 hogs and 6,120 sheep; compared with 13,355 cattle, 27,542 calves, 26,088 hogs and 5,312 sheep, received during the corresponding period of 1918. EAST END.—Of the disposition from the Yards for the week ending May 22, Canadian packing houses and local butchers purchased 1,815 calves, 587 butcher cattle, 673 hogs and 218 lambs. Canadian shipments were made up of 141 hogs. Shipments to United States points consisted of 16 butcher cattle. The total receipts from January 1 to May 22, inclusive, were 15,006 cattle, 21,148 calves, 14,553 hogs and 6,451 sheep; compared with 11,675 cattle, 24,177 calves, 15,505 hogs and 5,203 sheep, received during the corresponding period of 1918.

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Winnipeg.

There were very few new arrivals of cattle during the week, most of the stock on sale consisting of left-overs from the previous market. Owing to rumors of possible transportation tie-ups due to labor troubles farmers held back their stock for the present. The market conditions consequently were very weak and trading was practically at a standstill. The local packing houses made very small purchases, doing only enough trading to carry them over from day to day, and light receipts were expected for the present week. Female classes of butcher stock found no outlet, and were quoted \$1 per hundred below the previous week's sales. A few heavy steers were sold and realized from \$14 to \$15 per hundred, while butcher steers weighing from ten hundred to twelve hundred pounds changed hands from \$12 to \$13. A few butcher heifers were weighed up from \$10.50 to \$11.50 per hundred, and butcher cows of good quality from \$10 to \$11. Stockers and feeder cattle made up the largest part of the offering, and sold at prices about steady with those of the previous week.

Very few sheep and lambs were received, and owing to the light sales made each day, the market is scarcely quotable. The eleven hundred and eighteen hogs received sold on a steady market at similar prices to those prevailing at the close of the previous week, an average of \$20.50 per hundred.

Of the disposition from the Yards for the week ending May 22, Canadian packing houses purchased 34 calves, 313 butcher cattle, and 3,785 hogs. Local butchers purchased 228 butcher cattle, 237 hogs and 274 sheep. Canadian shipments were made up of 1,456 stockers, 547 feeders and 108 hogs. Shipments to United States points consisted of 239 butcher cattle, and 646 feeders.

The total receipts from January 1 to May 22, inclusive, were 56,106 cattle, 2,009 calves, 149,013 hogs, and 2,693 sheep; compared with 38,789 cattle, 1,390 calves, 130,482 hogs and 745 sheep, received during the corresponding period of 1918.

Buffalo.

Cattle.—Cattle values on shipping steers went off a full seventy-five cents to dollar at Buffalo last week, the result of an excessive supply, there being fully a hundred and fifty cars or better of steers, running from ten and a half up. Butchering cattle also showed a very weak outlet, the trade being lower all round on these grades a full half dollar to seventy-five cents. Bulls sold a half lower, stockers and feeders ruled lower, and only good milk cows and springers held to a steady level with last week. There were around eighty-five to ninety loads of Canadians among the week's offerings. Prices have been showing declines each week, there being entirely too many cattle for this time of year at all of the American markets. Sellers are not taking a very favorable view of the immediate outlook. There were not many good steers included among the Canadians the past week. Best native steers ranged from \$16.50 to \$17, about the best in the Canadian line selling around \$15 to \$15.25, with some handy steers and heifers around \$14 to \$14.50. Offerings for the week totaled 6,075 head, as against 5,700 for the previous week, and as compared with 4,100 head for the corresponding week a year ago. Quotations:

Shipping Steers, Natives.—Choice to prime, \$16 to \$17; fair to good, \$14.50 to \$15; plain and medium, \$12.50 to \$13.50; coarse and common, \$11 to \$12. Shipping Steers, Canadians.—Best heavy, \$14.75 to \$15; fair to good, \$13 to \$14; medium weight, \$12.50 to \$14; common and plain, \$11 to \$12. Butchering Steers.—Yearlings, choice to prime, \$15.50 to \$16.10; choice heavy, \$14.50 to \$15; best handy steers, \$14 to \$14.50; fair to good, \$13 to \$13.75; light and common, \$11 to \$11.75. Cows and Heifers.—Best heavy heifers, \$13.50 to \$14; good butchering heifers, \$13 to \$13.50; fair butchering heifers, \$11.50 to \$12; light common, \$9.50 to \$10; very fancy fat cows, \$11.50 to \$12; best heavy fat cows, \$10.50 to \$11; good butchering cows, \$9 to \$10; medium to fair, \$7.75 to \$8.50; cutters, \$7 to \$7.50; canners, \$5.50 to \$6.50. Bulls.—Best heavy, \$10.50 to \$11.50; good butchering, \$10.50 to \$11; sausage, \$9 to \$10; light bulls, \$8 to \$8.50. Stockers and Feeders.—Best feeders,

\$11.50 to \$12.50; common to fair, \$10 to \$11; best stockers, \$11 to \$12; fair to good, \$9.25 to \$9.75; common, \$8.75 to \$9.

Milchers and Springers.—Good to best, small lots, \$100 to \$135; in carloads, \$90 to \$100; medium to fair, small lots, \$80 to \$85; in carloads, \$70 to \$75; common, \$50 to \$55.

Hogs.—Prices were lower the first two days of last week, but after Tuesday the market was considerably improved. Monday's top for good hogs was \$21.25, with bulk selling at \$21.10, and Tuesday the majority landed at \$21. Wednesday the best grades brought \$21.10 and \$21.15; Thursday three days made \$21.30, with bulk going at \$21.25, and Saturday the general price for good hogs was \$21.75. Pigs and lights were little changed all week, selling from \$20 to \$20.50, roughs ranged from \$18.50 to \$19.00, and stags \$15.50 down. The past week's receipts were 22,500 head, being against 22,854 head for the week before and 18,500 head for the same week a year ago.

Sheep and Lambs.—Market occupied a more favorable position last week. Monday the best desirable lambs sold at \$14.75 and \$15; Tuesday's top was \$15.25; Wednesday the best brought \$15.50, and Thursday and Saturday the range on the desirable kinds was from \$16 to \$16.25. Heavy lambs were bad sale, these ranging as low as \$13, and the cull stuff ranged downward from \$14, skips going as low as \$8. The fore part of the week showed best wether sheep quoted from \$11 to \$11.50, and ewes \$10.50 down, and by the end of the week prices on the aged stuff were fifty cents higher. The past week's receipts were 12,300 head, as compared with 19,089 head for the week before, and 13,900 head for the same week a year ago.

Calves.—Last week started with top veals selling at \$17.50, and the next two days the trade was very dull. Tuesday none sold above \$17, and Wednesday's top was \$16.50. Thursday's trade was more active, best ranging from \$16.50 to \$17, and Saturday the bulk of the tops moved at \$17. Cull grades ranged from \$15 down. Receipts for the past week were 6,300 head, as compared with 7,838 head for the week preceding, and 5,300 head for the same week a year ago.

Toronto Produce.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, June 2, consisted of 129 cars, 1,701 cattle, 694 calves, 2,876 hogs, 96 sheep and lambs. Slow market and prices on all classes of butcher cattle 50 cents to 75 cents lower. Milch cows and springers steady. Calves, sheep and lambs steady. Hogs, \$22.25, fed and watered.

Breadstuffs and Cereals.

Wheat—Ontario f.o.b. shipping points, (according to freights). No. 1 winter, per car lot, \$2.14 to \$2.20; No. 2 winter, per car lot, \$2.11 to \$2.19; No. 3 winter, per car lot, \$2.07 to \$2.15; No. 1 spring, per car lot, \$2.09 to \$2.17; No. 2 spring, per car lot, \$2.06 to \$2.14; No. 3 spring, per car lot, \$2.02 to \$2.10. Manitoba wheat, (in store, Fort William)—No. 1 northern, \$2.24½; No. 2 northern \$2.21½; No. 3 northern, \$2.17½; No. 4 wheat, \$2.11.

Oats.—Ontario, according to freights outside; No. 3 white, 79c.

Barley (according to freights outside)—malting, \$1.21 to \$1.26.

Rye (according to freights outside)—No. 2, nominal.

Peas (according to freights outside)—No. 2, nominal.

Buckwheat (according to freights outside)—nominal.

Flour.—Ontario (prompt shipment) Government Standard, \$11; Montreal and Toronto, Manitoba, Government Standard, \$11, Toronto.

Hay and Millfeed.

Hay.—No. 1 per ton, car lots, \$32 to \$35; mixed per ton, \$20 to \$24.

Straw.—Car lots, per ton, \$10 to \$11.

Bran.—Per ton, \$12; shorts, per ton, \$4; good feed flour, per bag, \$2.75 to \$2.85.

Hides and Wool.

City Hides.—City butcher hides, green, flats, 18c.; calf skins, green, flats, 30c.; veal kip, 20c.; horse hides, city take-off, \$6 to \$7; sheep, \$3 to \$4.

Country Markets.—Beef hides, flat, cured, 18c. to 20c.; green, 16c. to 17c.; deacon and bob calf, \$2 to \$2.75; horse hides, country take-off, No. 1, \$6 to \$7;

No. 2, \$5 to \$6; No. 1 sheep skins, \$2.50 to \$4; horse hair, farmers' stock, \$28.

Tallow.—City rendered, solids, in barrels, 8c. to 9c.; country solids, in barrels, No. 1, 6c. to 8c.; cakes, No. 1, 7c. to 9c.

Wool.—Unwashed fleece wool as to quality, fine, 40c. to 55c. Washed wool, fine, 70c. to 75c.

Country Produce.

Butter.—Prices kept stationary on the wholesales during the past week, selling as follows. Creamery fresh-made lb. squares, 56c. to 57c. per lb.; creamery cut solids, 53c. to 54c. per lb.; dairy, choice, 50c. to 52c. per lb.

Oleomargarine.—34c. to 37c. per lb. Eggs.—Remained stationary, selling at 50c. to 52c. per doz. in case lots, while selects in cartons brought 55c. to 60c. per dozen.

Cheese.—The market is very firm at advanced prices. Old selling at 35c. to 36c. per lb., and new at 33c. to 34c. per lb., wholesale.

Poultry.—Receipts were heavy during the week and prices stationary. The following prices being quoted for live weight: Spring chickens, 60c. per lb.; chickens, 30c. per lb.; hens under 4½ lbs., 32c. per lb.; hens, 4½ to 6 lbs., 34c. per lb.; roosters, 25c. per lb.; turkeys, 30c. per lb.

Wholesale Fruits and Vegetables.

Apples are practically off the market, Western Winesaps selling at \$7 per box.

Oranges, lemons and grapefruit kept practically unchanged but firm in price, selling at \$5 to \$7; \$4.50 to \$5 and \$5.50 to \$7.50 per case, respectively.

Pineapples advanced sharply in price. Size 42 selling at \$5 per case, the larger and more desirable sizes bringing \$6 to \$7, with the probability of a famine owing to the strike in Cuba preventing shipment.

Rhubarb declined to 30c. per doz. bunches.

Strawberries arrived freely: were of choice quality and sold readily at 35c. to 40c. per box.

Tomatoes also came in freely and improved greatly in quality, selling at \$7.50 to \$8.50 per six-basket crate. Leamington hot-house bringing from 32c. to 40c. per lb., weakening towards the close of the week.

Asparagus was shipped in so heavily it was impossible to dispose of it all each day even at greatly reduced prices; closing at 50c. to \$1.50 per 11-qt. basket.

Beans.—New Beans were plentiful at \$4.50 to \$5.50 per hamper.

Beets.—Beets declined from \$3.25 to \$2.50 per hamper.

Cabbage also became markedly easier in price at \$5 to \$6 per crate.

Carrots held fairly well at \$3 to \$3.25 per hamper though showing a weakening tendency.

Cucumbers firmed owing to light receipts. Canadian hot-house selling at \$2.25 to \$3 per 11-qt. basket. Florida outside grown at \$5 to \$5.50 per hamper.

Lettuce.—Receipts were light and prices stationary. Leaf selling at 25c. to 50c. per dozen; Canadian head at \$1.50 to \$2 per doz. and Can. Boston head at \$4.50 per (orange) case.

Onions held firm at \$5 to \$5.50 per 50-lb. crate for Texas Yellows and \$5.75 for silver skins.

Potatoes.—Ontario potatoes were scarce and advanced in price, selling at \$2.35 to \$2.50 per bag; new ones are beginning to come in more freely but kept high in price at \$9.50 to \$10 per bbl. for No. 1's; \$8 to \$8.50 for No. 2's and \$5 per bbl. for No. 3's.

Montreal.

Horses.—Dealers report a very small enquiry for horses. The high price of hay is, no doubt, a factor discouraging to purchasers, and has the effect of inducing a number of owners to offer horses for sale. No change in prices was reported, however. Heavy draft, weighing from 1,500 to 1,700 lbs. each, were quoted at \$250 to \$300; light draft, 1,400 to 1,500 lbs., \$200 to \$250 each. Light horses, \$125 to \$170; culls, \$50 to \$75; fine saddle and carriage horses, \$175 to \$250.

Dressed Hogs.—In spite of somewhat freer offerings of live hogs the market for dressed hogs continued unchanged and city abattoir, fresh-killed stock held steady at 31c. to 31½c. a lb.

Poultry.—Poultry was in good demand, but very little fresh-killed stock was available. Cold storage stock was quoted as follows: Choice turkeys, 48c. to 50c.

per lb.; chickens, 40c. to 47c.; fowls, 33c. to 38c.; ducks, 45c. to 50c.; geese, 31c. to 32c.

Potatoes.—Supplies were light, but the quality was fair for this season of the year. Green Mountains were quoted at \$2.60 ex-track, and Quebec Whites at \$2.15 per bag of 90 lbs. In a smaller way prices were 25c. above these figures.

Eggs.—Quite a quantity of eggs has been exported already this season and demand is still unsatisfied. Eggs were selling higher here for the time of the year than ever before. Selects ranged from 54c. to 55c. a dozen, and straight-gathered, 52c. to 53c., with No. 2 eggs at 49c. to 50c. These prices were unchanged, and there is no prospect for a decline in the near future.

Butter.—The market was higher, if anything than it was the previous week. In some quarters it was stated that the tone of the market was easier. Meantime pasteurized creamery was quoted at 56½c. to 56¾c., while finest creamery was 55½c. to 56c., and fine 54½c. to 55c., with dairies ranging from 47c. to 49c. a lb.

Cheese.—The market for cheese was very firm, and quotations for best goods on spot were 31½c. per lb. The high price naturally militates against activity in business.

Grain.—A somewhat better demand for oats has developed recently, and prices have strengthened somewhat. Sales of car lots of extra No. 1 feed oats were taking place at 89c. per bushel. No. 1 feed sold at 87c., and tough No. 3 Can. Western at 86½c. per bushel, ex-store. The market for barley was firm and the demand was active. Carlots of rejected barley sold at \$1.28¼, and of feed barley at \$1.28 per bushel, ex-store.

Flour.—Prices of flour are showing very little alteration but the tone of the market was firm, carlots of Government standard spring wheat flour were being sold at \$11 per bbl. in jute bags, ex-track for shipments to country points, Montreal freights or to city bakers, 10c. off for spot cash. Ontario winter wheat flour was sold in broken lots at \$11.40 per bbl. in new cotton bags. White corn flour was quoted at \$10.10 per bbl., and rye flour at \$8.75 to \$9 per bbl. in jute bags, delivered.

Millfeed.—Millfeed of all kinds was in good demand, and carlots of bran were steady at \$42.50 to \$43, and shorts at \$44.50 to \$45 per ton, including bags, ex-track. Broken lots were \$1 higher than these figures, with feed cornmeals at \$68; mixed mouille at \$54 to \$56; dairy feed, \$48, and oat middling at \$44 a ton, including bags, delivered to the trade.

Hay.—Hay is now unusually dear, and in consequence the consumption is limited. No. 2 timothy was quoted at \$38 to \$40 a ton, in car lots, while No. 3 was quoted at \$34 to \$35.

Hides.—The situation in hides is extraordinarily strong, and prices advanced sharply after week. Steer hides sold at 27c., cow hides 25c., and bull hides 20c.; veal skins were up to 70c. per lb., while kips were steady at 25c. per lb.; spring lamb skins were steady at 75c. each, and wool skins were \$4 each, while horse hides were \$7.50 to \$8.

Cheese Markets.

Montreal, finest easterns, 30½c. to 32½c.; Belleville, 31 5-16c.; Vankleek Hill, white, 31½c.; colored, 31 7-16c.; St. Hyacinthe, 31 1-16c.; Watertown, 31c. to 31¼c.; Brantford, new, 38c.; old, 40c.

Two old Scotsmen sat by the roadside, talking and puffing away merrily at their pipes.

"There's no muckle pleasure in smokin', Sandy," said Donald.

"Hoo dae ye mak' that oot?" questioned Sandy.

"Weel," said Donald, "ye see, if ye're smokin' yer ain bacca ye're thinkin' o' the awfu' expense, an' if ye're smokin' some ither body's, yer pipe's ramm't sae tight it winna draw."—Tit-Bits.

Doctor.—"This eccentricity you speak of in your daughter, isn't it, after all, a matter of heredity?"

Girl's Mother.—"No, sir. I'd have you know there was never any heredity in our family."—Cassell's Saturday Journal.



BY AU

A letter ca From Old From a pla From the h It said the A mass of I close my That visio All pink, a 'Neath blu No fairer p Not even i

I hear agai I feel the v The tricky High, high I hear the As they pla And watch bloc All pink, a It seems to Can no swe That those 'Neath the

And one wi Now sleeps For me the So fair or s His cheeks Their gold Blue were h But he is sl Beneath a Christ bore The poppie Who loved

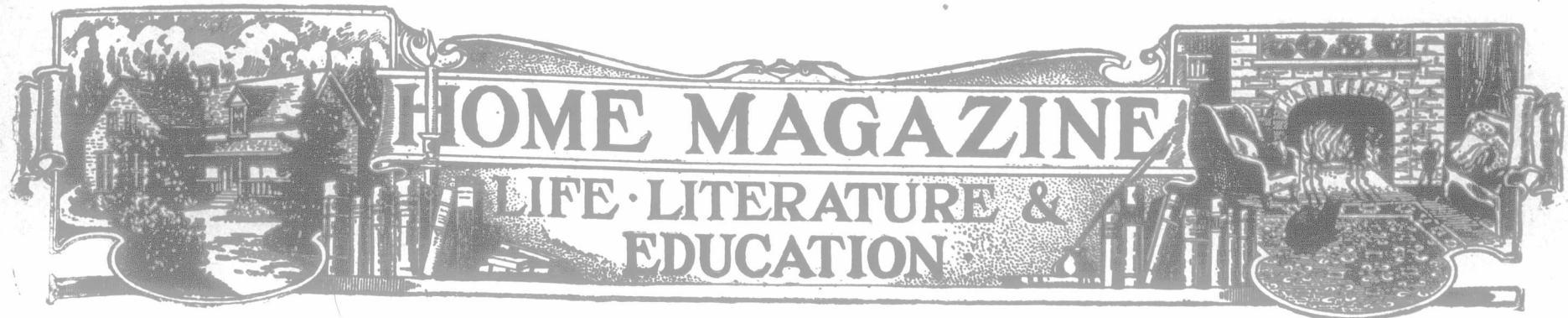
The

A BOUT south usually

that on dur if the seas damp, he— female mos sucking act is heard on sacred site "bite" int sentimental the cash harvest.

Judging the unwelc the majori clusion that upon gore almost infi family ever great millio find their w mals being of the ve Nevertheles be a real r chord upon evening, as carrier of ye of other di been estima with the he in the numb the sufferin places wher all this ma it is neces there are m are danger is the sourc myia," the chiefly in mosquito is, fairly harmi its unappre sucking prop





**The Orchard.**

BY AUGUSTA DOANE FREEMAN.

A letter came, the other day,  
From Old Ontario,  
From a place that's near to Heaven,  
From the home I used to know;  
It said the orchards were a-bloom  
A mass of pink and white—  
I close my eyes and see again  
That vision of delight,  
All pink, and white, and green, and gold  
'Neath blue Canadian skies—  
No fairer picture could be limned  
Not even in Paradise.

I hear again the robin's call,  
I feel the warm South breeze;  
The tricky oriole builds her nest  
High, high up in the trees,  
I hear the children playing  
As they played, long years ago,  
And watch them crown themselves with bloom

All pink, and gold, and snow;  
It seems to me the angels  
Can no sweet carols sing  
That those happy, laughing children  
'Neath the apple trees in Spring.

And one who loved that orchard well  
Now sleeps on Flander's Plain,  
For me the world will never seem  
So fair or sweet again;  
His cheeks were pink like appleblooms  
Their gold was in his hair,  
Blue were his eye like Northern skies,—  
But he is sleeping there  
Beneath a cross like unto that  
Christ bore to Calvary,—  
The poppies red wave o'er his head  
Who loved the apple tree.

**The Secrets of the Mosquito.**

ABOUT the 24th of May, all over southern Canada, the mosquito is usually out in full force. From that on during June and July, especially if the season be warm and somewhat damp, he—or rather she, for it is the female mosquito that does the blood-sucking act—is in fine fettle. Her hum is heard on the evening air and in the sacred silences of the night, and her "bite" interrupts sweet dreams, and sentimental moonings, and reflections on the cash balance probable after the harvest.

Judging by the assiduity with which the unwelcome prima donna seeks blood, the majority of people jump at the conclusion that this small insect pest lives upon gore, but this is not true, as but an almost infinitesimal percentage of the family ever taste it, the food of the great millions outside of the elect who find their way to human beings and animals being secured from the "garbage" of the vegetable world in swamps. Nevertheless the mosquito may, possibly, be a real menace as well as a jarring chord upon the peace of the summer's evening, as it is known to be the great carrier of yellow fever and malaria, if not of other diseases also. Indeed, it has been estimated that it compares with war, with the heavy balance on its own side, in the number of lives it has taken, and the suffering it has caused in low-lying places where malaria is prevalent. Lest all this may create a panic, however, it is necessary to state that although there are many species only two varieties are dangerous,—the "anopheles," which is the source of malaria, and the "stegomyia," the source of yellow fever, found chiefly in the tropics. The Canadian mosquito is, therefore, for the most part, fairly harmless, and remarkable only for its unappreciated hum and its blood-sucking propensities

AND now to the family history of this small but important insect: Go to any rain-barrel in which the water has not been disturbed for some days, during this spring weather, and you are likely to find floating about upon the surface patches of tiny brown rafts which, when examined, seem to be made of small, oblong bodies. These are really mosquito eggs, which will in time hatch out into the little larvæ or well-known "wrigglers" of the rain-barrel and stagnant pools, these wrigglers, in turn, encasing themselves finally in pupa-cases from which will emerge some day the full-grown mosquito a-wing for mischief.

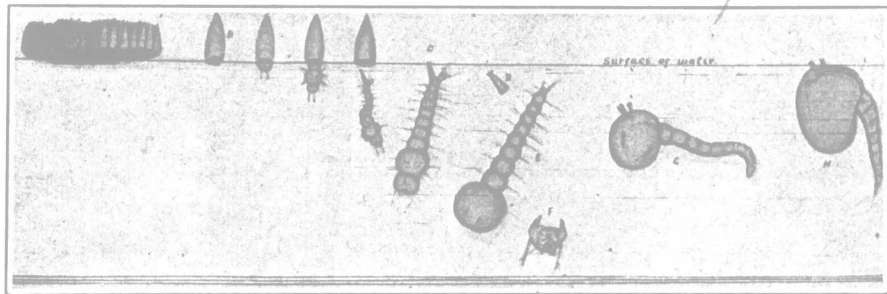
So prolific is the pest that, in the words of Dr. Edward Ayers, a student of the insect, "a single family outfit will turn out ten billion copies within two appearances of the moon," in areas espe-

cially favorable to its health. A mother mosquito deposits from 200 to 400 eggs at a single laying, and the eggs have remarkable endurance. "They can remain in cold storage all winter and hatch out in the balmy days of spring. Even the mother-hen mosquito, with developing batch of eggs, can spend the winter in a cake of ice and go a-laying in the thawing days of spring." Always the eggs are laid on water, so the larva, as soon as it is hatched out, must needs go a-swimming. No wonder it wriggles. If the egg-boat happens to be beached high and dry, or accident happens to it, its history stops before it starts. If the wriggler is thrown upon dry land or gobbled up by a voracious fish or other enemy, there will, of course, be no mosquito, but enough are usually left to keep the race going, hale and lusty.

panama region, for instance, the digging of the Panama Canal was made possible only by the discovery that the mosquito could be routed by draining swampy areas and the liberal use of oil on the surface of all standing water. Twenty years previously great French engineers had essayed the task, but had been put to flight chiefly by the savage attacks of millions of millions of jubilant, blood-sucking, yellow-fever carrying mosquitos.

The reason the wriggler cannot bear coal-oil, is that it must breathe to live. When it breathes it comes near the surface and thrusts its breathing-tubes into the air. Oil on the surface—ever so thin a film of it—interferes with this operation. Indeed, a single dose of it, drawn into the tube, is sufficient to cause "convulsions, coma and death."

**The Life History of the Mosquito.**



A, egg-boat; B, a single egg standing on the water and showing hatching of the larva or "wiggler"; C, a young larva, "standing on its head," with its breathing tubes in contact with the air; D, the terminal tube dropped off when the wriggler changes to a pupa; E, the first form of the pupa; F, the larval head discarded; G, a pupa nearly formed, showing the funnel-shaped tubes at the "forehead," through which it must now breathe; H, a young pupa breathing.

used, President (then) Roosevelt reported that on his tour across the Isthmus while the work of construction of the canal was in progress, only one mosquito was seen by his party. Colonel Gorgas had drained the marshes, cleared off the brush, and turned them into meadows with drains. As a result it had been found possible to build a large hotel on the worst spot of all, once known as the "hog-wallow," while careful house to house examination over a considerable area near the Culebra cut revealed only two mosquitoes, neither of

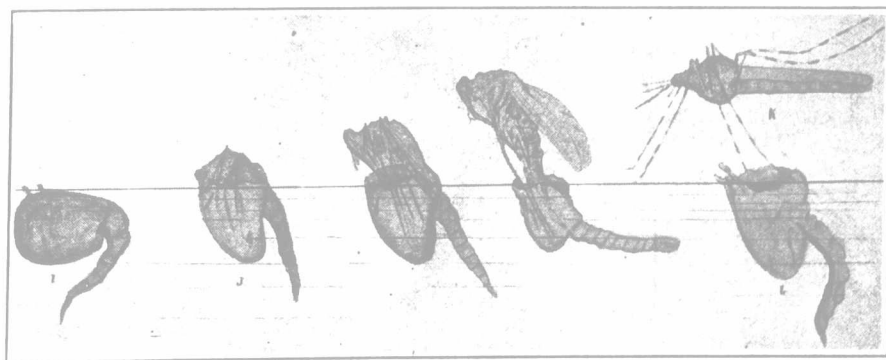
which belonged to the two fatal varieties. Drained marsh-land, by the way, is usually well adapted to the growing of garden truck, especially celery.

THE male mosquito can be distinguished by his bushy antennæ, those of the female being straight and bare. The male's only object is to find a mate, and to her he is guided by her song. Very soon afterwards he dies, but the female continues on her noisy way, sending out more sound per body-volume than a fog-horn, until she finds a still water-surface upon which to deposit the eggs. From that time until all the changes are effected and the "new" mosquitoes lay their eggs, about twelve days elapse.

The transformation from wriggler to pupa is very curious. Indeed, for a moment the wriggler becomes a wonderful "lightning-change" artist.—But let us quote again from Dr. Ayers.—"In a jiffy the wriggler "sheds his skull, face, collar and breathing-tube; swells out his chest like a military fop on parade, enclosing his eyes and brain in his chest. He draws his eight-jointed body, or tail, under his chest, and as he cannot stop his minute intervals of taking a breath of air, he shoots out from his 'forehead' two breathing-tubes much resembling the calla lily in form, these leading air to his lungs. He is now within 48 hours of a new and higher life when he shall put away the armor of his submarine life and enter the realms of birds and aeroplanes. Before such exaltation can come to him he must mortify the flesh in a two-days' fast. As a pupa he can breathe, see and swim; but no food nor drink can pass his lips, for he has no lips. If you put on the great eye of the microscope and watch the pupa through his two-days' preparation, you will see quickly forming within his transparent shell the outlines of a mosquito. His long legs, soft and rubber-like, are coiled in the bottom of his bulging chest like an ocean cable in the bottom of a ship; his eyes peer out from his mosquito head through the transparent visor of his mail; his wings are furled neatly along the body in the segmental tail-piece; his antennæ are tucked like a bib about his throat.

"And now, when his natal hour has come, you will observe that he lies just against the surface of the water—a little globule of air enclosed in his forehead serving to bring this submarine just to the surface; you will see his shell suddenly split open along the back, just as many a boy has seen occur in a locust as it clings to the trunk of a tree. You will next observe his shoulders slowly rise through this crack in his shell up into the air, then his head, antennæ and forelegs. He straightens out his soft, wet legs and plants his feet upon the water surface. He lifts his body, wings, and remaining legs free from his childhood shell and, having little air cups in the hollows of his feet, he finds himself able to stand upon the water. Then he unfolds his wings and dries them, straightens and loosens his antennæ, takes a brief glance at his new surroundings, then flies into the air and begins to sing. In leaving his shell, if his hatching is normal, he will not touch the water except with the soles of his feet; but if a ripple blows his way, or he loses his balance and falls upon his side, he is unable to lift himself free from the water, and quickly drowns. His pupa shell, from which he has just escaped, will float like any other deserted boat, until it softens and sinks."

One-tenth of the agricultural and horticultural interests of the United States are destroyed annually by insects and our greatest safeguard is the destruction of these by the wild birds. The birds are our country's greatest aids to food conservation.—Our Dumb Animals.



**The Life History of the Mosquito.**

I, a fully developed pupa; J, a mosquito beginning to hatch—it does not touch the water; K, fully hatched and standing on the water to dry; L, the pupa shell left floating on the water.

THERE is one enemy, however, that is death to the wriggler, hence to the budding mosquito, every time. The whole family hate "oil on the waters," and common kerosene, or coal-oil, is more deadly to them than the worst poisons of the Huns. Fortunately the students of the mosquito have found this out, and the result is that, in places once rendered uninhabitable by the deadly work of the insect, it has become possible to wage such warfare that the singing millions have been practically vanquished. In the

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**Markets.**

easterns, 30 3/4c. to 31 5/16c.; Vankleek colored, 31 7/16c.; St. Watertown, 31c. to new, 38c.; old, 40c. ■

a sat by the roadside, away merrily at their e pleasure in smokin', that out?" questioned

ald, "ye see, if ye're sca ye're thinkin' o' an' if ye're smokin' yer pipe's rammt' aw."—Tit-Bits.

centricity you speak isn't it, after all, a

No, sir. I'd have never any heredity 'Cassell's Saturday



### Among Canadian Wild Flowers.

**Foam Flower** (*Tiarella cordifolia*), also called False Mitrewort.—In deep, cool, rich woods, from late April of a good year until on in June, may be found this daintily beautiful little flower, with its white blossoms and hairy stems and leaves. A glance at the picture will be sufficient to identify it.

**Bishop's Cap** or **Mitrewort** (*Mitella diphylla*).—This flower, like the preceding, belongs to the Saxifrage family. It may be found growing wherever the foam flower can grow, and is almost as pretty though much more inconspicuous. One wonders sometimes why it should be called "bishop's cap," for its tiny white flowers look very much like snowflakes.

It may be interesting to note that the currant, gooseberry, mock orange, and hydrangea all belong also to the Saxifrage family. Very different do they appear from the little foam flower and bishop's cap, but the scientific eye detects similarities that indisputably establish the relationship.

## Hope's Quiet Hour.

### The City of Our King.

Our citizenship is in heaven. Phil. 3:20. (R. V.)

Walk worthy of the vocation wherewith ye are called, with all lowliness and meekness, with longsuffering, forbearing one another in love.—Eph. 4:2, 3.

"How far from here to Heaven?"  
"Not very far, my friend,  
A single, hearty step  
Will all the journey end."

A few days ago I looked down into a white face, lying stiff and cold in its last sleep. Never before had I seen that face without a smile or look of bright interest. The blinds of my friend's earthly home were drawn down. The owner had suddenly been called to her home beyond the sunset. She has "gone West," as the soldiers say.

So many have slipped away from us during the last year. The young and strong have gone before the weakly and aged, in many cases. We are well aware that our turn will come,—perhaps very soon,—and yet we are still inclined to measure things by the standards of this world. A man who has been poor becomes rich, and we think he is "lucky;" and perhaps we are inclined to envy him his "success." Yet it may be that the trials of poverty were fitting him to walk worthy of his vocation as a citizen of the New Jerusalem, while the ease of luxury of wealth may be a real disadvantage to him.

We are not living for the day only,—or, at least, it is as foolish to do that as to waste one's substance (and health) in riotous living, and then have to face the shame, humiliation and loss which naturally result. I read in this morning's paper a remark to the effect that Germany's time of mourning is five years too late. That unhappy country should have begun to mourn Aug. 1, 1914. That apparent success, which filled Germany with boastful delight, was in reality the most awful disaster in her history. For a very short triumph she will have to pay a terrific price. If her people had not been blinded by the madness of covetous desire they would have looked ahead a little, and have seen the precipice which blocked the path of unrighteous conquest. Their army flourished like a green bay tree—for a few months. Where is it now? Was the short triumph worth the price that must be paid for it?

Our time on earth will soon be over, let us look to the future. If we waste our talents, our time and our opportunities now, living as if this life were only intended to be a time for making money, or enjoying fame or pleasure, we shall bitterly regret our folly when called away

from this earthly school to the life on the other side of the school wall—that wall which is so impenetrable to our eyes that we sometimes imagine there is nothing beyond it.

Our Father has put us here to learn lessons for eternity. If we have to endure pain, sorrow or loss, don't let us bemoan our hard fate or talk about "bad luck," but let us accept each new lesson as an opportunity to "get in" spiritually. So, out of apparent disaster we may win eternal gain, and present sorrow will become lasting joy.

We—like the patriarchs of early days—are dwelling in flimsy tents. We are not naturalized on earth. Our stay here may be very short. We are like soldiers on active service, who must not encumber themselves with more baggage than is really necessary. We are marching towards our own city. God has written our names on the list of its citizens. Everything that comes to us here may be transformed into spiritual strength and eternal gain. "Bad luck" is an impossibility in a world where God is the Great Teacher. Let us trust His leading, and live each day as eager pupils in His school.

position in this world gives no room for the full use of your powers; there is no need to be disappointed. A child at school may have unusual talents in some special line, and yet have no chance to concentrate in that direction. In the school training a broad, general foundation is laid, and afterwards he can build on that a superstructure of art or anything else he chooses. Edison was called a dunce in his school days,—how little his teachers knew the genius hidden in his mind! Some other men showed brilliant promise during school years, yet failed to "make good" when they passed out into the great world. Our business now is to study the lessons given us every day. There will be plenty of chance later for using in God's service all that we have learned in His school.

Browning declares that it is "God's task to make the heavenly period perfect the earthen." Let us give up our short views and remember "Man has Forever." But the present vitally affects the future—as a child's school training affects his whole life. St. Paul tells us that,—even now,—our citizenship is in heaven; and he beseeches us to walk worthy of the vocation wherewith we are called.

are rather uncommon, I am afraid. If all the people who claim to be Christians would pay their debts sharp on time, there would be few failures in business. Do you owe money, which you are well able to pay, to your grocer or doctor or church? Remember that the King takes those debts on Himself. Think of the shame of hearing Him say: "Inasmuch as ye did it not to one of the least ye are untruthful we are daring to tell a lie to Him Who is the Truth."

It is not easy to live on earth as honorable citizens of the New Jerusalem, for "there shall in no wise enter into it any thing that defileth." We are too weak and sinful to keep our robes white. We need the only Saviour who can really save, who is able to wash away our sins, who has paid our debts with His own life. He is not only our King and Judge, He is also our unflinching Lover.

"So shall no fears chill us  
On that unknown shore,

His hand guards and guides us  
To the City's door."

DORA FARNCOMB.

### For The Needy.

"A subscriber to the "Farmer's Advocate" sent five dollars for the needy, a reader in Cape Breton (S. MacM.) sent a dollar, and "Milton Friend" sent fifty cents. This money made a very short stay in the Q. H. P., going swiftly forward in its mission of good cheer. Many readers have sent S. S. papers and other good reading matter for the "shut-in". These papers are greatly appreciated in the hospital, and I am very glad to have them for distribution. Thanks to you all!"

DORA FARNCOMB,  
6 West Ave., Toronto.

## The Ingle Nook

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

### Growing Fine Tomatoes.

TOMATOES, most delectable of vegetables—fruits, rather, for the edible portion is really the fruit of the plant. Who does not wish to have them in abundance?—for they serve so many uses and can be prepared for the table in so many ways. Sliced, or stewed and prepared with gelatine to form a jelly, they form the best of salads. Scalloped, or simply stewed and seasoned, they may be served "as a vegetable" with meat. Made into a thick puree they give a piquancy to the omelet between whose folds a thick layer has been spread. Prepared with milk, or water and cornstarch, and a fine soup for winter suppers is the result. A dash of spice and vinegar transforms the magic fruit into a pickle, while the addition of sugar and orange makes it into a preserve. Properly prepared it does duty for a pie better than that made from real meat mince-meat. Green or ripe it may be fried in slices, stuffed and baked, made into mock mangoes or into the best of catsups. . . . Who, then, would not have tomatoes?

By this time the plants are all set out it is to be conjectured in good, fairly rich garden ground. But they must not be let go at that. Tomatoes require further attention if they are to be as prolific as they may be, and of as good flavor and form. There should be no small, scrawny ones; they should be bright-colored, free from rot and spot, firm and delicious. A writer in *Sarurban Life* tells about a plan which has assured him the very best results.

"Before I struck upon this plan," he says, "I often had tomatoes of poor quality. Sometimes they would be tasteless; then again, they would nearly all rot on the vines before maturing. A good crop does not altogether depend upon the soil, for at times I would have almost an entire failure on rich ground,—I would have all vines and no tomatoes. The new method guarantees a sure crop. For fifteen cen-



1. Foam Flower. 2. Bishop's Cap.

"Nor only here  
The rich result of all our God doth teach  
His scholars, slow at best, until we reach  
A nobler sphere.  
Then, not till then, our training is  
complete  
And the true life begins, for which He  
made us meet.  
Are children trained  
Only that they may reach some higher  
class,  
Only for some few schoolroom years that  
pass  
Till growth is gained?  
Is it not rather for the life beyond  
To which the Father looks with hopes  
so fair and fond?  
Bold thought, flash on  
Into the far depths of eternity  
When time shall be a faint star memory  
So long, long gone!"

When St. John had pictured the glories of the New Jerusalem he did not say that the people of that city should be jilfers doing nothing forever and ever. No, the servants of God shall still have opportunity to work for the Master they love: "His servants shall serve Him," is a promise, not a threat.

If you feel, regretfully, that your

If the British, who are living in a foreign country, are unjust and cruel, dishonest and untruthful, they drag the honor of the Empire in the dust. If we are citizens of the Holy City let us prayerfully and earnestly try to do God's will on earth as it is done in heaven.

It is not enough to proclaim our heavenly citizenship; we must prove it. The King of the City has warned us that those who work iniquity, while they loudly acknowledge Him as "Lord," will be turned away from His presence. —S. Matt. 7:21-23.

I am afraid we are not shining citizens of heaven in the way of humility and meekness,—indeed we usually like the world to know about our good deeds, and we are very swift to resent the smallest insult or injury. As for "longsuffering," if that means "patience"—well, I for one, have a very small stock of that difficult virtue. If we all were ready to be "forbearing in love," our homes would be far more like heaven than they usually are. The nagging, faultfinding, complaining spirits, which darken the sunshine of so many homes, would be cast out.

Then there are the "common" virtues of honesty and truthfulness, which

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common, I am afraid. If who claim to be Christians their debts sharp on time, a few failures in business, money, which you are well to your grocer or doctor Remember that the King debts on Himself. Think of hearing Him say: "Inasmuch as it is not to one of the least I did it not to Me." When faithful we are daring to tell no is the Truth.

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DORA FARNCOMB.

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DORA FARNCOMB, 6 West Ave., Toronto.

**Single Nook**

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**Tomatoes.**

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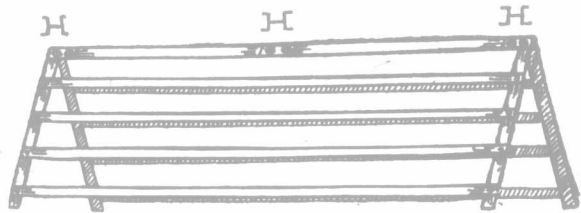
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x upon this plan," he and tomatoes of poor imes they would be in, they would nearly nes before maturing- s not altogether de- for at times I would ntire failure on rich ave all vines and new method guaran- . For fifteen con-

secutive years I have not had one failure, and have had an abundance of prize-winning tomatoes every season. "Select a good piece of ground, and use plenty of fertilizer. Plow or spade deep and, when ready to set out the plants, mark off in rows two feet one way and four feet the other, which will admit of cultivation as long as the season lasts. After the ground is marked off, set stakes or small poles, not less than five feet high, for each tomato plant. In choosing the plants, do not select tree tomatoes, as they are not prolific. Pick out some good, smooth, meaty variety, then place the plant on the south side of the stake, about four inches away; train it to the stake as it grows, and tie to stake, using binder twine, or cloth strings, which are preferable. Many times when the vines are very rank, two branches will start to grow from the top of the vine, but clip one off, allowing only one to grow to a height of five feet. Clip the tops and keep them clipped, which will hasten the ripening, and convert all the strength of the vine into tomatoes.

"When the plants are about eight or ten inches high, little runners, or shoots, will appear in the forks of the plant, and here is where the whole secret lies; these runners sap the main vine, and turn all the strength into vines instead of tomatoes. When these little runners appear, pinch them off, and allow only one main vine to grow. The fruit-buds or blossoms also appear in the same fork; but do not disturb them."

The above method recommends poles to which the plants are tied to prevent the fruit from lying on the ground with the danger of starting rot. Another plan is the "hinged tomato trellis, a tent-shaped structure easily made at home. A glance at the accompanying diagram will show how the trellis is made. It is hinged (bits of canvas or leather will do for hinges) at the top, at the points marked H, to permit the trellis to be spread out as required, and should be about 4 feet high and 10 feet long. When not in use the trellises may be closed up and kept for use the next year.



A Good Trellis for Tomatoes May be Made at Home.

To obviate trouble from the small flies which sometimes perforate the young plants, some people cover the leaves with soot, but a better way, perhaps, is to use some of the Bordeaux mixture prepared for the fruit trees, adding to it a little Paris green. Bailey gives the quantity at 4 oz. Paris green to the barrel of Bordeaux, so you can figure out the amount needed, which will be much less unless one is a commercial grower. The later sprayings, he says, should be Bordeaux only, to combat fungus troubles. Unless one has had trouble with fungus disease in the past, however, it may not be necessary to fuss about it, as in some localities it seldom puts in an appearance.

Another authority finds a weaker solution of Bordeaux than that used for potatoes safer for tomatoes. His formula is 3 lbs. copper sulphate and 4 lbs. lime to 50 gallons water; and he recommends spraying about every ten days from the time the plant is well started until the nights become cool, or until the need is over.

If plenty of cultivation is given watering will not be necessary very often, and should not be given at all unless enough is put on to be sure that it goes right down about the roots. The best way is to hollow out a small cup about the stem, pour in plenty of water, then cover the wet spot with a mulch of dry soil to keep the moisture down. If too little water is put about any plant the roots turn upwards trying to reach it; this brings them too near the surface and they are damaged by the heat from the sun.

"A good hoeing is as good as a rain," is usually true. In regard to tomatoes Bailey says: "they cannot be cultivated too much." Care should be taken, however, not to go down too deeply, else the

roots may be injured, and that will never do.

Now good luck to you and your tomatoes.

JUNIA.

**Needle Points of Thought.**

"Treat a man with as much deference as you would a picture; look at him in the best light."—W. L. C.

"As a man gets the various grades of hell out of his own system, everybody else looks better to him."—W. L. C.

**Soot Stain. Canning Corn.**

Some time ago I noticed a request in your valuable paper from a woman who wished to know how to take stain, from a leaking chimney or pipe, from carpet, and as no one has replied I am doing as the Golden Rule suggests.

Apply salt to the stain on the carpet liberally. It may be necessary to dampen slightly, and keep up a renewal of the application for some time. If properly applied the stain will almost entirely disappear with no injury to the carpet from the application of salt. Leave each application on for several days. Some time ago I read from "The Farmer's Advocate" how to make paper beads. Those were the oblong beads. Can you tell me how to make the round paper bead?

The following suggestion might be helpful to women who can their own corn. Last summer we planted two short rows of Golden Bantam corn in the field between "Wisconsin number seven." We found that though Wisconsin No. 7 became inoculated in the rows beside the Golden Bantam, and while it (Wis. No. 7) retained its size, partook of the tenderness and sweetness of the G. B.

The G. B. we used for the table, and the other was truly excellent when canned.

Ontario Co., Ont. M. B.

Thank you for your help, M. B. Can anyone answer the question about round paper beads?

**Grease on Rug.**

For Mrs. T. W. W., Dufferin Co., Ont. Mix together some cornmeal and gasoline and rub well into the spot, doing this when there is no fire or light in the room and having the windows open, to avoid, possible danger of the fumes taking fire. Brush the cornmeal out immediately, repeating until the spot disappears. If you will look in last week's "Scrap Bag" you will find directions for freshening an old rug.

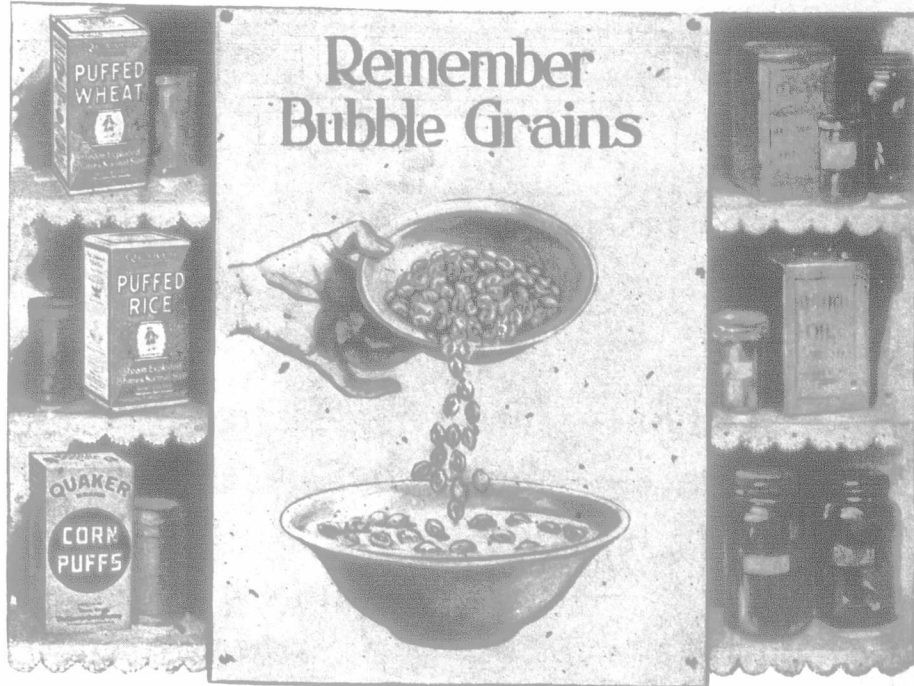
**Spring Cooking.**

*Asparagus, with Sauce.*—Pare off the hard outer surface, if any, on the lower part of the asparagus stalks, leaving only the tender centre and tops. Tie the stalks in bundles and boil in salted water 1/2 to 3/4 hour. When it has boiled make the sauce as follows: Melt a tablespoonful of butter in a small saucepan, put in a tablespoonful of flour and stir until smooth. Pour in gradually about a pint of the water in which the asparagus was boiled, stirring; all the time, then add the juice of half a lemon and a small teaspoonful of sugar. Pour over the asparagus and serve at once.

*Asparagus Salad.*—Prepare and boil the asparagus as above, then drain and let cool. Serve on lettuce leaves, with some good salad dressing and a slice or two of boiled beet or hard-boiled egg. If you cannot get lettuce use watercress. Always drop asparagus into boiling water and cook steadily.

*Spanish Omelet.*—Put 1 tablespoon butter or olive oil in a hot pan, and when hot add 1/4 of a large onion sliced thin. Cook until slightly browned, then add 2 cups canned tomatoes and 1/4 cup minced tongue, ham or chicken. Season to taste and let simmer 5 to 8 minutes. Next slip in 4 unbeaten eggs. Stir carefully as it thickens, and when the egg is firm serve on hot buttered toast or wafers.

*Hard Boiled Eggs.*—Boil several eggs 20 minutes, being careful to turn them occasionally so the yolk will not settle to one side. Take out and cool, but do



**A Pantry Sign For Summer**

We wish that Puffed Grain lovers could in summer have a pantry sign like this. For all day long one should remember these supreme delights.



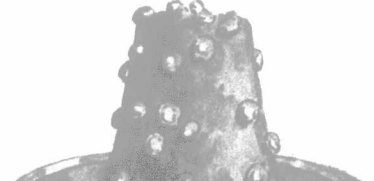
Mix with Berries



Float in Every Bowl of Milk



Crisp and Butter for Playtime Confections



Use Like Nut Meats on Ice Cream



Use in Candy



Thin Toasted Wafers for Your Soups

*One is whole wheat* with every food cell broken. Bubble grains, thin and flaky, puffed to eight times normal size.

*One is whole rice*, steam exploded—flimsy, airy morsels with a taste like toasted nuts.

**The Ideal Foods For Children**

These are the reasons for serving Puffed Grains in abundance:

They are the best-cooked cereals in existence—the only cereals with every food cell blasted for easy, quick digestion.

They are whole grains made wholly digestible. They supply whole-grain nutrition.

They are food confections, enticing in their taste and texture. So children revel in them.

They make breakfast a joy. They give the berry dish a multiplied delight.

No other grain food makes the milk so attractive.

They take the place of sweet-meats.

**Puffed Wheat**  
**Puffed Rice**  
**Bubble Grains**  
Each 15c  
Except in Far West

**The Quaker Oats Company**

Sole Makers

Peterborough, Canada

Saskatoon, Canada



## Make Work More Pleasant

When you're busy from dawn to dark—when the stress of work is most severe—try a Chiclet—dainty, candy-coated, with a *zip* of peppermint. It relieves the tension.

If you use tobacco, try one of Adams Chiclets when you've finished or between times. You'll find the change pleasant—and beneficial—sweetens the breath also.

You can always have Chiclets handy. The candy coating seals in the goodness and flavor. Buy the box containing 20 packets. Each packet holds ten Chiclets.

MADE IN CANADA

—an Adams product,  
particularly prepared



ADAMS  
**Chiclets**  
CANDY COATED GUM

CANADIAN CHEWING GUM CO., LIMITED, TORONTO, WINNIPEG, VANCOUVER

not drop them in water to cool, as that will toughen them. Take off the shells and cut off enough from the big end so they will stand up well. With a sharp knife cut off the top and take out the yolk. Fill the cavities with hot creamed peas, and serve with lamb. Use the yolks in a salad.

**Rhubarb Pie.**—Line a pie plate with pie paste, cover with rhubarb mixture, wet edge of under crust, cover with upper crust, press edges together and perforate upper crust.

**Rhubarb Mixture.**—Skin and cut stalks of rhubarb in one-half-inch pieces; there should be one and one-half cupfuls. Mix thoroughly seven-eighths cupful of sugar, and two tablespoonfuls of flour; then add one egg, slightly beaten, and the prepared rhubarb.

### The Dust Coat.

EVERY woman who motors or drives much should possess a dust coat, a long, light coverall, thin and "cool" enough to be donned without suffering on a hot day, and large enough to be put over the suit or serge dress on a cool day. Gray linen used to be the standard material for such coats, and answered the purpose finely except that it crushed easily, an insignificant matter, however, in a coat that is intended to be removed when one leaves the buggy or motor. Pure linen is not to be got now, but there are plenty of cotton materials, in gray and linen color, that look quite as well and are quite as serviceable.

When making the coverall, any long coat pattern may be used, but lining, of course, is not inserted. About the armhole, however, should be reinforced by a deep facing of the material, cut to fit the armhole and neatly stitched on the farther edge. This will enable the garment to withstand the strain where most needed. Possessing such a coat and a close veil with which to cover her hat, a woman may step out of her conveyance after a long, dusty journey with the wholesome feeling of looking "as respectable as anybody," dress and hat quite immaculate, and dust nowhere but on the face from which it can soon be removed by a sponge, or, still better, by applying a layer of cold cream, which is rubbed off after a few minutes and followed by a dust of powder.

There is nothing that makes one feel so "taggy" as to know that one's dress, hat, skin and hair are all filled with dust, and as soon as one feels taggy one acts it, becoming more or less dull, shy or awkward. Immaculateness is one of the sureties of self-forgetfulness, which is the great foundation of an attractive personality. And it pays to be just as attractive as one can be, whether standing behind one's baskets of eggs on the market—if one chooses to go there,—or sitting for a chat in a drawing-room.

### Our Serial Story.

#### The Forging of the Pikes. A Romance Based on the Rebellion of 1837.

Serial rights secured by The Farmer's Advocate and Home Magazine.

#### CHAPTER XXVIII.

#### The Fugitives.†

(Continued on the night of December 18th, 1837.)

WE must have been running fast westward, for the point at which we paused, when we looked back and saw the smoke bursting from the tavern windows, seemed far behind. We were standing then upon an eminence, and there was a long rift in the woods between; but soon we plunged into deeper wildernesses, running through small ravines and springing over logs until we were obliged to slacken speed by reason of sheer weariness.

Not a word did Hank and I say to each other—perhaps we had not the wind to spare—but I wondered if he was wondering, as was I, whether we should be arrested, and, if so, it we should be shot as traitors. I well knew the point of view of the loyalists it had been impressed upon me by my stay in Uncle Joe's house—that such proceeding as we had entered upon spelled nothing but treason, high treason at that, inexplicable as inexcusable. Nevertheless, with these tears heavy upon me because of our

ghastly failure, another thought kept surging up and up through the others, like a glad, warm, bubbling spring of pure water, glittering radiant in the sun: *I had not sat down between two stools.* My father might be right in his championship of constitutional means instead of this wild action into which we had hurled ourselves—and lost; nevertheless, let come what might now, I would remember that when the time came I had acted a man's part, with decision and persistence. I had thrown myself with the side which, after all, called out, as it seemed to me at the time, with best reason, for justice. Often this thing had worried me—lest, in my zeal for seeing both sides I might wobble.

"I didn't sit down between two stools! I didn't sit down between two stools!" my soul kept singing as I ran on, panting, among the trees and logs.

Occasionally we caught sight of other fleeing figures, between the gray maple and oak trunks, and occasionally, where rifts in the woods intervened, saw men running across the fields; then, somehow, we must have circled towards the west, for presently we ran across a trail and I saw a landmark that I knew, a curiously bent beech with three branches growing straight up, like three miniature trees, from the arched trunk.

Past this, in the shelter of a clump of evergreens, I stopped.

"See here, Hank," I said, "if we keep on like this we'll get back plump to the city. We're circling."

"How do you know?" he asked.

"I knew that tree back there."

"Of course," he said, with his cap off and mopping the sweat from his forehead. "We forgot that one goes that way in the bush. I suppose we'll have to sight trees, but it's infernally slow.—We seem to have got away from the other fellows."

"There's a river ahead there a bit," I suggested. "We might follow it."

"The very idea!" he agreed, enthusiastically. "Come on!" Then, suddenly he sat down. "Wait a minute," he said. "Jove, I'm winded!"

So I sat down too, or, rather, lay down, with my ear to the ground, listening for pursuing footsteps.

"What are you going to do, Hank?" I asked, in a half whisper.

"Why, make for The States, I guess," he replied, in the same low tone. "There's nothing else for it."

"Have you any money?"

"A little. Have you?"

I nodded. "A little. I wish I had more."

"Never mind, we can work," he said. "I hope the folks at home 'll not be too uneasy. But we can write as soon as we're safe over the line. I wish the mails went better."

I nodded again, but—perhaps it was the sight of the trail to the city that had started them, or perhaps it was merely the breathing-space—a host of questions and recollections were beginning to surge into my mind, and I was becoming much troubled. I was remembering certain items about my uncle's business of which he should know and which only I could tell him satisfactorily; I had not had time to put the books and so on in ship-shape. There were certain things of my own at the house, too, which I wanted (including, I may here confess, some little keepsakes of Barry), but most of all my journal, which, to my excited imagination, contained things that might, if discovered, be embarrassing to the family. It appeared to me that, come what might, I must go back,—and yet how could I desert Hank?

"Come," he said, presently, "this will never do! They 'll catch us here," and, indeed, even as he spoke, there came the faint thud of horses' feet approaching on the trail some distance away.

As lightly and quietly as we could we made off again, and this time we took pains to sight the trees ahead, keeping on in as straight a line as possible towards the river.

Just before we reached it we heard the sound of other hurrying footsteps, and, at some little distance, saw forms moving among the trees, evidently heading for the same point as ourselves. Fearing pursuers we froze motionless behind a thick balsam and focussed our vision on the rapidly moving figures.

"Hooray!" whispered Hank, in a moment. "It's Jimmie Scott and Dick!" —And then and there he restrained a

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and logs.

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wild desire to halloo to them, finding ex-  
pression, an instant later, in frantic  
wavings, when Jimmie's red face, sur-  
mounted by its coonskin cap, turned  
towards us, almost simultaneously dis-  
appearing as his body dropped beneath  
the undergrowth.

In another second, evidently upon  
recognition of us, the coonskin cap and  
red face re-appeared again, and Hank  
renewed his wavings.

A short run brought us up, and Jim-  
mie's relieved countenance relaxed into  
his familiar grin.

"I thought yis was some o' them damn  
loyalists," said he, in a stage whisper,  
while Dick suddenly re-appeared from  
behind a huge log.

"Where are you going?" asked Hank.  
"Why, back to Hannah, o' course,"  
said Jimmie, quite positively.

"But you can't do that," said Hank.  
"The settlement 'll be raked through and  
every man-jack of us 'll be arrested."

"That's what I've been tellin' him,"  
broke in Dick, excitedly.

"It's the States fer us—er the jail.  
I'm not goin' to jail. I'll shoot myself  
first."

"Well, let's git out o' this," said Jimmie,  
voicing the thought of all of us. "The  
air's not healthy here. There's the  
river. Golly I wish we had your canoe,  
Hank!"

Again they would have made on, but  
I stopped them.

"Well, see here, fellows," I said, "I'll  
say good-bye here. I've got to go back."  
"Back where?" they demanded, in  
a breath.

"Back to the city."  
"The devil ye are!" exclaimed Jimmie,  
while the other two gazed at me open-  
mouthed.

"I have to; I must," I explained,  
diving into my pockets in search of my  
wallet. "There are things I must see to."

Hank caught me by the arm.  
"Alan, are you clean crazy?" he said.

"Why you fool boy, you might as well  
walk into a den of lions! Don't you  
see—"

"Yes, I see everything," I interrupted,  
"And I'm going back. I tell you I must.  
There's no time to argue or to explain.

—Here, take this Hank," as I crammed  
the wallet into his hand. "You may  
need it. Now, off with you! Don't  
worry about me. I'll be all right."

"But"—they began to expostulate.  
"Go on," I said, "I'm not going with you.  
—Go on! You'll be caught here, and  
it'll be all the worse for the whole of  
us."

For an instant they stared at me,  
then Hank looked into my eyes, and  
down at the wallet, and into my eyes  
again, with tears coming into his own.

"Thanks, Alan," he said, gulping  
hard, and then, trying to smile, took  
the wallet—all too little it contained—  
and put it in his pocket.

I held out my hand to Jimmie, and  
he squeezed it until the bones cracked.  
Then I shook hands with Dick, but he  
would not look at me, only off into the  
woods. I knew he could not. As he  
trudged off after Jimmie, Hank waited  
for an instant.

"I'll go with you, Alan," he said, but I  
would have none of that.

"No," I insisted, "that would only  
make things worse for both of us."

We looked into each other's faces  
for just one instant, then—we kissed.  
We had never done that before.

There I stood, watching, while Hank,  
head down, followed the other two, then,  
when he had waved to me for the last  
time and the last sight of them had  
been blotted out, I turned back and for  
a little walked on aimlessly, subconscio-  
usly following the river. That route, I  
knew, would bring me eventually to the  
King's Mills, but walking would be  
easier along the trail, and so I took my  
way back to it.

Just before reaching it, however,  
—very fortunately, as it soon proved  
—I stepped into a hole and twisted my  
ankle.

It was very painful, and for a little I  
had to sit down, and take off my boot  
and rub it, it swelling so quickly that  
when I tried to put on the boot again the  
laces had to be left loose and I could  
only walk by limping.

Having proceeded thus for a few paces  
along the trail, I heard horses approach-  
ing towards me.

I will admit that my heart "jumped into  
my mouth" for a moment, but "Keep up  
a bold front," said I to myself, and so  
I limped on with great apparent assurance.



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WINDSOR

ONTARIO

The arrivals proved to be three horse-  
men, armed, following one behind the  
other because of the narrowness of the  
way.

On seeing me they drew up, the fore-  
most covering me with his rifle and de-  
manding who I was.

"It's a great rebel I'd be," I said,  
laughing, "to be coming into the city  
at this time and along this way."

"Humph! What's the matter with  
your foot?" demanded the one who  
had spoken.

"I think I must have sprained it,"  
I said, "for it's devilish sore."

But with that one of the others saved  
me, I think.

"Why, it's—" he began, with an air  
of recognition. I could not hear the  
words that followed, but I gathered that  
he was explaining that he had seen  
me in my uncle's apothecary shop.

"Oh," said the other, evidently en-  
lightened, then, turning to me, "Don't you  
know the password to get into the city?"

"That I do not," I said, "since I've been  
spending a day or so with some friends

outside of it and only tumbled into the  
chase this afternoon,"—all of which  
was perfectly true, and yet, I doubt  
not, rather clever lying. But "All's  
fair in love and war," thought I, "and  
I don't propose to be balked at this  
stage of the game."

There was some more questioning,  
which confirmed me as the nephew of  
my uncle, and then I was actually given  
the password.

When they had gone on I laughed.  
Here was I, given the very key to the  
position at the very first encounter!

Thanks to my very well-known uncle  
I had been taken for a loyalist returned  
from the pursuit by an unlucky accident.

The same misconception might do duty  
again.—I thanked my stars that I  
had not been over-garrulous during my  
weeks in the apothecary shop.

No wonder I laughed, for I had good  
reason to suppose that, in the confusion  
of the day, not even all the loyalists  
could be so well provided as was I  
now, with my password. Depending

upon it I could likely reach my uncle's  
house. After that—let come what might.

So I stepped on with fresh heart,  
but my will ran ahead of my feet, for

I was sadly enough hampered with  
my ankle, and glad enough when, near-  
ing the city, a good loyalist who chanced

to be a customer at the shop took me up  
in his wagon, and so deposited me, safely  
enough, at the door of the house which

had been my home but which now might  
be—well, I should soon find out.

By this time it was quite dark, but  
there was great excitement everywhere,  
the streets crowded with people, the air

filled with noisy and jubilant talk,  
and every available light sending out  
its little red beams through the deepening

night. As I looked about, I felt, at  
times, as if I were moving through a  
dream, and the only reality seemed to

be the gloomy forests I had left, where,  
somewhere in the darkness, the scores  
upon scores of fugitives were stumbling on

heart-broken and disconsolate. Poor old  
Hank, and Jimmie and Dick—where were



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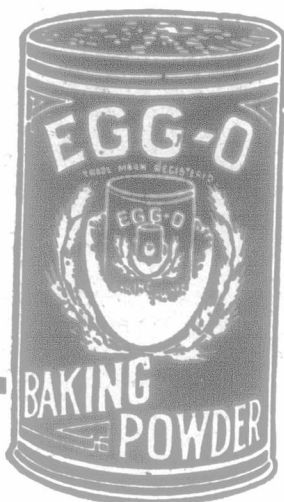
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they now? Where were The Schoolmaster, and Red Jock and all the rest?—Mackenzie, I had learned from the driver of the wagon, was still at large, although many of the "rebels" had been taken. With sinking heart I thought of them all and of our broken "cause."

Arrived at Uncle Joe's house, I do confess, I was overtaken by such trepidation as I had not heretofore experienced, but I pulled myself together, limped up the steps, and courageously thumped the knocker, hoping, for the sake of a temporary respite, that Uncle Joe might not be at home, which, indeed, proved to be the case.

It was Kate who opened the door. At the first glance she shrank back, as through struck by something fearsome, then she raised her hands, gave a little shriek and fled.

"Hoity-toity!" thought I, "so this is my reception! What am I to do now?" But, since the door was wide open and the cold air from outside sweeping through, the sensible thing seemed to be to step in and close it, which I did.

"I may as well go to my room and get my things," I considered, "in case I have to pack in short order," but before I had set foot on the stairs, Nora came to the rescue.

"For heaven's sake, Alan, is it you?" she said. "Where have you been? And what a fright you look! I don't wonder Kate ran away. Go to your room at once, and I'll send you some hot water."

Without a word I began to mount the stairs, but before I had taken the second step she was at my side, helping me.

"You've been wounded?" she said. "You poor dear boy! Is it your foot? Oh dear, I wonder where Daddy is?"

"It's only a bit of a sprain," I explained. "Nothing at all."

But it was not until I reached my room and caught a glimpse of myself in the mirror that I realized how wild and rufanly I looked, for my clothes were torn, and my boots scratched and red, and my face dirty with beard, for I had not shaven since leaving the city.

"Sit down there," commanded my consternation, and don't budge an inch until



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I get a bandage. You'll see what Daddy's daughter can do."

And so she left me, mighty glad for the soft armchair, coming back presently with warm water, and bathing and bandaging my ankle so tenderly that I could have kissed her, but only laid my hand on her glossy head and told her how dear she was.

Then she left me, but by the time I was presentable she was at the door again, and beckoned me to the little den at the end of the hall where she had spread a small table for me.

"We haven't told mother yet that you are here," she said. "She is in such a state of nervousness, with the fright of it all, and she thinks the rebels are all dyed-in-the-wool villains. You really are a rebel, aren't you, Alan? I wonder you had the face to come back into the city."

She was not scolding, this charming cousin of mine—merely stating facts in a matter-of-fact way, and as I ate, she perched herself on the foot of a couch, watching me.

"By Jove you're a jewel," Nora, I said, as I fell upon the hot meat pasty which, with bread and butter, hot tea and jam, made a meal which, for deliciousness, seemed one for the gods rather than for a discredited rebel. "I'm ravenous. —But tell me, am I debarred from the dining-room?"

"I don't know," she said, "but don't worry your head about that now. Eat your supper—and then, tell me all about it."

She was watching me in frank expectancy, and I told her the whole story, every word of it.

"I don't know what Daddy will say about it," she said at last. "I'll warrant wherever he is down town now he's cursing the rebels, every man of them. He's very much excited, and yet—I think he has been uneasy about you, Alan. Just now the best thing you can do will be to go to bed and get a good rest. I'll not say anything to Daddy to-night about your being back."

And then she told me the story of all that had happened since I left: of the

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consternation that reigned in the house when it was known that I had disappeared; of the preparations in the city; of the great excitement when it was known that the rebels were actually on their way in; and of the wild cheering that went up—while the women wept for anxiety—as the loyalist forces with their two cannon set off on their way up Yonge Street towards Gallows Hill.

"What did Uncle Joe say when I did not come back?" I asked, at the first opportunity.

She laughed a little. "Why," she said, "he rumped and tore about a bit, and declared he'd always known you were a mischief-maker and a fraud, and then at the next breath he 'hoped to the Lord' nothing would happen you."

"I don't suppose he'll be very glad to see me back here," I remarked, rather ruefully, "but there were some things in connection with the business that I simply had to go over with him."

"Oh," she said, smiling again, "as soon as he knows you're safe and sound he'll likely condemn you to all the depths, but don't let that worry you. Now then," and she held up a reproachful finger at me, "it's scandalously late. For shame! Off to bed with you, and don't get up until I call you."

With that she flitted over to me like a butterfly and planted a kiss fair on my forehead, fluttering off again before I could collect my wits. But as she opened the door, there stood Kate, very beautiful in some sort of a blue dressing-gown.

"I'm sorry I was so rude, Alan," she said. "But you frightened me so. I wanted to come long ago, but mother couldn't sleep and I've been sitting with her. We thought it might be better not to—disturb her to-night."

"Not to disturb me to-night!" came my aunt's voice from the hall, "Not to tell me our boy was here!"—And then there was Aunt Octavia herself, laughing and crying and hugging me and scolding the girls all in a breath. "Why, you foolish children didn't you know most of my worry was for fear he might be hurt?"

It was quite two of the clock before we went to bed, and still Uncle Joe had not come in.

He was standing before the grate when I went down to breakfast next morning. They had not told him, and when I went in he stared at me for a moment as though he were seeing an apparition. Then he was across the floor at a bound, shaking me and punching me, and telling me how glad he was to see me back, although I "well deserved to have a bullet through my gizzard."

All through breakfast he beamed and joked, and tried to make me eat enough for three lumber-jacks. It was while we smoked together afterwards that his cholera rose, and that all of my own fault, perhaps.

I had made a clean breast of the whole story as I had to Nora, he listening with intense interest. Then it seemed incumbent upon me to say something about my regret that the movement had failed, considering the justice of the cause.

He grew red to the very top of his bald head. "What, sir! What!" he exclaimed jumping to his feet and throwing his pipe on the hearth, "You're still one of 'em!"

With that I did not improve matters—I should have known better—by attempting to justify my position, for he went from bad to worse, ending by ordering me off the place.

"One of that herd still!" he exclaimed, using plenty of adjectives by way of emphasis, "And you dared to come back to my house! Gad sir, do you take me for a low-down cur, sir, that 'll be spit upon and then let it be rubbed in? Out of my house, sir, bag and baggage! I'll have you to know I harbor no treason in my house, no, nor no traitor! Pack, sir! Do you hear me? Pack, I say!"

Which forthwith I did.

While I was upstairs putting my things in my travelling-bags and wondering mightily whether I should find more difficulty in getting out of the city than I had in getting back into it, I could hear the voices of the women, downstairs, evidently expostulating with my excited uncle, and his in return, angrily refusing compromise. Then they came

up to me—my aunt and the girls—and my aunt cried a little and the girls hung about me.

When at last we went down I put the bags in the hall and went to him. He was standing at a window looking out, and he did not turn around.

"I'm going down to the shop to put the books in shape, uncle," I said. "I'll write down everything else necessary and leave it sealed in the desk. Won't you shake hands?"

But he neither turned nor spoke. I kissed the rest of them and went

down the steps. "So that's the end of another chapter," I said to myself, sorrowfully enough. "I wonder what next?"

But I do not think I had gone ten rods along the flags when I heard his voice calling, "Alan! Alan!"

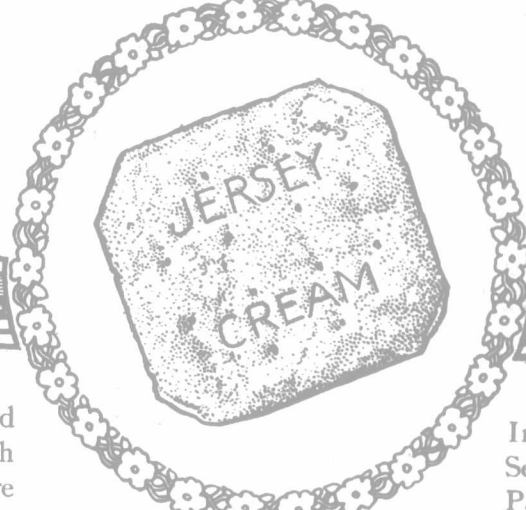
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# PARDID A NEPONSET ROOF

**T**HE economy of roofing with Paroid is apparent when you consider:—

It can be laid quickly, and at half the cost of new shingles.

When put on, Neponset Paroid forms the ideal roofing—fire, weather and wear-resisting.

Neponset Paroid Roofing lives long, stands up, and pays for itself yearly by giving absolute protection and satisfaction.

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A full set of the tools required for laying Paroid is shown below.

Roof with Neponset Paroid—it Pays.

Neponset Paroid Roofing is made in three colors: red, green and slate grey.

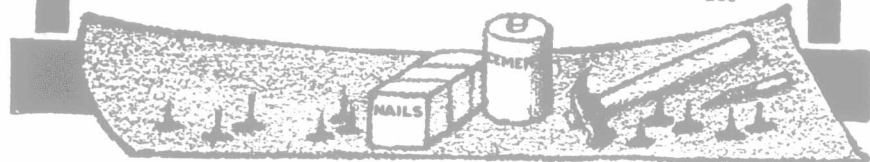
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### We Save You Money

Buy no Poultry fence any part of which is made of light wire. The life of the fence will only be the life of the lightest wire. A chain is no stronger than its weakest link. The Sarnia knot—in fact all parts of our fence are made of the same size wire. We guarantee the Sarnia fence to be made from Government gauge, high grade wire that stands the acid test, and to be the most perfectly woven Poultry fence on the market. Western Canada supplied from Winnipeg. Get our low price list and descriptive literature before you buy Poultry Fence. Address nearest office.

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Winnipeg, Manitoba Sarnia, Ontario



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"Takes the Wet Out of Rain."  
**FISH BRAND**  
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**A STRONG, well made raincoat especially designed for school and messenger boys. Made of heavy material, finished with corduroy collar, solid brass rust proof clasps and two strong outside pockets. In two colors—Black and Olive Khaki.**  
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I turned and went back. He had come down the steps and was waiting for me, a bit apologetically, I thought. "Go up stairs and take the things out of those fool bags," he said. Then when we had got into the hall, "Alan, lad, I'm a hot-headed old idiot. But you've got to put up with me lad—you've got to put up with me." And then we gripped hands and he followed me to my room. "Tear an' ages, lad, didn't you know I never meant you to go like that?" he said. "Why, lad, you're the only son I've got." "But I didn't mean to stay, Uncle Joe," I returned. "I—I can't stay. It might compromise you for me to be here. I just came back to finish the work at the books and get some things." He would not listen to that at all. I must just keep on where I was, he said. It was not necessary for us to tell all the world I had been at Montgomery's. I was only a young fool anyhow, carried off my balance for a while. I would know better later, and be one of the Queen's most loyal subjects. God bless her! So here I am still, writing in my own little muslin-curtained room. But oftentimes my heart is heavy for prisoners are being brought in in

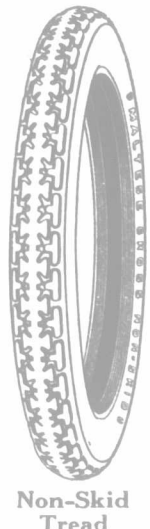
droves every day, and I do not know where are those dear fellows whom I love so well, nor what will be their fate. There is a reward of £1,000 out for Mackenzie, and £500 for Lount, Gibson, Jesse Lloyd and others. Matthews was taken, on the Saturday night after the fight, in a house in Markham township, and is now in goal, as is also good old Van Egmond, who could not keep up in the flight and was discovered in a farmhouse out north near the Golden Lion Inn. From about Bradford the other day, fifty prisoners were brought in, and paraded, fastened to a rope, down Yonge street, amid the hoots and jeers of the crowds that gathered to look on. In the midst of all this I feel like a hypocrite. Yet—who knows?—I may find it possible, eventually, to do more for our people here than were I to fly and probably be captured and brought back like the rest of them. In the meantime I shall lie low. But I fear we have fallen on evil times indeed, and that, as my father said, we have but put it into the hands of the Powers in this country to put on the screws tighter than ever. I wonder where Barry is this night. Glad am I that she was safely away from all this turmoil and danger. To be continued.

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# MALTESE CROSS TIRES

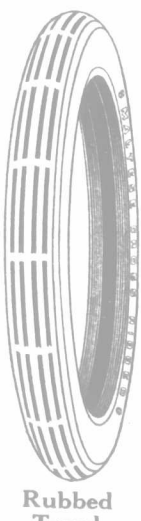
## Service Record



Non-Skid Tread

The farmer or any other motorist should remember that the service record of a tire is one sure way to measure its excellence. Service records cannot be foretold; but experience with thousands of tires exactly the same weight, size and construction, gives a scientific basis for an estimate of service to be expected of the other thousands that follow.

The MALTESE CROSS trademark is the buyer's protection against faulty or careless workmanship or inferior materials. It is his guarantee that the tire will give him a service record to his satisfaction.



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Watson's Spring Needle Underwear is the correct thing for particular "little women" with sensitive skins and rapidly growing bodies. The garments are soft, warm, snug-fitting and always comfortable.

These same qualities are to be found in the underwear we make for men and women. All styles, all sizes, all fabrics.

**Watson's** SPRING NEEDLE RIBBED Mfg. Co.  
**UNDERWEAR**

The Watson Manufacturing Company, Limited, Brantford, Ontario

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

## Current Events.

The Western University, London, Ont., is to add a Faculty of Law next term.

The U. F. O. have chosen Mr. John F. Ford, a farmer, as their candidate for the Legislature for Halton Co., Ont., and Lieut. W. H. Fenton, M. C., for North Bruce.

A news item from Cobourg, Ont., states that Hope Township Council has decided to raise a memorial fund of one mill on the dollar to assist disabled soldiers and their dependents.

At time of going to press no settlement has been effected in Winnipeg although a few unions have returned to work, and there is news of the strike having spread to Calgary, Saskatoon and Edmonton. On May 30 a general strike was called in Toronto and on the first day 10,000 workmen, less than one-third employed in the city, went out.

At present the Peace Conference is wading through the reply and counter-proposals submitted by the Germans after receiving the terms of the Peace Treaty. The Germans object to the severity of the terms, saying they concluded the war on the basis of Wilson's fourteen points but that these have been so changed as to be practically different. They are especially averse to the awarding of Upper Silesia to Poland, to the limiting of German armaments without limiting those of other nations also, to the disposition of the German colonies, to the exclusion of Germany from the



## WATER Everywhere on the Farm

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**TORONTO**

League of Nations, and the amounts of reparation payments to be immediately paid. Their plan is to defer all payments until 1926, when 20,000,000,000 marks would be paid and their annual payment to a total of 100,000,000,000 marks. They wish to administer the government of the lost colonies under mandate of the League, and propose that the German fleet be transferred to an international trust managed by the Americans and controlled by the League, this trust to be given also the mercantile fleets of all other maritime nations, every nation to be represented in the central administration in numbers corresponding to the nation's tonnage. Germany is willing to give up half of her mercantile fleet. Most of the Allied papers, in reporting on the situation, hold that the terms presented to Germany are none too severe considering the damage and destruction wrought by the war. On May 29 the terms of peace to which Austria must subscribe were presented to the delegates at St. Germain. The dispute over the Adriatic coast has come to an end. Fiume becomes a free city and Italy is awarded Zara, Sebenica, and a number of islands, and will have the mandate over Albania. Dantzig, on the Baltic, is to be governed by an International Commission under a mandate from the Peace Conference. At present warships with British and American marines are lying in the harbor. In Russia events move steadily in favor of Kolchak and against the Bolsheviks. During the week Peterhof, 16 miles west of Petrograd, was captured by the Allies.

**A Safe Custodian.**—A little boy one day asked his grandmother if she could crack nuts. "No, dear," he replied, "I lost all my teeth years ago." "Then," said the youngster, as he showed both hands full of filberts, "please hold these for me; I'm going to fetch some more."

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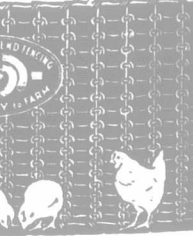
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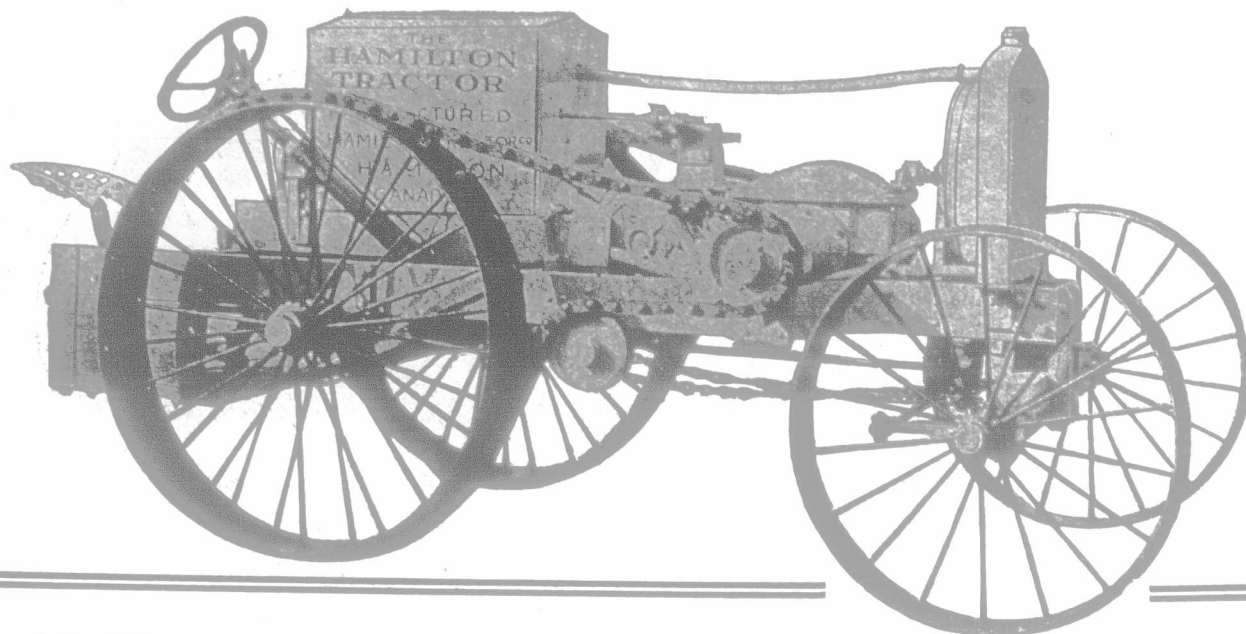
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**MECHANICALLY PERFECT**—Built by Canadians especially to meet Canadian conditions.

**CHAIN DRIVE** around rear wheels gives advantages of the caterpillar type of traction with all the Flexibility and Power of large wheels.

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features—Tough steel frame, cold drawn steel axles, strong chain, very simple in construction and quickly adjusted—Steers as easily as your automobile.

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Hamilton, Canada

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Information of value to intending settlers and to others interested is given in FREE book, "Selected Farms." Comfortable through trains from Ontario and Eastern Canada via Lake Superior's Hinterland and the Great Clay Belt afford an interesting, scenic, and the logical route for Canadians. Enquire—nearest C.N.Rys. Agent, or write

General Passenger Department  
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**Canadian National Railways**

"The Way to the West"

One of the best legal anecdotes I ever remember to have heard emanated from that distinguished wit and scholar, Lord Morley, who recently celebrated his eightieth birthday.

A certain rich litigant (said Lord Morley) went away to his country seat at the conclusion of an important case before judgment had been pronounced. A few hours later his lawyer wired him as follows:

"Right has triumphed."  
The rich litigant wired back:  
"Appeal at once."

### ONTARIO HEREFORD BREEDERS' ASSOCIATION

"Hello, Harry, did you see the report of O. Harris' sale of Herefords, held May 6th, 1919, at Harris, Mo., U.S.A.?"

"Why, yes, that was some average \$1,919.00 on one head, and the top price \$35,000.00. It certainly takes the Herefords to hit the high spots."

For list of members or other information regarding Herefords, address  
J. E. HARRIS, President, Kingsville, Ont. JAMES PAGE, Secretary, Wallacetown, Ont.

### Get Ready for Weeds.

**T**HERE are weeds which propagate and spread entirely from seeds, and another class, more persistent, which grow from perennial roots or underground stems.

The seed weeds are easiest coped with. They are mostly annuals, starting from seeds and having flowers and ripening new seeds the same season. The important thing is to prevent their going to seed. This may be accomplished by rooting them up when young, as by hoeing, pulling by hand, etc., or by the use of chemical sprays. Wild mustard belongs to this class.

The worst pests are those of the weed family which, when cut off or pulled off, send up new shoots from the underground parts. Every part of these weeds must be choked or dug up in order to insure their non-appearance. A stronger-growing crop plant, such as alfalfa, may be introduced, or the underground parts of the troublesome weeds may be starved out.

Of course, cutting off every sprout which appears above ground will soon starve the weeds, as they are dependent upon food manufactured in their leaves. In a couple of seasons, by persistent effort of this sort, you may win out.

Many experts on weeds divide them into three classes: annuals, those that live only one year, such as foxtail, smartweed, mustard, cockle-bur and ragweed; biennials, those which have a flowering stalk the second year, such as mullein, wild primrose, wild carrot and teasel; and third, perennials, those that live for many years from the same root. Examples of this latter class are Canada thistle, red sorrel, dock and buckhorn.

The only way to successfully eliminate weeds is to keep everlastingly at them until they are under control or done away with. The best time to combat them is when they are young, and before they have spread—as spread they will rapidly, unless attended to at once—over great areas of land.—Sel.

### Treat Seed Potatoes to Prevent Scab Rhizoctonia and Black Leg.

BY PROF. J. E. HOWITT.

Every farmer who grows any potatoes for seed or stable stock should treat his seed potatoes as an insurance against Common Scab, Powdery Scab, Rhizoctonia and Black Leg. For Common Scab, Black Leg and Powdery Scab, formalin may be used. If Rhizoctonia is troublesome, corrosive sublimate should be employed. Careful treatment of the seed potatoes combined with proper cultural method (see additional suggestions) makes it possible to produce potatoes almost free from these diseases and which will pass the inspection which is necessary before the potatoes can be sold as certified seed. Rhizoctonia is one of the most common diseases in Northern Ontario. Therefore, farmers there and farmers in Southern Ontario who are planting Northern grown seed potatoes should use corrosive sublimate rather than formalin for treating their seed potatoes.

#### Directions for Treating Seed Potatoes with Corrosive Sublimate to Prevent Rhizoctonia, Powdery Scab, Common Scab, and Black Leg.

Select tubers free from all signs of rot and as free as possible from scab and little black hard lumps on the surface and soak them before they are cut for three hours in a solution of the strength of 2 ounces of corrosive sublimate in 25 gallons of water. In preparing the solution dissolve the corrosive sublimate in a little hot water and then make up to 25 gallons with cold water. Fill the barrel or trough with potatoes and then add the solution until all the potatoes are covered with it. Leave for three hours and then drain off the solution into another receptacle. The same solution should not be used to treat more than three successive lots of potatoes. Half a pound of corrosive sublimate will make sufficient solution to treat between 60 and 70 bus. of potatoes. After treatment spread the potatoes on clean grass or on a clean floor to dry. All bags, crates, etc., used in handling scabby potatoes should also be dipped in or washed with corrosive sublimate solution. Corrosive sublimate may be obtained

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Ready for Weeds.

Weeds which propagate entirely from seeds, and are more persistent, which have perennial roots or under-

ground parts are easiest coped with. Annuals, starting from seed, ripening flowers and ripening same season. The method to prevent their going to seed may be accomplished by pulling them when young, as by hoeing, and, etc., or by the use of herbicides. Wild mustard be-

longs are those of the weed which are cut off or pulled off, and those from the underground parts of these weeds must be pulled up in order to insure their destruction. A stronger-growing alfalfa, may be introduced, and the underground parts of the weeds may be starved out. Pulling off every sprout above ground will soon destroy them as they are dependent on their leaves. Weeds, by persistent effort may win out.

On weeds divide them into: annuals, those that are biennial, such as foxtail, smartweed, and ragweed; which have a flowering stem, such as mullein, wild carrot and teasel; and those that live for a number of years. The latter class are Canada dock and buckhorn. These weeds are not so successfully eliminated as the annuals, but by persevering at them under control or done at the best time to combat them, they are young, and before they spread they will be controlled to at once—over-look—Sel.

Plant Potatoes to Scab Rhizoctonia Black Leg.

E. HOWITT.  
If you grow any potatoes stock should treat his stock with an insurance against scab, Rhizoctonia, and Powdery Scab. For Common Scab and Powdery Scab, use a sublimation. If Rhizoctonia is present, use a sublimation. A sublimation should be used in combination with proper treatment of the soil (see additional suggestions) to prevent almost free from scab which will pass on to the next crop which is necessary because it can be sold as certified seed. It is one of the most important in Northern Ontario. There are farmers in Ontario who are planting seed potatoes should be sublimated rather than their seed potatoes.

Planting Seed Potatoes with Sublimation to Prevent Scab, and Black Leg.

Free from all signs of scab and bumps on the surface before they are cut for sublimation of the strength of the sublimation in water. In preparing the sublimation use the corrosive sublimation and then make up to old water. Fill the tub with potatoes and then sublimation. Leave for three days in off the solution. The same sublimation be used to treat more lots of potatoes. Corrosive sublimation will be used to treat between potatoes. After treatment of potatoes on clean grass to dry. All bags, in handling scabby potatoes be dipped in or sublimation solution. The sublimation may be obtained

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Send us the size of any roof that needs covering and we will mail you a very interesting proposition.

**"EMPIRE" CORRUGATED IRON "EASTLAKE" STEEL SHINGLES**

are admitted Standards of Quality

35 years' reputation for sterling reliability is behind "Metallic" goods. 35 years' experience in filling farmers' needs is at your service.

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The **METALLIC ROOFING Co.** Limited  
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**We Sell** Linseed Oil Cake Meal, Cotton Seed Meal, Gluten Feed (23% protein), Bran, Shorts, Feeding Corn Meal, Feeding Molasses (in barrels), Dairy Feeds, Hog Feeds, Cracked Corn, etc. Car lots or less. Our Poultry Feeds are the best on the market, and the prices are just right. Ask for quotations.

**We Buy** Hay, Straw, Oats, Buckwheat, Mixed Grain etc.

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**POULTRY AND EGGS**

Condensed advertisements will be inserted under this heading at four 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 60 cents.

**BABY CHICKS—BRED-TO-LAY S.C. WHITE**  
Leghorns. Safe arrival guaranteed. Descriptive catalogue free. Cooksville Poultry Farm, Cooksville, Ont.

**BEULAH FARM WHITE WYANDOTTES—**  
I have more 200 egg ribbons won by my hens at American Egg-Laying Contests than all the other White Wyandotte breeders in Ontario combined. Hatching eggs now two and three dollars per setting. N. Y. McLeod, Stoney Creek, Ont.

**BARRED ROCK COCKERELS FOR SALE AT**  
reduced prices. Satisfaction guaranteed. Write John Pringle, London, Ont.

**CANADIAN RINGLET BARRED ROCKS—**  
Pedigreed trap-nested Bred-to-Lay stock. Heavy winter layers. EGGS that hatch strong vigorous chicks. Mating list and egg records free. F. J. Coldham, Box 12, Kingston, Ont.

**PUREBRED SINGLE-COMB RHODE ISLAND**  
Reds. Fine, dark red year-old cockerel \$3.00. Hatching eggs \$2.00 per 15. Dr. Hendry, Delhi, Ont.

**EGGS WANTED**  
Highest cash price paid.  
**POULTRY WANTED**  
We require a large quantity of heavy live hens. It will pay you to sell to  
**C. A. MANN & CO.**  
78 King St. London, Ont.



Don't Live in Terror of Lightning

Suppose your barn were struck by Lightning and destroyed just before harvest.

You would be put to the loss and inconvenience of threshing in the fields and marketing your grain as best you could.

And if your barn is struck just after harvest, as usually happens, your plight is still worse.

Just last year the loss on Canadian barns struck by Lightning was more than one million, five hundred thousand dollars (\$1,500,000.00).

This appalling loss would have been prevented if Metal Roofing had been used.

Lightning has never yet set fire to a building that was roofed with Galvanized Steel, properly grounded. This could not be said of any other roofing material.

Galvanized Steel Shingles are absolutely fireproof— not merely "fire-resistant." They are waterproof and

windproof too. No matter how many days it may continue to rain, water cannot leak through Galvanized Steel and cannot soak into it.

Neither does Metal Roofing hold the chaff from the threshing engine. Dust and dirt just slide right off its smooth surface with the first wind or rain.

When you put money into a roof make it a permanent investment. If your building is struck by Lightning and you lose thousands of dollars, where then is the economy? Or, if the roof rots in a short time, you will in the end put on a Metal Roof anyway. Roof right in the first place. Better be sure than sorry.

Any of the firms mentioned below will be glad to send you further information. Send the size of your roof for free estimate.

**STEEL Not "Tin"**

There is no "tin" plate, such as is used in tin cans, etc., used in Galvanized Steel Shingles or Corrugated Sheets. They are of sheet steel heavily coated with zinc spelter. To call Metal Shingles a "tin" roof is like calling a steel armoured battleship a "tin" boat.

The Galt Art Metal Co., Limited, Galt, Ont.  
The McFarlane-Douglas Co., Limited, Ottawa, Ont.  
The Pedlar People, Limited, Oshawa, Ont.  
The Metallic Roofing Co., Limited, Toronto, Ont.  
The Metal Shingle & Siding Co., Limited, Preston, Ont.

**Roof with Metal**  
for safety and permanence

at any drug store. It can be purchased cheaper, however, in wholesale lots from the large wholesale chemical companies. Corrosive sublimation corrodes metal and should be prepared in earthen or wooden vessels. It is deadly poison and should be so labelled and kept out of the way of children and stock. Even in dilute solutions it is poisonous. Potatoes disinfected with it should never be used for food for man or beast, and vessels containing it should be thoroughly washed with warm water before being used for any other purpose.

Directions for Treating Seed With Formalin to Prevent Common Scab, Black Leg and Powdery Scab.

For seed select tubers free from all signs of rot and as free as possible from scab, and disinfect by soaking them before they are cut for two hours in a solution made by adding 1 pint of commercial formalin to 30 gallons of water. The same formalin can be used to treat successive lots of potatoes. 30 gallons is sufficient to treat from 40-50 bus. if ordinary precautions are taken not to waste too much of the fluid as each lot of tubers is dipped. Wash all crates, bags, etc., which are used in handling the potatoes with the formalin solution. If potatoes are not all treated the same

day it is advisable to make up fresh formalin solution for each day's work.

When troubled with Black Leg be sure and discard all potatoes showing any signs of rot and when cutting the seed potatoes after treatment with formalin or corrosive sublimation have two or three knives in a jar containing a strong solution of formalin 1 part by measure to 10 of water. After cutting into a tuber showing brown discoloration inside drop the knife into the formalin solution, discard the diseased tuber and take a fresh knife for the next cutting. If this is not done the germs which cause Black Leg will be spread from the diseased tubers on to the sound ones which are to be used for seed.

Additional Suggestions.

If possible plant potatoes on clean soil, that is on soil that has not produced a crop of scabby potatoes. Heavy applications of barnyard manure should not be made to the potato crop but if necessary given at some other point in the rotation. Plant potatoes after clover sod if possible. Practice a rotation of crops. If scab is very bad it is not advisable to plant potatoes on the same land oftener than once in four or five years. Avoid alkali fertilizers such as lime and wood ashes.

At a trial in Baltimore a youthful physician was summoned as a witness, and naturally in the cross-examination a lawyer seized the occasion to be sarcastic.

"Are you," demanded the lawyer, "entirely familiar with the symptoms of concussion of the brain?"

The young physician replied, "Yes, sir, I am."

Then the smart lawyer put a hypothetical case before the doctor in this way:

"If my learned friend, Mr. Reid, and myself should bang our heads together, would we get concussion of the brain?"

The young physician calmly replied, "Mr. Reid might."

It all happened on a journey between Glasgow and Aberdeen. The well-known and benevolent Scots minister stepped into a third-class carriage at the former city and took his seat opposite a working man, also a Scot. Presently the two got into conversation, and the working man conceded in the clergyman that he had been a coupler on the railway for seven years. "Oh, oh!" laughed the benevolent old, gentleman. "I can beat that hollow. I've been a coupler for twenty years." The working man eyed him for a moment with stern disapproval then: "Ay, ay," said he; "but I can un-couple, and ye canna!"

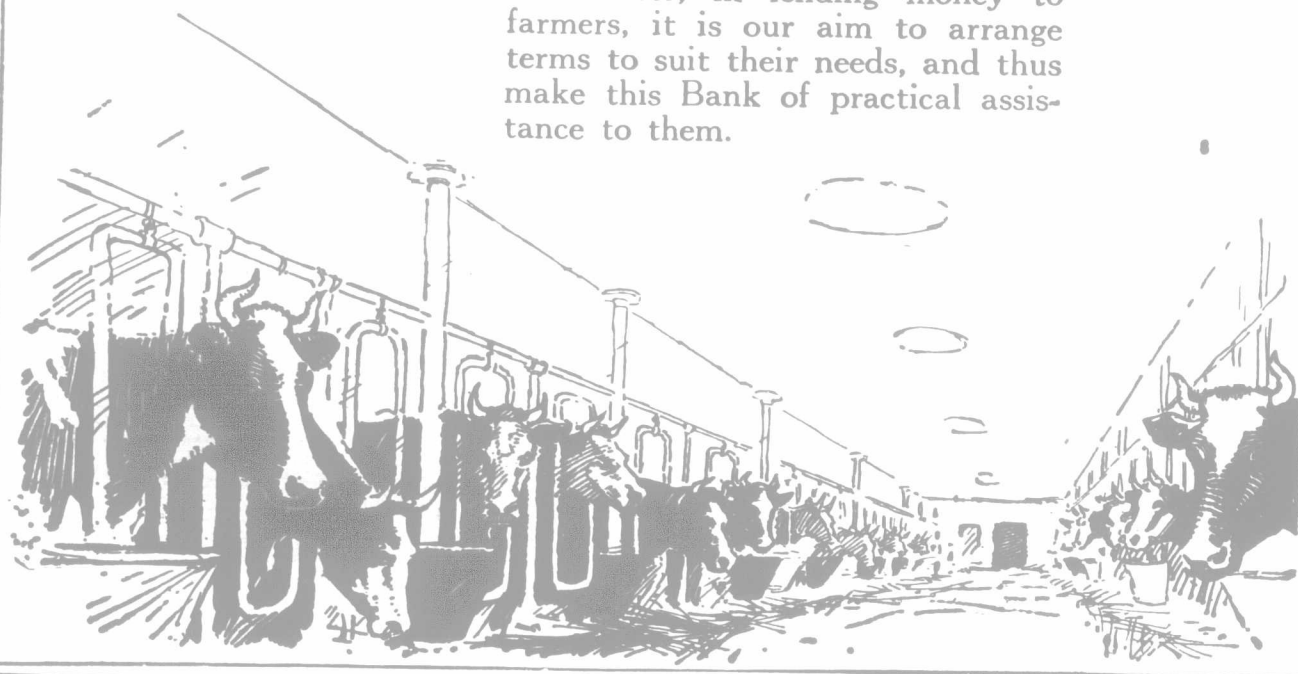


# THE BANK OF TORONTO

## Working Capital for FARMERS

THE branch managers of this Bank will meet reliable farmers in any reasonable demands for credit to finance heavier crops, to feed stock, to buy stockers, or for any sound enterprise in line with national development.

Further, in lending money to farmers, it is our aim to arrange terms to suit their needs, and thus make this Bank of practical assistance to them.



Incorporated 1855  
**Farmers Who Call**  
 at any of the Branches of  
**The Molsons Bank**

are always made welcome.

Especially at this time when increased production is so essential, our Managers will cheerfully discuss with farmers their financial situation.

Savings Department at all Branches.  
 Interest at Highest Current Rate.



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

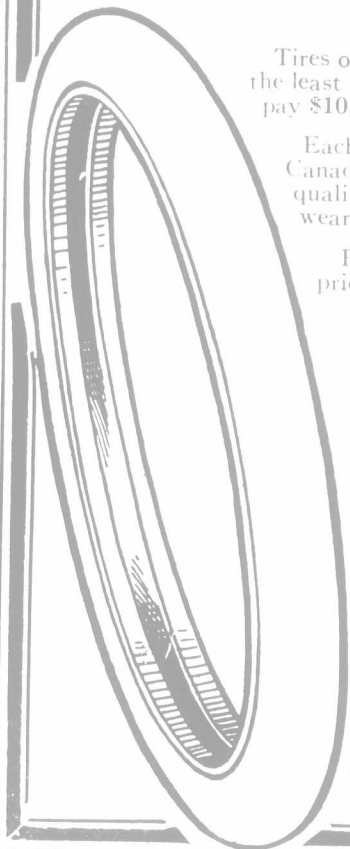
TERMS—Four cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 60 cents.

FOR SALE PURE-BRED BLACK COLLIE pups, males eight dollars females five. John Arnott Bright Ontario.

MAN TO OPERATE TRUCK OR FURNISH team to collect cream and produce. State rate expected and references. Box 27, Farmer's Advocate, London, Ont.

The party at the art gallery was being led around by the caretaker, who enlarged upon the beauties of every picture and statue at great length. At last the party paused opposite a statue of a lady who had lost both arms and most of her clothes. "Alabaster, isn't it?" said one of the sightseers. The caretaker looked at the questioner with withering scorn. "No, Venus," he said. — The Times, Watertown.

## TIRE PRICES THAT SAVE DOLLARS



Tires offered at these prices represent the best quality for the least money. Why go elsewhere for a similar article and pay \$10.00 to \$30.00 more on each?

Each tire bears the name and serial number of one of Canada's leading Tire Manufacturers. A guarantee of quality in material and workmanship, and reliability in wear.

For value these Tires cannot be duplicated at the price we offer them to you.

Let us ship your order on approval C.O.D. for free inspection. We pay express charges to any address in Ontario, Quebec or the Maritime Provinces. After examining the Tires if you think they are not as represented, ship them back at our expense. Could anything be fairer?

Size	Plain	Non-Skid	Size	Plain	Non-Skid
28 x 3	\$10.50	\$11.50	36 x 4	26.00	29.20
30 x 3	10.50	11.50	33 x 4 1/2	24.00	27.50
30 x 3 1/2	13.45	15.45	34 x 4 1/2	25.00	27.50
32 x 3 1/2	13.00	16.70	35 x 4 1/2	28.00	30.00
31 x 4	18.00	—	36 x 4 1/2	29.00	39.00
32 x 4	19.00	22.00	37 x 4 1/2	—	40.00
33 x 4	22.00	27.10	37 x 5	—	42.50
34 x 4	23.40	28.10	37 x 5	35.00	45.00
35 x 4	25.75	28.50			

30 x 3 1/2 Tubes, Fully Guaranteed \$2.25

**Security Tire Sales Co.**

516 1/2 Yonge St. TORONTO

210 Sherbrooke St. W. MONTREAL

## Tile for Sale

100 M. 2 1/2 inch used Tile. (Not now needed). Good quality.

\$12.00 per M., f.o.b. Brampton, for cash.

DALE ESTATE, Brampton, Ont.

## WANTED TILE DITCHER

to put in fifteen miles tile drain at Unionville. Can start at once. Address—

COL. F. H. DEACON  
 Glenburn Farm, Unionville, Ont.

## Farm Accounts.

EDITOR "THE FARMER'S ADVOCATE":

More interest is taken in farm book-keeping now than ever before. Perhaps this is partly due to the new income tax. A farmer prefers to keep his own accounts rather than take the figures of an income inspector. Sometimes a record of farm transactions will prevent loss. I know two farmers who had to pay store bills which they did not owe. The merchants had made a mistake and charged the items to the wrong men, but the farmers had to pay just the same. If they had kept books themselves they could have proven that they owed nothing.

Farm accounts must be kept strictly separate from the personal account, which includes all household expenditure. The following lists will help to distinguish the two accounts:

**PERSONAL ACCOUNTS.**—This includes buying food, clothing, furniture, household utensils, repairs and insurance on house, life insurance, etc.

**FARM ACCOUNT.**—This includes buying and selling grain, feed, live stock and poultry; and expenses including fencing, repairs and insurance on barns, buildings, etc.

Procure a note-book and divide it into two halves, marking the first half "assets" and the last half "expenses." In the first place the live stock, grain and feed and implements must be valued, and the list of this property and values should be entered in the book as assets. When two neighbors both keep books, it is a good plan for each to help the other in valuing his property. Everything should be considered worth what it would bring at an auction sale. The price of all farm products sold during the year would be included in the assets. The butter and eggs used in the home should be kept account of, and their market price should be entered as assets each week in the same manner as if it were sold. Also, the other farm products used in the home, such as pork, beef, potatoes and vegetables, should be valued and considered assets if they were produced on the farm. If these products are purchased from someone else they belong to the personal account.

Expenses should include all kinds of farm expenditure, such as buying cattle, horses, harness, binder twine, and insurance on barn and farm buildings. At the end of a year the property should be valued again, and the expenses should be subtracted from the assets. By comparing the total net assets which the farmer has now with the assets a year ago, we find the amount of profit made during the year.

In valuing the property each year, it will be necessary to estimate the number of bushels of grain in a bin, and the weight of cattle. The following rules will be useful:

To calculate the number of bushels of grain in a bin, multiply the number of feet in the length by the number of feet in the width by the number of feet in the depth of grain by 100 and divide by 128. In other words, a cord (128 cubic feet) of grain contains a hundred bushels.

To estimate the weight of cattle that are fairly fat, measure the girth just back of the forelegs. When the girth is 6 feet, the weight is about 1,000 pounds. For each inch more than 6 feet, add 50 pounds. For each inch less than 6 feet subtract 25 pounds. Do not use this rule when girth is less than 5 feet 6 inches.

But it is not enough for farmers to keep books only. They should get rid of the slackers about the farm. The cows should all be tested to find out if there are any "boarders" in the herd.

NELSON McDOWELL.

Ontario Co., Ont.

NOTE.—The foregoing article presents some good suggestions in regard to farm accounts. It is becoming increasingly important that some practical accounting be done on every farm. There have been many kinds and types of account books prepared, but the majority of them are too elaborate. Farmers need only a simple set of books, and to be practical they must not demand a great deal of figuring and entry making. However, farm accounting in some reasonable form should not be delayed.—Editor.

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**Accounts.**

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ALSON McDOWELL.

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**Imperial Bank of Canada**

**Forty-Fourth Annual Meeting of the Shareholders**  
Held at the Head Office, Toronto, Wednesday, May 28th, 1919, at 12 noon

The Forty-fourth Annual General Meeting of the Imperial Bank of Canada was held in pursuance of the terms of the Charter at the Banking House of the Institution, May 28th, 1919.

**THE REPORT.**

The Directors have pleasure in presenting to the Shareholders the Forty-fourth Annual Report and Balance Sheet of the affairs of the Bank as on 30th April, 1919, accompanied by statement of Profit and Loss Account, showing the result of the operations for the fiscal year.

The balance at credit of Profit and Loss Account carried forward from last year was.....\$1,204,942.91

The net profits for the year after deducting charges of management, Auditors' fees and interest due depositors, and after making provision for bad and doubtful debts and for rebate on bills under discount amounted to.....1,247,516.75

Making a total at credit of Profit and Loss Account.....\$2,452,459.66

This amount has been applied as follows:—

Dividends at the rate of 12% per annum.....	840,000.00
Annual Contribution to Officers' Pension and Guarantee Funds.....	42,500.00
Special Contribution to Pension Fund.....	100,000.00
Contributions to Patriotic and other War Funds.....	34,500.00
War Tax on Bank Note Circulation.....	70,000.00
Transferred to Reserve Fund.....	500,000.00
Balance of Account carried forward.....	865,459.66
<b>Total.....</b>	<b>\$2,452,459.66</b>

Branches of the Bank have been opened during the year as follows:—  
**In Alberta.**—Bear Lake, Crossfield, Daysland, Edson, Grande Prairie, Green-court, Rocky Mountain House, Sangudo, Spirit River, Sylvan Lake, Waterhole.  
**In British Columbia.**—Kimberley.  
**In Manitoba.**—Gimli, Riverton.  
**In Quebec.**—St. Jovite Station.

**In Ontario.**—Toronto—Danforth and Carlaw, Queen and Carlaw, St. Clair and Boon, Leaside; Simpson Street, Fort William; Grand Valley, Glenmorris, Kirkland Lake. Port Robinson, Queenston, Richards Landing, Smooth Rock falls, Welland South, Waldemar.  
**In Saskatchewan.**—Canwood, Dafeo, Edenwold, Fielding, Hepburn, Krydor, Lestock, Piapot, Waldheim.

The following branches have been closed:—  
**In Ontario.**—Iroquois Falls, Leaside and Mount Dennis.  
**In Saskatchewan.**—Kandahar and Lestock.

Since the close of the fiscal year branches have been opened at Colinton, Rock-fort and Whitecourt, Alberta; Westminster and Arlington Sts., Winnipeg, Manitoba; Matheson and Nobleton, Ontario.

The Head Office and branches of the Bank as usual been carefully inspected during the year, and the Auditors appointed by the Shareholders have also made their examinations as required by the Bank Act. Their Report and Certificate will be found attached to the Balance Sheet. They offer themselves for re-appointment.

It is with much regret that your Directors have to report the death during the year of Mr. Cawthra Mulock, and Hon. W. J. Hanna, K.C. Their places on the Board have been filled by the appointment of Mr. Frank A. Rolph and Mr. Robert S. Waldie.

Owing to ill-health, Mr. Edward Hay was obliged during the year to relinquish his position as General Manager. His place has been filled by the appointment of the Assistant General Manager, Mr. William Moffatt, who has been in the service of the Bank since 1881.

The Directors have pleasure in again testifying to the satisfactory manner in which the officers of the Bank have discharged their respective duties.

All of which is respectfully submitted.

**PELEG HOWLAND, President.**

**LIABILITIES.**

Notes of the Bank in circulation.....	\$11,870,723.00
Deposits not bearing interest.....	\$21,486,089.28
Deposits bearing interest, including interest accrued to date of Statement.....	61,712,144.91
<b>Total.....</b>	<b>83,198,234.19</b>
Balances due to other Banks in Canada.....	\$ 792,522.85
Due to Banks and Banking Correspondents in the United Kingdom.....	595.42
Deposits by and Balances due to Banks elsewhere than in Canada and the United Kingdom.....	609,347.44
Acceptance under Letters of Credit (as per contra).....	139,575.00
<b>Total.....</b>	<b>1,542,040.71</b>
Total Liabilities to the public.....	\$ 96,610,997.90
Capital Stock paid in.....	7,000,000.00
Reserve Fund Account.....	\$ 7,500,000.00
Dividend No. 115 (payable 1st May, 1919) for three months, at the rate of 12% per annum.....	210,000.00
Balance of Profit and Loss Account carried forward.....	865,459.66
<b>Total.....</b>	<b>\$112,186,457.56</b>

**ASSETS.**

Current Coin held by the Banks.....	\$ 2,573,248.73
Dominion Government Notes.....	9,554,118.00
<b>Total.....</b>	<b>\$ 12,127,366.73</b>
Deposit in the Central Gold Reserves.....	6,000,000.00
Deposit with the Minister for the purposes of the Circulation Fund.....	389,491.77
Notes of other Banks.....	840,795.00
Cheques on other Banks.....	4,364,152.52
Balances due by other Banks in Canada.....	603,324.47
Due from Banks and Banking Correspondents in the United Kingdom.....	323,970.95
Due from Banks and Banking Correspondents, elsewhere than in Canada and the United Kingdom.....	3,008,947.32
<b>Total.....</b>	<b>\$27,658,048.76</b>
Dominion and Provincial Government Securities, not exceeding market value.....	\$ 5,934,919.21
Canadian Municipal Securities, and British, Foreign, and Colonial Public Securities other than Canadian.....	14,702,059.33
Railway and other Bonds, Debentures and Stocks, not exceeding market value.....	775,397.91
<b>Total.....</b>	<b>21,412,376.45</b>
Loans to Provincial Governments.....	\$ 37,000.00
Loans to Cities, Towns, Municipalities and School Dis-tricts.....	4,610,473.30
Call and Short Loans (not exceeding thirty days) in Canada on Bonds, Debentures and Stocks.....	4,866,495.25
<b>Total.....</b>	<b>9,513,968.55</b>
<b>Total.....</b>	<b>\$ 58,584,393.76</b>

Carried forward.....	\$58,584,393.76
Other Current Loans and Discounts in Canada (less rebate of interest).....	48,544,711.12
Liabilities of Customers under Letters of Credit (as per contra).....	139,575.00
Overdue Debts (estimated loss provided for).....	376,949.44
Real Estate (other than Bank Premises).....	548,846.27
Mortgages on Real Estate sold by the Bank.....	539,034.48
Bank Premises, at not more than cost, less amounts written off.....	3,390,333.92
Other Assets, not included in the foregoing.....	62,573.57
<b>Total.....</b>	<b>\$112,186,457.56</b>

**AUDITORS' REPORT TO SHAREHOLDERS.**

We have compared the above Balance Sheet with the books and accounts at the Chief Office of Imperial Bank of Canada and with the certified returns received from its Branches, and after checking the cash and verifying the securities at the Chief Office and certain of the principal Branches on 30th April, 1919, we certify that in our opinion such Balance Sheet exhibits a true and correct view of the Bank's affairs according to the best of our information, the explanations given to us and as shown by the books of the Bank.

In addition to the examinations mentioned, the cash and securities at the Chief Office and certain of the principal Branches were checked and verified by us during the year and found to be in accord with the books of the Bank.

All information and explanations required have been given to us, and all trans-actions of the Bank which have come under our notice have, in our opinion, been within the powers of the Bank.

G. T. CLARKSON, F.C.A.  
R. J. DILWORTH, F.C.A.

of Clarkson, Gordon and Dilworth.

The customary motions were made and carried unanimously.

Mr. G. T. Clarkson, F.C.A., Toronto, and Mr. R. J. Dilworth, F.C.A., Toronto, were appointed Auditors of the Bank for the ensuing year.

The Scrutineers appointed at the meeting reported the following Shareholders duly elected Directors for the ensuing year: Messrs. Peleg Howland, Elias Rogers, William Ramsay (of Bowland, Stow, Scotland), William Hamilton Merritt, M.D., (St. Catharines), Sir William Gage, Sir James Aikins, K.C. (Winnipeg), John North-way, J. F. Michie, Sir James Woods, E. Hay, Frank A. Rolph, R. S. Waldie.

At a subsequent meeting of the Directors Mr. Peleg Howland was re-elected President, and Mr. Elias Rogers, Vice-President, for the ensuing year.

**PELEG HOWLAND, President.** **W. MOFFAT General Manager.**  
Advt.

**War Bond Interest**  
**Coupons and Cheques**  
**Cashed Free.**



The Merchants Bank will cash all War Loan coupons or interest cheques when due, on presentation, without making any charge whatever for the service.

If you have not a Savings Account, why not use your interest money to open one with This Bank?

**THE MERCHANTS BANK**

Head Office: Montreal, OF CANADA Established 1864.

With its 27 Branches in Manitoba, 41 Branches in Saskatchewan, 69 Branches in Alberta, 8 Branches in British Columbia, 119 Branches in Ontario, 37 Branches in Quebec, 1 Branch in New Brunswick and 2 Branches in Nova Scotia serves Rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

**WOOL**

Simply write us how many sheep you have and the breed. We will then quote you the highest market price. Do it to-day while the market is high and wool is wanted.

**WM STONE SONS LIMITED** ESTABLISHED 1870 **WOODSTOCK ONT.**

**Let Us Know Your Brick Requirements Now**

Once the building season really opens up it is hard to meet the demand for a quality product like—

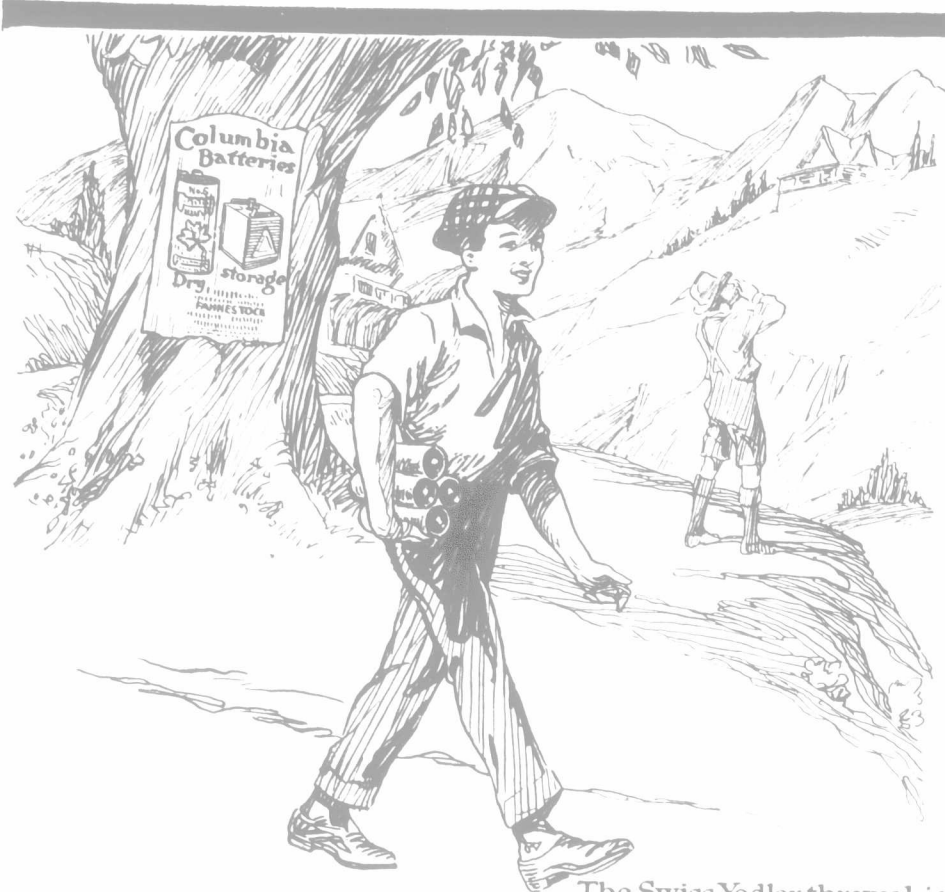
**MILTON BRICK**

We can ship NOW, from full stocks of Red and Buff Pressed, or the famous Milton "Rug" in varied shades. Let us know your needs.

**MILTON PRESSED BRICK CO., LIMITED**

Head Office: Milton, Ont. Toronto Office: 48 Adelaide St. W.





The Swiss Yodler throws his voice across the valley —

**the Fiery Little Columbia can throw a voice across a continent**

**T**HE Big Swiss Yodler throws his voice across the valley—the echo registers that fact in four seconds. We marvel at the power behind such a voice. But let us not forget—

The Fiery Little Columbia can carry the Big Yodler's ordinary conversation over a thousand miles of telephone line, and deliver it instantly.

**THE DRY BATTERY**  
CONSIDER, too, that besides tuning up telephones, Columbia Dry Batteries run toys, ring doorbells, and furnish the vital spark of life to thousands of autos, trucks, motorboats, tractors, and farm engines.

The Fiery Little Columbia is never sick, for his constitution is tough; he is never tired, for he works only when you need him. Always healthy, rested, and vigorous, he meets every battery need faithfully and long.

**THE STORAGE BATTERY**  
THE Columbia Storage Battery is built and sold to yield definite power for a definite time. In a Columbia you buy definite service; you

receive a clearly defined guarantee, a specific agreement that you will be entitled to thorough repairs or another battery without additional cost if the original battery fails within the guarantee period.

The Columbia Battery Terminal Seal protects the battery, the purchaser, and us. The guarantee is a record of that fact.

Stop at any Columbia Service Dealer's or Columbia Service Station and learn how thousands of auto owners are avoiding the costly battery tinkering that used to be tolerated as part of the day's work.

**Columbia Storage and Dry Batteries**

Canada C-19

Some one just for a joke, asked the new clerk in the drug store for some sweet potato seeds. The clerk hunted all through the seeds, but could find no sweet potato seeds and finally appealed to the boss.

The latter explained that he was being kidded and cautioned him about not letting smart Alecs put anything over on him.

A few days later a lady entered the store and asked for some bird seed.

"Aw, go on," grinned the clerk, "you can't kid me. Birds is hatched from eggs."

In a small village in Ireland the mother of a soldier met the village priest, who asked her if she had had bad news. "Sure I have," she said. "Pat has been killed."

"Oh, I am sorry," said the priest. "Did you receive word from the War Office?"

"No," she said, "I received word from home."

The priest looked perplexed, and said, "But how, then?"

"Sure," she said, "here is the letter; read it for yourself."

The priest said, "Dear Mother, I am now in the War Office."

**The Reindeer and Musk Ox.**

The following paragraphs are from an address delivered by V. Stefansson, the Canadian Arctic Explorer, before the House of Commons. Mr. Stefansson fully describes the habits of these animals and points out their value as meat and wool producers. An idea of the conditions and vegetation of the great north land may be ascertained from the address:

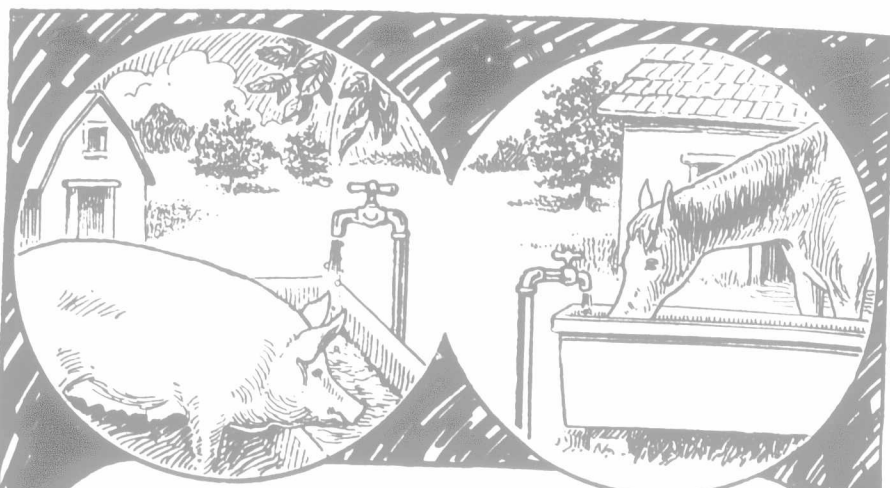
The domestication of animals among our ancestors developed in the sub-tropical portion of Asia where the cow and the sheep and the horse were native. Through the conservation which makes us prefer the foods we are used to, we have been engaged since then in the uphill task of pushing these animals north beyond their natural limits. In such countries as, for instance, northern Norway, they are already far beyond their reasonable range and their cultivation is not very profitable because they have to be hay-fed and house sheltered for a considerable part of the year, entailing great expense and trouble. It is inconceivable with many of us, though it is not wise, to run counter to Nature and force her to our will. This

can never lead to any great or stable success and the wiser thing is to adapt ourselves and our tastes to local conditions. So far as our old domesticated animals are concerned, therefore, we should not try to carry them farther north than they have already gone and we should adopt instead, if they are available, some other animals that are equally good and that are suited by nature to a more northerly environment.

About twenty years ago the American Government introduced 1280 domestic reindeer into Arctic Alaska. From the point of view of the Government at the time this was a sort of charity, for their sole aim was to give a possibility of economic independence to the Eskimo already inhabiting that country. At the time, the prevailing opinion was that even this object would not be attained and few of those who expected the enterprise to succeed even dreamed of its present magnitude or the meaning it would have for Alaska to-day or for the world to-morrow. Under Eskimo care these herds have increased at the rate of doubling in three years. But the few animals that are in the hands of white men are found to double in numbers every two years. The main reason for the difference is that the white men look

further into the future than the natives and therefore butcher only male animals. The Eskimo, on the other hand, butcher a number of females each year for reasons of fashion in clothing. To them a spotted or a white reindeer skin has the same sort of value that silver foxes have among us; that is, a value depending on rarity and entirely independent of the warmth or other practical good qualities of the skin. For that reason most females that have a spotted or white skin are killed before they are three years old, for after that time their hides would not have the same desirability for clothing from the Eskimo point of view.

When the American Government gave reindeer to the Eskimo they made each Eskimo promise that he would not sell a female reindeer at any time to a white man, the object of the Government being merely to promote the economic welfare of the Eskimo. But it was found necessary to secure several dozen Laplanders to instruct the Eskimo in the care of deer and these Laplanders were by the Government allowed to own reindeer herds on the same terms as the natives. The Government overlooked, however, to bind the Laplanders as they bound the Eskimo, and these Laplanders have, therefore, recently sold practically



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**R FREEZES**

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man and horse, reduces Strained, Torn Liga-  
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Horses by Thoroughbred or Standard-  
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Weighing not less than 1,050 nor  
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pay all express charges. We  
supply cans. We remit  
daily. We guarantee high-  
est market price.

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LIMITED**

LONDON - ONTARIO

all their reindeer to a firm of American  
capitalists who own at present about  
fifteen thousand deer. This company  
sold about fifteen hundred carcasses of  
one hundred and fifty pounds each on  
the American markets last year at a  
price ranging from five cents a pound to  
fifteen cents a pound in excess of the  
corresponding cuts of domestic beef.  
There is in England a well-established  
market for reindeer meat, for there it  
has been imported for many years from  
northern Norway, and one hundred  
carcasses of Alaska reindeer were this  
year sold in London at a price of about  
half a shilling a pound in excess of beef.

"The Lomen Company," Mr. Stefansson  
said, "who own the Alaska reindeer,  
have told me that they can raise on the  
Seward Peninsula about fifty reindeer  
to the square mile. It has been found  
that at Point Barrow and on the north-  
coast of Alaska generally, grazing con-  
ditions are better than in the Seward  
Peninsula, for rocks are absent and the  
land is a level and rolling prairie covered  
with more abundant vegetation than the  
average of the Seward Peninsula. We,  
therefore, know that Alaska north of and  
in the vicinity of the arctic circle has 150-  
000 square miles of grazing territory  
capable of supporting fifty animals to  
the mile. So that arctic Alaska will in due  
time support over seven million reindeer,  
producing about as much meat per year  
as fourteen million sheep, or several  
times the present mutton production  
of all the settled portion of Canada. The  
price of reindeer meat will doubtless fall  
in due course to the vicinity of that of  
beef or mutton. Most people who know  
reindeer meat are enthusiastic about it  
and consider it the best meat on earth,  
but it is probable that when it becomes  
common on the markets people's opinion  
will vary as it does with other meats  
to-day and, while some will prefer it  
to beef, others will prefer beef or mutton  
to reindeer meat.

The London Company say that at  
present they can raise reindeer meat in  
the Seward Peninsula of Alaska, but-  
cher the animals there, send the meat  
by cold storage ships 3,500 miles to  
Seattle and by cold storage freight cars  
to Chicago, and sell the meat there at  
one-half the price of beef and still make  
a good profit. Seeing that instead of  
selling the meat at half the price of beef  
they are selling it as high as thirty-five  
per cent. above the price of beef, it  
means that at present their business is  
tremendously profitable and, so far  
as can be seen, this will continue to be  
the case.

But while Alaska has one hundred or  
two hundred thousand square miles  
suitable to reindeer grazing, Canada  
has from one to two millions of square  
miles equally rich in vegetation and in  
the main better located, so far as trans-  
portation conditions are concerned. Bering  
Sea is open for no greater period of the  
year than are Hudson Straits, and if it  
is possible to ship meat from lands  
adjacent to Bering Sea across thirty-  
five hundred miles of the Pacific Ocean,  
then three thousand miles by rail and  
then another three thousand miles by  
water to England, it is obvious that the  
matter would be far simpler were the  
herds located, for instance, on the west  
coast of Hudson Bay rather than in the  
farthest corner of Alaska. Furthermore,  
as soon as the railway is finished to Port  
Nelson, the Chicago market will be  
reachable from Hudson Bay by a shorter  
railway haulage than that from Seattle  
to Chicago, giving the reindeer grown  
in the vicinity of Hudson Bay an obvious  
advantage over those raised in Alaska,  
unless tariff regulations exclude them.  
And even at that, we have the Winnipeg  
and other Canadian markets readily  
accessible by rail.

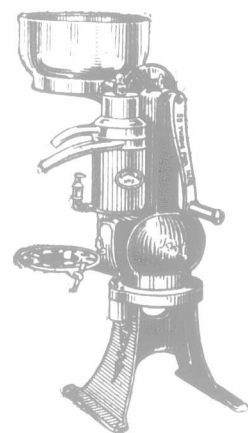
The Americans now realize that they  
made a fundamental mistake in starting  
the industry on such a small scale. It  
took them about fifteen years to develop  
the first twelve hundred to twelve  
thousand, and it is now easy to see that  
had they started with twelve thousand  
and saved fifteen years of time, they might  
now have an industry of huge proportions.  
For the same rate of increase which has  
developed the original twelve hundred  
into the one hundred and seventy thousand  
animals of to-day would have developed  
twelve thousand in the same time into  
between ten and fifteen millions, especially

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The feeding, care, milking of cows, are all done to produce  
profits. Every farmer should see that this profit is not thrown  
away by the use of poor skimming and hard-running Separators.

This expensive blunder is continually being made. It can  
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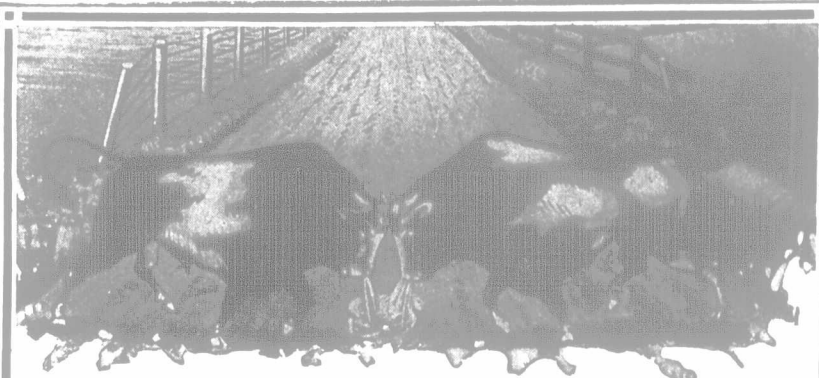
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high efficiency is represented in the real  
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venient in handling and cleaning. Write  
to-day for booklet, which gives all in-  
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are made by the hands of men who  
know the requirements of a good tire  
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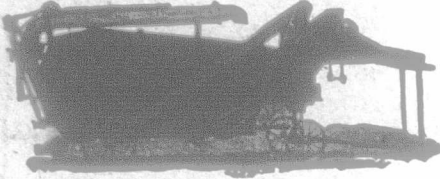
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I have six bulls from 8 to 15 months. All sired by Middlebrook Prince 6th, a son of Jock of Glencairn. Four of these are show calves. Also have other calves younger, and could spare a few heifers safely bred to same sire.

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R. R. No. 5, Bellwood, C. P. R., Fergus, G. T. R.  
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We have for sale, some nice young bulls ready for service. Also females.

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**Aberdeen-Angus**—Several young bulls and heifers for sale. Sired by "Middlebrook Abbot 2nd" (1st prize in class at Toronto and Ottawa, 1915). Apply to **A. DINSMORE, Manager, "Grape Grange" Farm, Clarksburg, Ont.** 1 1/2 miles from Thornbury, G.T.T.

Please mention Advocate

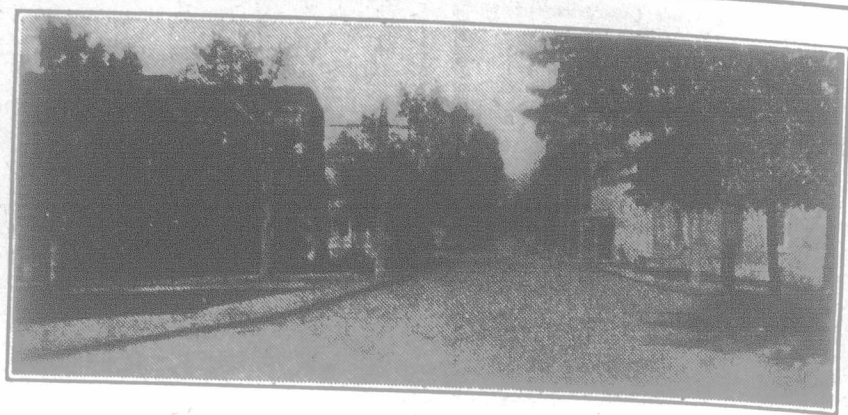
had the industry from the early stages been in the charge of careful husbandry men instead of under the haphazard care of natives.

I have not the patience to enter into a discussion with those who say that transportation difficulties forbid Canada's going into this industry on a large scale. I found the other day in talking with Lord Shaughnessy and Mr. Beatty that they saw no such transportation difficulties, and if men of that type don't, why need the rest of us worry? If once you realize the tremendous potentialities of the north you are in the position of those few who forty years ago realized the possibilities of Manitoba, and the problem to be solved will be merely the transportation problem of Manitoba over again even for the least favored regions.

From the West coast of Hudson Bay we shall in a year have a railway, and we already have the ocean route to Europe. In order to find a country in the grazing region that is as inaccessible as Manitoba was in 1875, you have to put your finger on some central spot in the vicinity of Great Slave Lake.

The meat and wool problems of the world are becoming more acute every day and for an obvious reason. No solution proposed up to the present has been anything but a temporary solution. We hear much of the grazing of the Argentine but, like our own West, that will last as a grazing territory for a matter of a few years only. You can raise more food to the square mile by cultivating cereals or orchards than by raising cattle or sheep, and so, while the wild land of Argentine of to-day may be the cattle and sheep land of tomorrow, it will be the farm and the orchard land of the day after to-morrow. In the temperate and equatorial lands it is only the semi-arid regions that are in any sense permanent grazing land, and even into them the progress of dry farming and of irrigation are making continual inroads. In eastern Oregon and Washington, for instance, and in our own southern British Columbia and in Alberta, irrigation has already converted huge areas from herds to orchards and wheat fields. And this development is bound to continue, constantly lessening the meat and wool producing lands of the world.

But unless some revolutionary discovery is made in agriculture, we have in Canada a great grazing area that lies too far north to be included in the profitable cultivation of cereals. This area is about three million square miles, but if you allow two millions for forests and fishing lakes and areas barren because they are rocky, you still have a million square miles of prairie land. The summer varies in length from six months north of Slave Lake to three months in the more northerly islands. But whether the summer is six months or three, it is abundantly long enough for the development of nutritious vegetation which, although it is green only in the summer, is satisfactory food for grazing animals throughout the winter as well. The snow fall in most parts of the far north is less than half that of Manitoba. I was brought up in Manitoba and Dakota in sections where houses were far apart. At one time our nearest neighbor was fifteen miles away across a rolling prairie. When you were out of sight of our house there was no other house in view. I speak with the authority of ample experience when I say that at that time a man brought up in Dakota or Manitoba if he could have been magically transferred to the middle of Banks Island would not have been able to realize by the ordinary evidence of his senses that he was not in his own country. Had the month been July, he would have seen the rolling prairie stretching away to the horizon in either place, green in either place, and differing in Banks Island only by the larger percentage of small lakes and the larger number of flowers. Of course, had he been a botanist he could by looking closely at any plant near him have told that he had grass of a different species, but at a hundred yards or over there would have been no telltale difference. And the like would have been true in winter, for, as in Manitoba or Dakota, he would have found deep snow drifts in certain places, but in most places a negligible amount of snow on the ground and the grass here and there sticking up through, so that it is only in a few places that animals have to use their feet for pawing away the snow as they feed.



Main Street, Hemmingford, Que. Tarvia filled macadam 1915

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THE road problem of a small town is an awkward one. Property values as a rule cannot sustain costly types of pavement, whereas the traffic coming in from the surrounding countryside may be heavy.

The best roads for towns so situated are Tarvia macadam.

taxation. When Tarvia roads are introduced, the business of the community usually increases greatly—more products going out and more money and goods coming in.

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**Tarvia**  
Preserves Roads Prevents Dust—

Statistics invariably prove that where good roads replace poor roads, the people of the community save enough in hauling expenses the first year or two to pay for the roads.

Tarvia is a coal-tar preparation which bonds the stone together making a tough, slightly plastic surface which is automobile-proof, dustless, and durable.

An old macadam road can be converted to Tarvia macadam at a slight cost and will thenceforth show a very low annual up-keep.

In fact, hundreds of miles of macadam are being converted to Tarvia macadam every year in recognition of the lowered cost of maintenance and the net saving in

And further, good roads will convert the most dismal, stuck-in-the-mud community into one that is up-and-doing, and throbbing with life and growth.

Numerous towns all over the Dominion now use Tarvia on a large scale in order to reduce maintenance expenses as well as to get durable, dustless and mudless roads.

There is a grade of Tarvia and a Tarvia method for most road problems.

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I have ta... that industr... American... will inevitab... tion with re... soon the Ca... whether they... as the Amer... small a scale... increase of... grazing terri... we shall e... North cover... whether we... animals or w... difference is... ten or twent... industry tha... portant in ou... with five hu... merely build...

It is one o... about the N... as there is, is... I have spent... Circle, on th... mainland of... Canadian isla... by me grass... lichens or m... many consid... think that, ... in our future... tions of the n... important.

To begin w... important on... a monopoly. ... of their natu... from their en... defend them... circle with... they can prot... fectly against... man, but ag... have no def... and in Scotl... they were ext... our Stone Ag... in Siberia, an... have similarl... United States... of Canada an... found only i... in that part o... been a sort of... it has remain... fear of the Ir... the fear of the...

So far as... expedition are... have ever liv... the musk ox... over forty dog... Island, where...



It is curious that the whole world should be as densely ignorant as it is of the climate and resources of the North, but it is deplorable, if it is not pathetic, that Canadians generally should share in the same impression. Fifty years ago it would have been difficult to convince the ordinary inhabitant of Montreal or Toronto that Manitoba was a fit place to live in or could ever be of value. And it is interesting to find that to-day the people of Manitoba have toward the country just beyond them the same attitude which the East had towards Manitoba fifty years ago, and with a similar lack of justification. The weather Bureau can tell us that in general the climate of Northern Canada is similar to that of Manitoba. If a person who has lived through his bringing up on Lake Winnipeg were to migrate to Great Slave Lake, he could tell the difference in climate, not by his vague general impressions, but only through a careful study of the thermometer and a careful checking of the calendar to show that the winter is a little longer and a little colder than in Manitoba. But no one would find the climate of Slave Lake disagreeable who does not find the climate of Lake Winnipeg equally so. The same man who is willing to farm on Lake Winnipeg or to fish there if he finds his occupation pays him, will be willing to conduct a ranch or a fishery on Great Slave Lake at a similar profit. The North has undoubted resources in the well-known departments of mines and fisheries and has in addition the greater resource of a million square miles of excellent grazing land. These things taken together mean that the northern half of our country is on the threshold of the same sort of steady development as that which has made our middle West one of the great food producing regions of the world.

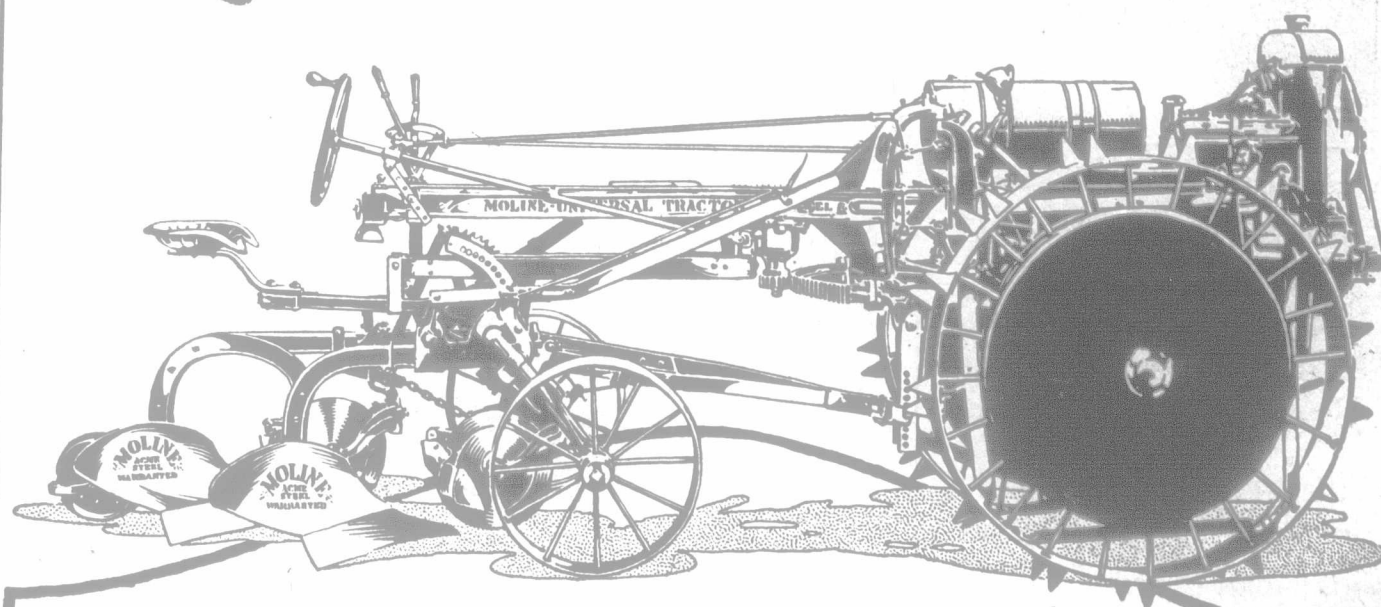
I have talked about reindeer because that industry has been established by the American Government in Alaska and will inevitably develop. The only question with regard to that industry is how soon the Canadians will take it up and whether they will make the same mistake as the Americans, of starting out on too small a scale. Of course, as the laws of increase of herds will apply and the grazing territory is practically unlimited, we shall eventually have our whole North covered with domestic reindeer whether we start with one thousand animals or with ten thousand. But the difference is this; that if we start with ten or twenty thousand we shall have an industry that will be profitable and important in our own time, while if we start with five hundred or a thousand, we are merely building for the coming generation.

It is one of the many misconceptions about the North that such vegetation as there is, is mainly mosses and lichens. I have spent ten years north of the Arctic Circle, on the mainland of Alaska, the mainland of Canada, and in most of the Canadian islands, and in all places visited by me grasses are more abundant than lichens or mosses. This is one of the many considerations which lead me to think that, while reindeer are important in our future development, the domestications of the musk ox would be even more important.

To begin with, this animal is the only important one of which Canadians have a monopoly. The most striking peculiarity of their nature is that they do not flee from their enemies, but merely attempt to defend themselves. By forming in a circle with the calves on the inside they can protect themselves almost perfectly against all beasts of prey except man, but against predatory man they have no defence. In southern France and in Scotland and Scandinavia alike, they were exterminated by the spears of our Stone Age ancestors. So it has been in Siberia, and the Indians and Eskimos have similarly eliminated them from the United States and from all settled portions of Canada and Greenland, until they are found only in uninhabited islands and in that part of our mainland which has been a sort of "No Man's Land" because it has remained uninhabited through the fear of the Indians for the Eskimo and the fear of the Eskimo for the Indians.

So far as I know, members of my expedition are the only white men who have ever lived on terms of intimacy with the musk ox. Seventeen of us with over forty dogs spent a year in Melville Island, where ninety per cent. of our

# Why a Two Wheel Tractor



The Moline-Universal Two-Wheel Tractor is best adapted to farm conditions, because—  
Ninety-eight per cent of its weight is placed on the two big drive wheels and is available for traction. This eliminates dead weight, and enables the Moline-Universal to pull as much as tractors weighing from 1,500 to 2,000 pounds more. The Moline-Universal has enough power for heavy requirements, yet operates economically on light jobs. This is essential, because farm power requirements vary from light work to heavy work, and a tractor must be able to do all work economically and efficiently.

The two-wheel construction enables the Moline-Universal to be attached close up direct to the implement, so that one compact unit is formed.

ONE MAN controls the entire outfit from the seat of the implement—the best position to manipulate the implements and make adjustments for varying field conditions. Tractor and implement go forward, backward, and turn as one unit.

The two-wheel construction gives the Moline-Universal ample clearance for cultivating row crops.

The Moline Universal Tractor can easily be adapted to work with practically all horse-drawn implements.

Wonderful success on thousands of farms in replacing man and horse-power, proves that the Moline-Universal is fundamentally correct in design—it doubles a farmer's efficiency.

CANADIAN DISTRIBUTORS:

Willys-Overland, Ltd., West Toronto

Manufactured by MOLINE PLOW CO., Moline, Ill.

## MOLINE UNIVERSAL TRACTOR



### ABERDEEN-ANGUS

We are offering several very choice young bulls of the best breeding. Will be priced to interest prospective purchasers. Inspection invited.

LARKIN FARMS

QUEENSTON

ONTARIO

### SPRUCE GLEN FARM SHORTHORNS

Four bulls (thick mellow fellows) from 9 to 13 months—Reds and Roans. Also a few choice heifers and two grade yearling heifers from heavy milkers. Priced to sell.

JAMES McPHERSON & SONS

DUNDALK, ONTARIO

### GRAND VIEW FARM SHORTHORNS

Herd headed by Lord Rosewood =121676= and by Proud Lancer (Imp.). Have a few choice bull calves and heifers left, sired by Escanna Favorites, a son of the famous Right Sort (Imp.).

W. G. GERRIE

C.P.R. Station on farm. Bell Phone.

BELLWOOD, ONTARIO

### Spring Valley Shorthorns

Herd headed by Sea Gem Pride =96365=. Present offering includes two real herd headers. One imported in dam, the other by Sea Gem's Pride and from a show cow. A number of other good bulls and a few females. Write for particulars. Telephone and telegraph by Ayr.

KYLE BROS., R. 1, Drumbo, Ont.

When writing advertisers please mention Advocate.

### SUNNY SIDE HEREFORDS

A few choice young cows and heifers, 1 bull calf, 2 bulls 2 years old. A very nice bull 4 years old, would exchange for bull equal merit. See them, they are priced to sell.

ARTHUR F. O'NEIL & SONS  
R. No. 2, Denfield, Ont.  
Phone Granton

### GUERNSEYS FOR PROFIT

Our stock is rich in "May Rose" "Governor of the Chene" and "Mashers Sequel"—blood. Choice animals for sale, from imported stock.

B. P. HILL & A. N. FAULKNER  
Great Village, Nova Scotia.

### Messrs. A.J. Hickman & Co.

Halse Grange, Brackley, England (late of Egerton, Kent)

Exporters of all breeds of stock, draft horses, beef cattle and show and field sheep are specialties.

You can buy imported stock through us cheaper than in any other way, and we hope to get your enquiry at once, so that we can fit you out before this country is skinned of good stock, as it soon will be now the war is over.





KELMSCOTT ACROBAT 4 (126217)

The Kelmscott Herd of Pedigree Milking Shorthorns, Flock of Oxford Down Sheep and Stud of Shire Horses

THE PROPERTY OF Robert W. Hobbs & Sons Kelmscott, Lechlade, Gloucestershire, England

SHORTHORN CATTLE

One of the oldest and largest pedigree herds in existence. Milk, Flesh and Constitution studied. Daily milk records kept. Numerous prizes won for inspection, milking trials and in butter tests. The Gold Medal, Spencer and Shirley Challenge Cups were won at the London Dairy Show in 1914. The Fifty Guinea Challenge Cup for the best group of dairy Shorthorns at the Royal Show was won for the third successive year at the last exhibition at Manchester in 1916, also two firsts, one second and one third prize. All cows in milk and the stock bulls have passed the tuberculin test. Bulls and bull calves on sale at prices to suit all buyers.

OXFORD DOWN SHEEP

The flock was established in 1868 and consists of from 1,000 and 1,250 registered Oxfords. Numerous prizes for many years have been won at the principal Shows. At the last Royal Show first prize was taken for a single Ram Lamb and first prize for pen of Ram Lambs. Rams, Ram Lambs and Ewes always on sale.

R. W. Hobbs & Sons are breeders of high-class Shires. Sound active colts and fillies always on sale.

TELEGRAM HOBBS, LECHLADE Inspection cordially invited.

WANTED

CARLOAD OF

Shorthorns

Young stock backed by milk records if possible. Write, giving full descriptions, as to breeding, age, weight, color and prices.

ADDRESS:

J. T. MAYNARD

Care of Farmer's Advocate, London, Ont.

I HAVE FOUR CHOICE SHORTHORN BULLS

All are of serviceable age and from good milking Dams. They are sired by my former Wedding Gift herd sire which was a son of Broadhooks Prince. Also have younger calves by present herd sire Primrose Duke, as well as females bred to him. Inquiry invited. Write me also for anything in Tamworths.

A. A. COLWILL (Farm adjoining Village, Bell phone.) Newcastle, Ont.

Graham's Shorthorns

Present offering 2 choice bulls sired by the Duke whose dam gave 13,599 lbs. of milk and 474 lbs. of butter fat, R.O.P. test. One dark Red 8 months. The other Roan 13 months. Can also spare a number of females.

Charles Graham, Port Perry, Ont.

Mardella Shorthorns

Herd headed by the Duke, the great, massive 4-year-old bull, whose dam has 13,599 lbs. of milk and 474 lbs. of butter fat in the R.O.P. test. I have at my place two exceptionally good, young bulls ready for service, and others younger, as well as a number of ewes. Some are full of Scotch breeding and all are fit to sell. Write or call. Thos. Graham, Port Perry, Ontario

food was musk ox meat. We found the meat indistinguishable in taste from beef. Through occasionally killing a cow in milk, we found that the milk has the same taste as cow's milk and differs in being only about one-half as abundant in quantity and somewhat richer in cream, or butter-fat. The weight of these animals is about three times that of our domestic sheep, and they have a coat of wool of excellent quality also about three times that of our sheep in weight. Some of this wool has been shown to various woolen manufacturers and, so far as can be judged from the samples, it will make the very finest quality of woolen goods.

All grazing animals known to me have the habit of roaming in search of better pasture or for some reason of mere restlessness. In this the musk ox differs from all the rest, for he eats the nearest bunch of grass and when he feels satisfied he lies down, getting up again to feed on the nearest herbage. It results from this that, while a herd of wild caribou is here to-day and gone to-morrow, musk oxen can be found this month within two or three miles of where you saw them a month ago. It is sometimes said that they do not move at all and that you will find them next year where you saw them this year, but this, of course, is an exaggeration. We found by watching many herds that we had no occasion to disturb, that even in Melville Island, which is rocky and therefore comparatively infertile, they move for grazing purposes from two to five miles a month. In such perfect country as the north coast of Alaska or the vicinity of the mouth of the Mackenzie River or the west coast of Hudson Bay, they would probably move only one or two miles per month.

We have in the musk oxen, then, animals three times the size of our domestic sheep, that produce three times as much wool, two or three times as much milk, and two or three times as much meat. When we realize that these animals need no barns to shelter them, no hay to feed them, and no care or coddling of any kind, and when we know from their habits that it is only man that has driven them out of northern Canada, it becomes evident that, should we care to, we can reinstate them in all of their former range to our great profit. There are, we estimate, about four thousand of them in Melville Island and there may be ten or twenty thousand of them altogether in the various other Canadian islands, with a few thousand in the least accessible portions of our mainland. These numbers are small, of course, but when you remember the Americans started with only 1,200 reindeer, you see we have a comparatively ample number for breeding purposes. I shall not go into details of how these can be secured, because the details are immaterial. It is obvious that if lions and giraffes, full-grown, can be captured and brought out of central Africa, the comparatively mild and clumsy musk ox cannot be difficult to bring out from such places as Melville Island. If we do it and do it on a large scale, and if we take up the reindeer as well, we shall through these two animals within the next twenty-five years convert northern Canada, from a land of practically no value, to the great permanent wool, and milk and meat producing country of the western hemisphere. Of course, there will sometime be a parallel development all over Northern Siberia and there already is such a development in northern Europe. When the rest of the world has ceased to produce considerable quantities of meat and wool because of the greater profit to be obtained for cereals and orchards, this belt of the world will attain an importance unrealized to-day, if we continue to be eaters of meat and butter and the wearers of woolen clothes.

Unfair.—The employer of a Polish servant maid who has learned to speak English was telling of her experiences with the telephone. After its use was explained to her she was eager to answer every call. One day a ring came and she jumped to the instrument.

"Hello!" came from the receiver. "Hello!" answered the girl, flushed with pride at being able to give the proper answer.

"Who is this?" continued the voice. "I don't know," exclaimed the maid. "I can't see you."—Philadelphia Public Ledger.

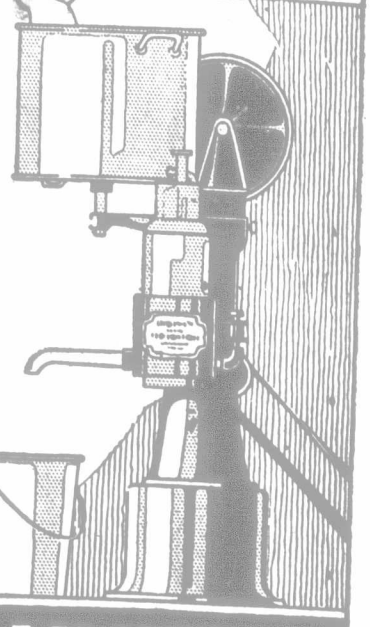
Do you get all the Butter Fat?

THAT depends on the correct lubrication of your separator —for lubrication alone can maintain the delicate balance and accurate operation of its fine mechanism.

IMPERIAL Separator Oil

is specially manufactured for use in the close fitting bearings of cream separators. Does not congeal or gum. Maintains ease and efficiency in the operation with all types of separators.

Sold by reliable dealers everywhere. In cans—sizes 1 pint to 4 gallons.



IMPERIAL OIL LIMITED Power-Heat-Light-Lubrication BRANCHES IN ALL CITIES

The Salem Herd of Scotch Shorthorns

HERD HEADED BY GAINFORD MARQUIS, CANADA'S PREMIER SIRE Write us about the get of Gainford Marquis. They have won more at Toronto and other large exhibitions than those of any other sire. We still have a few sons to offer, as well as females bred to Canada's greatest sire.

J. A. WATT Elora, Ontario

R. O. P. DUAL-PURPOSE SHORTHORNS

Herd headed by Brant Hero = 113223 = with good milk backing on both sides. Foundation cow Maud = 108883 = with record of 11,861 lbs. milk testing 4.32% fat, has given four heifers and one bull. This bull, calved April 4th, 1919, is now for sale, as are also two grandsons of this cow, one (roan) calved Nov. 17th last, the other (red) calved Dec. 14th. The dam of the roan gave 4,300 lbs. milk 6 months testing 4.7%, is still giving 21 lbs. a day. Two grandams of the red bull average 12,698 lbs. and 527 lbs. fat. These bulls are a good straight thrifty pair-fed bunch and are priced to sell. Visitors welcome at farm.

GROVER C. ANDERSON, R. No. 1, Waterford, Ontario

ROBERT MILLER, Stouffville, Ontario

Has EIGHT of the best young bulls that he has owned at one time, good ages and beautifully bred. Also several cows and heifers, some of them with calves at foot, others in calf to Rosemary Sultan, the Grand Champion bull at head of the herd. Everything of Scotch breeding. The prices are very reasonable, and though the freight is high, it will be paid.

DUAL-PURPOSE SHORTHORNS

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Cows in the herd with records up to 13,891 pounds of milk. Cows in calf to Dominator priced to sell. WELLDWOOD FARM, Farmer's Advocate, London, Ont.

Shorthorns Landed Home.—My last importation of 60 head landed at my farm on June the 20th, and includes representatives of the most popular families of the breed. There are 12 yearling bulls, 7 cows with calves at foot, 24 heifers in calf, of such noted strains as Princess Royal, Golden Drop, Broadhooks, Augusta, Miss Ramsden, Whimble, etc. Make your selection early. (All railroads, Bell phone) Cobourg, Ontario

Walnut Grove Scotch Shorthorns Established 1840. Gainford Wonder 2nd in Service. We are in a position to supply bulls and females of the best scotch breeding fit for either show or foundation stock. We invite inspection of cattle. Write your wants. D. BROWN & SONS, Shedden, Ont. Long Distance Phone. Twelve miles west of St. Thomas. P. M., M. C. R.

Pure Scotch and Scotch-Topped Shorthorns

We have several choice young bulls of the best of breeding and ready for service. Two are by Rapheal (imp.), one by Right Sort (imp.), one by Sittyton Selection, and several by our present herd sire, Newton Cedric (imp.). Prices right.

R. M. MITCHELL R. R. No. FREEMAN, ONTARIO

Beach Ridge Shorthorns and Yorkshires.—Shorthorn herd headed by Sylvan Power circuit in 1915, and sire of the G. Champion bullock at Guelph Winter Fair, 1918. Young stock of all ages, both sex, for sale; also young cows with calf at foot or in calf to Sylvan Power. We can supply any want in Yorkshires.

R. D. HUNTER, EXETER, ONTARIO

R. O. P. DUAL-PURPOSE SHORTHORNS

Herd headed by "Burnfoot Champion" = 106945 = whose two nearest dams average over 13,700 lbs. of milk with an average test over 4%. He is one of the best Dual-Purpose bulls in the Dominion, he three-year-old R.O.P. record of 12,691 lbs. of milk and 482 lbs. of fat, and a four-year-old record of 16,596 lbs. of milk and 653 lbs. of fat in one year. We have only one bull calf 9 months of age, a good dark red, for sale. Visitors welcome to the farm at any time. G. W. Carter (Pinehurst Farm) Ilderton, Ont.

SOUTHVIEW FARM SHORTHORNS

Herd headed by Victor Bruce, a Miss Sime by Victor. Present offering—two bulls of serviceable age by former herd sire Secret Champion, a few heifers by this sire and bred to Victor Bruce; also Yorkshire pigs either sex.

(R. R. Station, Tavistock 1 mile) Woodstock, Ont., R.R. No. 6

Green Grove Shorthorns, Clydesdales and Oxford Downs

Herd sire Master Marquis = 123326 = a choice son of Gainford Marquis (Imp.) = 83755 =. Dam, Lady Madge 3rd = 104318 =. Several young bulls of service age and some females to offer, also one four-yearling ewe and ewes with lambs. Geo. D. Fletcher, R.R. 1, Erin, Ont. Erin Sta. C. P. R. L. D. Phone.

SHORTHORNS, CLYDES

Have a few choice bull calves left. See these before buying elsewhere. Also six Clyde Mares and fillies rising one to 6 years of age. Each by imported sire and dam. WM. D. DYER, R. No. 3 Oshawa, 2 1/2 miles from Brooklin, G.T.R., 4 miles from Brooklin, C.N.R., or Myrtle, C.P.R.

WILLOW BANK STOCK FARM

SHORTHORN CATTLE and LEICESTER SHEEP. HERD ESTABLISHED 1855—FLOCK 1848 The great show and breeding bull, Brownale = 80112 =, by Avondale, heads the herd. Extra choice bulls and heifers to offer. Also a particularly good lot of rams and ewes all ages. Imported and home bred. JAMES DOUGLAS, CALEDONIA, ONTARIO.

QUES... 1st—O... to "The F... department... 2nd—Qu... plainly wr... and must l... address of t... 3rd—In... especially n... wise satisfi... 4th—Wh... veterinary enclosed.

Sow far... the litter... and the y... of May 1... Its ears v... back and... and a po... a yellowi... yellowish... and cure? Ans.—T... If it had... stages the spoonful o... it. Young... attacks of... cause.

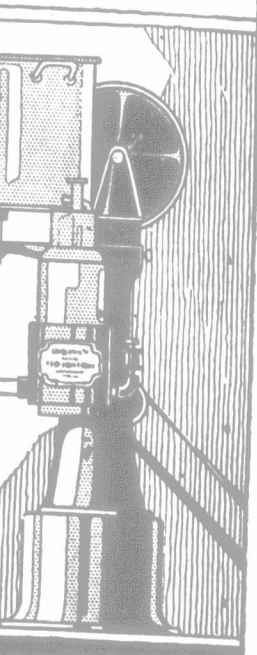
I have... intend to... knife. WI... the clams... Ans.—C... Most oper... emasculat... cases no... drugs used... of mercury... 1 oz. vassel... hands, scre... cent. solut... the coal ta... knife. Th... got from

The So... Several... the advert... for the first... offering in... of Sockett... The Socke... is, howeve... many of t... vocate." B... a small, b... Shorthorns... increasing... direction o... the passing... the herd un... has in the... the confide... best and to... up to the... outstanding... numbers t... exceed 35... them sever... cows the ap... a good cow... a short visi... sentative of... there were... milked und... and 50 lbs... been hand... them in b... 30 (imp.)... Dora 10729... everything... he is a Lad... Victor and... months bul... 13-months... serviceable... both are fr... females offe... (imp.). On... farm is pri... The breedin... breeding an... are got by... ticulars add... Rockwood... "Advocate."

"The stu... interests m... new boarder... depths of t... the regions c... unfortunab... "May I hel... prof's sor?"... And the go... the other b...



**Butter Fat?**



LIMITED  
Education

**Shorthorns**

PREMIER SIRE  
won more  
of any  
well

Elora, Ontario

**SHORTHORNS**

both sides. Foundation cow  
given four heifers and one  
grandson of this cow, one  
m of the roan gave 4,300 lbs.  
ms of the red bull average  
-fed bunch and are priced to

**Ontario**

od ages and beautifully bred.  
s in calf to Rosemary Sultan,  
breeding. The prices are very

**HORNS**

112 pounds of milk in a year.  
t to Dominator priced to sell.  
dvocate, London, Ont.

of 60 head landed at my farm  
cludes representatives of the  
with calves at foot, 24 heif-  
ooks, Augusta, Miss Rams-  
Cobourg, Ontario

Established 1840. Gain-  
ford Eclipse and Trout  
ply bulls and females of the  
k. We invite inspection of  
dden, Ont. Long Distance

**Shorthorns**

service. Two are by Rapheal  
al by our present herd sire,  
FREEMAN, ONTARIO

ed headed by Sylvan Power  
hampion on Canadian cir-  
1918. Young stock of all  
o Sylvan Power. We can

**EXETER, ONTARIO**

average over 13,700 lbs. of  
bulls in the Dominion, he  
recup" = 111906 with a  
a four-year-old record of  
alf 9 months of age, a good  
arter (Pinehurst Farm)

**ORNS**

two bulls of serviceable age  
red to Victor Bruce; also

ndstock, Ont., R.R. No. 6

**ord Downs**

np.) = 83755 = Dam, Lady  
les to offer, also one four-  
ice breeding; and Oxford  
Ont. Erin Sta. C. P. R.

**DES**

also six Clyde Mares and  
DYER, R. No. 3 Oshawa,  
C.P.R.

**RM**

ISHED 1855—FLOCK 1848  
ls the herd. Extra choice  
all ages. Imported and

**Questions and Answers.**

1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.  
2nd—Questions should be clearly stated and plainly written on one side of the paper only, and must be accompanied by the full name and address of the writer.  
3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.  
4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

**Veterinary.**

**Fatality in Young Pig.**

Sow farrowed on April 16th. She and the litter ran in 1/2-acre dry, clean yard, and the young did well. On the morning of May 15th I saw on lying in the pen. Its ears were purplish in color, also its back and neck. It died that afternoon, and a post-mortem revealed the bowels a yellowish color, bladder full and a yellowish color. What was the ailment and cure? W. C.

Ans.—The pig died of digestive trouble. If it had been noticed in the very early stages the administration of a dessert-spoonful of castor oil might have saved it. Young animals are very liable to attacks of this nature without apparent cause. V.

**Castrating Colt.**

I have a two-year-old colt that I intend to castrate myself by the use of a knife. What medicine should I put on the clams, and where can I get it? S. S.

Ans.—Clams are seldom used now. Most operators sever the cords with an emasculator or an ecraseur, in which cases no clams are used. The usual drugs used on clams are 1/2 dram red oxide of mercury (red precipitate) mixed with 1 oz. vaseline. Disinfect all instruments, hands, scrotum and clams with a 4 per cent. solution of carbolic acid or one of the coal tar antiseptics before using the knife. The drugs mentioned can be got from any druggist. V.

**Gossip.**

**The Sockett Herds and Flocks.**

Several weeks ago there appeared in the advertising columns of this paper for the first time in several years a special offering in Shorthorn bulls over the name of Sockett Bros., of Rockwood, Ontario. The Sockett herd of milking Shorthorns is, however, not altogether new to many of the older readers of the "Advocate." Back as early as 1880 there was a small, but splendid milking herd of Shorthorns on this farm, thriving and increasing in a modest way under the direction of the late Mr. Sockett. Since the passing of senior member of the firm the herd under the name of Sockett Bros. has in the same modest way, retained the confidence of those who know it best and to-day one finds it living well up to the old traditions and one of the outstanding herds of the district. In numbers the females, as yet, do not exceed 35 head but there are among them several big, deep, good milking cows the appeal to all who are admirers of a good cow of any pure-breed. During a short visit to the farm recently a representative of this paper was informed that there were among them cows that had milked under private test upwards of 45 and 50 lbs. of milk per day and had always been hand milked. The majority of them in breeding, traced direct to Beauty 30 (imp.). The present herd sire King Dora 107291 (imp.) is the sire of nearly everything in the present sales list and he is a Lady Dorothy-bred bull by Proud Victor and dam by Royal Crown. A 16-months bull by this sire and another 13-months son are the only bulls of serviceable age left in the stables and both are from good milking dams. The females offered are all bred to King Dora (imp.). One other speciality of the farm is prize winning Cotswold sheep. The breeding ewes are mostly of O. A. C. breeding and this season's crop of lambs are got by a Dolson ram. For full particulars address Sockett Bros., R. R. 5, Rockwood, Ontario, and mention the "Advocate."

"The study of the occult sciences interests me very much," remarked the new boarder. "I love to explore the dark depths of the mysterious, to delve into the regions of the unknown, to fathom the unfathomable, as it were, and to—" "May I help you to some of the hash, professor?" interrupted the landlady. And the good woman never knew why the other boarders smiled audibly.

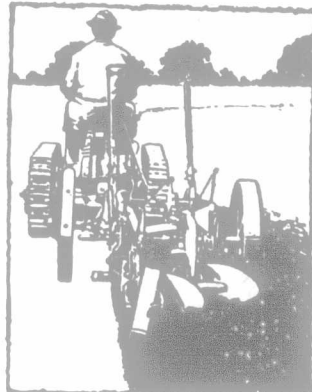
**Plows Fast - and Plows Well**

**R**IGHT NOW is the time to get a lot of profitable plowing done. Right now is the time to lay the foundation for a bumper crop next year.

Plow fast—and plow well. Plow with a Cletrac tank-type Tractor.

10 acres a day—plowed deep and well pulverized. Plowed economically because the Cletrac tank-type Tractor absolutely operates on kerosene (coal oil)—uses no more kerosene than other tractors use gasoline. Intake completely covered by burning hot exhaust—vaporizes kerosene entirely—that's the secret.

The Cletrac tank-type Tractor will do the work of three teams and three men in plowing and summer fallowing. Saves time.



Puts more ground under cultivation—earlier.

Get that waste land to work, too. The track-laying Cletrac is the right tractor for work over rough ground. Climbs hillsides where horses can't pull a plow. Plows heavy muck land and soft ground where other tractors stall. The Cletrac lays a broad, safe, light track for itself.

Every month in the year you'll find profitable uses for your Cletrac. Small, light, travelling over plowed ground without packing it, operating on kerosene—the Cletrac is the tractor of greatest usefulness—12 h.p. on the draw-bar, 20 h.p. on the belt pulley.

Learn more about the Cletrac tank-type Tractor. Phone or write the Cletrac dealer near you. Write us for our book "Our Owners Say" showing the Cletrac helping other farmers make money.

Ontario Experimental Farm, Ottawa, Ont.

Gentlemen,—I take pleasure in stating that the work done by you with the Cletrac Tractor recently, on the Experimental Farm, Ottawa, was entirely satisfactory either on plowing, discing or on belt work.

I might put particular emphasis on the satisfaction it gave in driving a No. 3 Massey Harris Blizzard Blower in filling one of our Silos; the power delivered was very even and the motor handled the work apparently with very little effort.

(Signed) D. D. GRAY, Farm Superintendent.

The Cleveland Tractor Co. of Canada, Limited, Windsor, Ontario

**Cletrac**  
**TANK-TYPE TRACTOR**

**Imported Shorthorns**

SIRES IN SERVICE;

Imp. Collynie Ringleader (Bred by Wm. Duthie) Imp. Clipper Prince (Bred by Geo. Campbell) Imp. Orange Lord (Bred by Geo. Anderson)

We are offering a large selection in imported females with calves at foot or in calf. A few home-bred females, 19 imported bulls and 8 home-bred bulls, all of serviceable age. If interested, write us, or come and see the herd.

**J. A. & H. M. PETTIT - Freeman, Ontario**  
Burlington Jct., G.T.R., half mile from farm. Phone Burlington.

**THE PLASTERHILL HERD of SHORTHORNS**  
CANADA'S OLDEST DUAL-PURPOSE HERD

Herd headed by Green Leaf Record 96115; sire, Cressida's Hope (imp.); dam, Green Leaf (imp.). The majority of our females are bred to this sire. Others calving now are due to the service of Dictator, whose two nearest dams average 12,000 lbs. of milk in one year. We have one high-priced bull calf from Burnfoot Lady, a 10,500-lb. R.O.P. cow. If you want a well-bred bull—a good individual and from good record dams, come and see our present offering. We also have one two-year-old bull by Barrington Record (imp.), and have bred several heifers to him. Inquiry invited. You will appreciate our price list.

ROSS MARTINDALE - CALEDONIA, ONTARIO

**Grand River Dual-Purpose Shorthorns**

Several choice young bulls by our former herd sire, Commander, a son of the great sire, Burnfoot Chieftain, and Missie, the 7,500-lb. R.O.P. three-year-old. These calves are from dams that have milked as high as 72 lbs. per day. We also have females of similar breeding and in calf to our present senior sire, Prince Lavender, which is a son of Buttercup, the 16,596-lb. yearly record cow. Come and see the line-up of big cows in our herd. They have size and quality, good pedigrees and are great producers.

HUGH SCOTT - CALEDONIA, ONTARIO

**Glengow Shorthorns**

WM. SMITH, COLUMBUS, ONT. Myrtle, C.P.R.; Brooklin, G.T.R.; Oshawa, C.N.R.

Shorthorn Bulls and Females—Herd headed by Ruby Marquis, a son of the great Gainford Marquis (imp.) Our calves now coming are all by this sire. We are also offering a few females in calf to him. Get our prices before buying elsewhere.

PRITCHARD BROS., R. R. No. 1, Elora, Ont.

**HILLCREST FARM SHORTHORNS**

Jealousy, Languish, Amine, Argyle, Vanity, etc. For sale, half a dozen heifers. Also one Scotch-Topped bull 9 months' old. All in good condition. Priced right for quick sale. Write or come and see. W. G. HOWLETT, R.R. 1, Elora, Ontario

**ANTICIPATION**

will be greater than  
**REALIZATION**  
if you are not using a  
**Good Shorthorn Bull**

I have a few imported ones ready for service, as well as several of my own breeding. The price is not high.

**WILL A. DRYDEN**  
Maple Shade Farm Brooklin, Ont.

**English Dual-Purpose Shorthorns**

For sale: Bull calves and young bulls. English bred for milk and beef. The right kind to head Canadian herds to increase profits. From very moderate prices and up. English Large, Black Pigs. A great bacon type, long and deep, thrifty. Come or write.

**LYNNORE STOCK FARM**

F. Wallace Cockshutt  
Brantford - Ontario

**Shorthorns For Sale**

Two young Bulls fit for service, 1 roan, 1 red sired by King Dota (imp.), also some heifers in calf to King Dora (imp.) Their dams are good milkers

**SOCKETT BROS.**  
R.R. No. 5 - Rockwood, Ont.  
Phone No. 22, R. 3

**MAPLE LEAF FARM**

Shorthorns, Scotch bred females with calves or in calf. Berkshires, three mos.-old sows and boars by (imp.) hog. Bowmanville all railroads.  
**JOHN BAKER - Hampton, Ontario**



Top Dress with Nitrate of Soda

## Feed the Crop; not Bacteria

Every form of Nitrogen fertilizer, except Nitrate of Soda, must be broken down by bacteria and changed into Nitrate before it can become available for crops. Such bacterial action always results in costly Nitrogen losses.

## Nitrate of Soda

is already nitrated! It does not have to undergo changes—but is immediately available. That's why Nitrate is the surest, most economical source of Nitrogen.

Dr. Wm. S. Myers  
Chilean Nitrate Committee  
25 Madison Avenue New York, U.S.A



Why not lessen the drag and drudgery of Wash-Day by using a convenient, and easy-running

## CONNOR WASHING MACHINE

The Connor "Beaver" Washing Machine runs as smoothly and quietly as a watch. Thousands of these popular washing machines are in use every week giving splendid results. Have your dealer demonstrate this machine to you. Handsome booklet sent on request.

J. H. Connor & Son, Ltd.  
OTTAWA ONTARIO

## THOSE TIRED FEET! WHY DIDN'T GRANDMA HAVE THEM?

Tired feet! Everybody has them nowadays. Why is it? How is it that in our grandfathers' and grandmothers' time people did not complain of such things until they were old and rheumatic? Nowadays even school children are troubled with tired feet. Special doctors to treat them are in demand.

The theory has been advanced that the asphalt pavements and cement sidewalks are responsible for a great deal of the foot trouble. Then, too, there is more standing on the feet than there was in days of old. There are more counters to stand behind, more machines to stand before, more stairs to climb, telephone calls to answer, and many other new things that tax the feet.

Like a tired body, there is nothing better for tired feet than a good bathing and soaking. It will be found that warm water in which a little Snowflake Ammonia has been dissolved will make an ideal solution for bathing tired feet. It softens them and eases the burning and aching. For the bath it has the same soothing and softening power. Snowflake may be obtained from any grocer.—Advt.

## Holstein Bulls

15 ready for service, 1 younger. From dams with 32.7 lbs. butter in 7 days to those priced for the most conservative buyer. Females also.

R. M. HOLTBY  
R. R. NO. 4, PORT PERRY, ONT.

Please mention Advocate

## Questions and Answers. Miscellaneous.

### Abortion.

Cows which have been served at intervals of three weeks for the past three months are not in calf. Is this contagious abortion? Would it be safe to breed the above cows to another bull? If a cow is bred to a bull affected with contagious abortion but does not get in calf is it safe to breed her to another bull?

2. What is the cause of young pigs that were straight when weaned having a hump on their back at eight months of age? They were fed all the milk they would take along with fine oat chop.

W. B.

Ans.—The bull may lack in virility and thus be at fault but it is possible that your herd is infected with contagious abortion. If the cows were stopped by another bull it would indicate that the bull was not getting the cows in calf. If the cows were affected it is not advisable to breed them to another bull for a period of several months during which time the cows were thoroughly washed out with a disinfectant. The bull might contract the disease and thus spread it to other cows. A diseased bull would transmit the disease to the cow and she in turn transmit it to the bull used on her.

2. Pigs sometimes become unthrifty due to indigestion brought on by improper feeding or over feeding. Placing them in cold drafty quarters might also cause the trouble. Young pigs will sometimes take too much milk. They should have what they will clean up quickly. Keep their appetites keen.

### Miscellaneous.

1. I have a two-year-old heifer which was bred in March, and a couple of weeks ago she commenced to bag up. However, the milk flow is pretty well stopped at the present time. What is the matter with her?

2. How long would it take for a cream separator to pay for itself, with a herd of three cows? We have been putting the milk in pans.

3. Would you advise castrating the young lambs? Is there a special time for doing it?

4. I have a young calf with a bad cough. Is this distemper?

5. Is there anything that will cure a ringbone on a horse? He has had it on the hind leg for two years and is now very lame.

S. J.

Ans.—It is possible that the heifer has lost the calf, which would account for milk forming. However, milk might occur without having lost the calf. There is no way to account for it definitely.

2. It all depends on how close the separator skims and what percentage of cream you were getting under the old system. If the separator is working properly it is generally recognized that it will take considerably more cream out of the milk than can be obtained under the pan system. At the present time cream is high in price so that the separator will pay for itself in the extra cream obtained. Then, too, the warm separated milk is good for the calves. We recently met a man who keeps but one cow but he has a cream separator and contends that it pays him.

2. It is advisable to castrate the lambs which are to be marketed. The operation should be performed when the lambs are a couple of weeks old. Wethers sell at a premium above ram lambs on the market, and they grow bigger and fatter than ram lambs.

4. It is possible that the calf has a little distemper or cold in the head or throat, or something may be lodged in the throat. It might be well to have your veterinarian examine the calf. Without seeing the patient we cannot definitely prescribe treatment.

5. It is doubtful if you can effect a cure when the ringbone is of such long standing. Blister with 2 drams each biniodide of mercury and cantharides, mixed with 2 ounces of vasoline. Repeat in about two weeks. If this fails to cure, have the joint fired and blistered.

It happened in England where one of the crack regiments of horsemen were drilling. One very wild horse made a dash across the field in spite of all his rider could do. Instructor—Where are you going? Rider—I don't know, sir, but the horse belongs in Canada.

## SHARP-POINT STEEL POSTS

Don't break your back digging post holes. Don't waste your time replacing rotten posts every few years.

NO HOLES TO DIG

NO POSTS TO REPLACE

NO FREIGHT TO PAY

SHARP-POINT POSTS save money, time and work. They give you an all-steel fence stronger, better and cheaper than any combination of wood and steel. They are 1½ ins. x 1½ ins. x ½ in. thick x 7 ft. 4 ins. long, and weigh 8 lbs. each.

PRICE, 48c. each. Freight paid on orders of 50 posts or over.

Farm and Lawn Fence.—Get my prices.

Order your posts at the same time you mail your order for fence. Save in time, freight and hauling to the farm. Mail your order with Cash, Money or Express Order, or Bank Draft to

A. R. LUNDY, 257 King St. West, Toronto, Ont.

## Hospital For Insane, Hamilton, Ontario

We have yearling grandson of King Segis Alcartra Spofford—a splendid individual. Also fine bulls of younger age, prices reasonable Apply to Superintendent.

## Montrose Holstein - Friesian Farms

THE HOME OF 20,000-LB. COWS

Write us about our herd of 20,000-lb. R.O.P. producers. Every one is a choice individual—the breeding is choice, and they are rearing their offspring under choice, but normal, conditions. We have young bulls for sale. VISITORS WELCOME.

R. J. GRAHAM, Montrose House Farms - BELLEVILLE, ONTARIO

## Highland Lake Farms

For Sale: Two extra good (30-lb.) thirty-pound bulls ready for heavy service. Priced to sell. Also younger ones by a son of May Echo Sylvia,

R. W. E. BURNABY - JEFFERSON, ONT.

Farm at Stop 55, Yonge St. Radial

## 29 Pounds Butter—103 Pounds Milk

This is the seven day butter record and the one day milk record of the dam of my last bull of serviceable age—an exceptional bred youngster and a choice individual. Also have a month old bul whose dam and sire's dam average 34.36 lbs. of butter in 7 days, 135.07 lbs. of butter in 30 days and 111 lbs. of milk in 1 day. If you want bulls of this breeding I can save you money.

D. B. TRACY HAMILTON HOUSE HOLSTEINS OF QUALITY Cobourg, Ontario.

## Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje) and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. These youngsters should not remain long. Write to-day.

RAYMONDALE FARM Vaudeuil, Que. D. RAYMOND, Owner Queen's Hotel, Montreal.

## Manor Farm Holstein-Friesians

If it's a herd sire you want, write me. I have sons of both my senior and junior sires, King Segis Pontiac Posch and King Korndyke Sadie Keyes. All from good record dams. Choice bull calves at present to offer—average for two nearest dams, up to 34.71 lbs. butter to seven days. Correspondence solicited. Visitors welcome.

GORDON S. GOODERHAM, Clarkson Ont.

Stations: Clarkson and Oakville. Farm on Toronto and Hamilton Highway.

## Silver Stream Holsteins—Choice Bulls

We have six from 7 to 14 months old, sired by King Lyons Colantha, the records of his six nearest dams average 30.10 lbs. butter in 7 days, and by King Lyons Hengerveld 5 nearest dams average 31.31 and from R.O.P. tested dams. Individually as good as their breeding. If interested, write for particulars and prices or better come and see them. Jacob Mogk & Son, R.R. 1, Tavistock, Ont.

YOU! MR. HOLSTEIN BREEDER

How would a 16 months son of Duchess Aaggie Wayne do for your next herd sire? She is a 26.96 lb 4-year-old and sister to Calamity Snow Mechthilde, the Canadian champion three-year-old R.O.P. cow who has just completed another R.O.P. record of over 25,000 lbs. This youngster is a great individual and sired by Canary Hartog. We also have others younger, as well as females. Walburn Rivers & Sons Pioneer Farm, R.R. No. 2, Ingersoll, Ontario

## WINDEMERE HIGH TESTING HOLSTEINS

Herd headed by Hill-Crest Rauwerd Vale—Sire Hill-Crest Ormsby De Kol; dam—Hill-Crest Pontiac Vale the former Canadian Champion 22,785-lb. four-year-old. We have young things (both sexes) from this sire that we are offering and also cows bred to him. Our R.O.P. records run as high as 26,448 lbs. of milk and 1,040.2 lbs. of butter for the year. W. Fred Fallis, Millbrook, Ontario

I Have Holstein Bulls and Females at right prices. The bulls are from good record daughters of Louis Prilly Rouble Hartog, and sired by Baron Colantha Payne, a son of Canada's first 33-lb. cow. The females are of much the same breeding. If you want Holsteins, get my prices. T. W. McQUEEN, Oxford County, Bell Phone, Tillsonburg, Ont.

## RIVERSIDE HOLSTEINS—CHOICE BULLS

We have several 10 months old, from dams with official records up to 100 lbs of milk per day and 32.32 lbs. butter in 7 days. These are well marked and straight individuals. Inspection invited. J. W. Richardson, Caledonia, Ontario

Cedar Dale Farm—The Home of \$15,000 Sire—Lakeview Johanna Lestrangle, the \$15,000 son of the 38.06-lb. Lakeview Lestrangle, is our present herd sire. We have young bulls sired by him and females bred to him—at right prices. Also have bulls of serviceable age by our former herd sire, Prince Segis Walker Korndyke, son of King Segis Walker. A. J. TAMBLYN, Cedar Dale Holstein Farms, one mile from C.N.R. Station, ORONO, ONT.



Questions and Answers. Miscellaneous.

Chemical Analysis.

Where should I send samples of liquid to be analyzed? E. C.

Ans.—This work might be done at the Chemical Laboratories at the Experimental Farms, Ottawa, or at the O. A. C., Guelph.

Killing Lilac Bushes.

What is a sure way to kill lilac bushes which are spreading and becoming a nuisance? L. M.

Ans.—About the only practicable way is to either dig out the bushes or else keep the new growth chopped off. The roots do not grow particularly deep in the ground and therefore they are not very difficult to dig out.

Nitrate of Soda.

1. Small flies appear to be plentiful in our apple trees. Are these going to be very destructive this year?

2. What is the cost of nitrate of soda per hundred? A. S.

Ans.—1. Without a more detailed description of the fly, we cannot tell whether or not it will be destructive on the foliage of the trees.

2. In the April 24 issue of "The Farmer's Advocate" the Imperial Munition Board, 56 Church St., Toronto, advertised nitrate of soda at \$82 per ton in carload lots, f.o.b. shipping point, or \$9 per bag weighing 200 lbs., with a minimum shipment of five bags.

Ants.

We are troubled with red ants in our kitchen and pantry. What is a practical method of ridding our house of these pests? F. E. P.

Ans.—In the first place it is advisable to search for the ant-hills and then pour boiling water over them or else use carbon-bisulphide. This is inflammable material poisonous in the extreme, and must be handled with care. A rag could be saturated with the material, placed on the ant-hill and then a sack thrown over it. The fumes of this material are heavier than air and therefore will descend and destroy the ants. One method of getting rid of the ants which are already in the house is to put sugar or syrup in a sponge. The ants will collect there and the sponge may be dipped in boiling water, and then used again.

Share Farming.

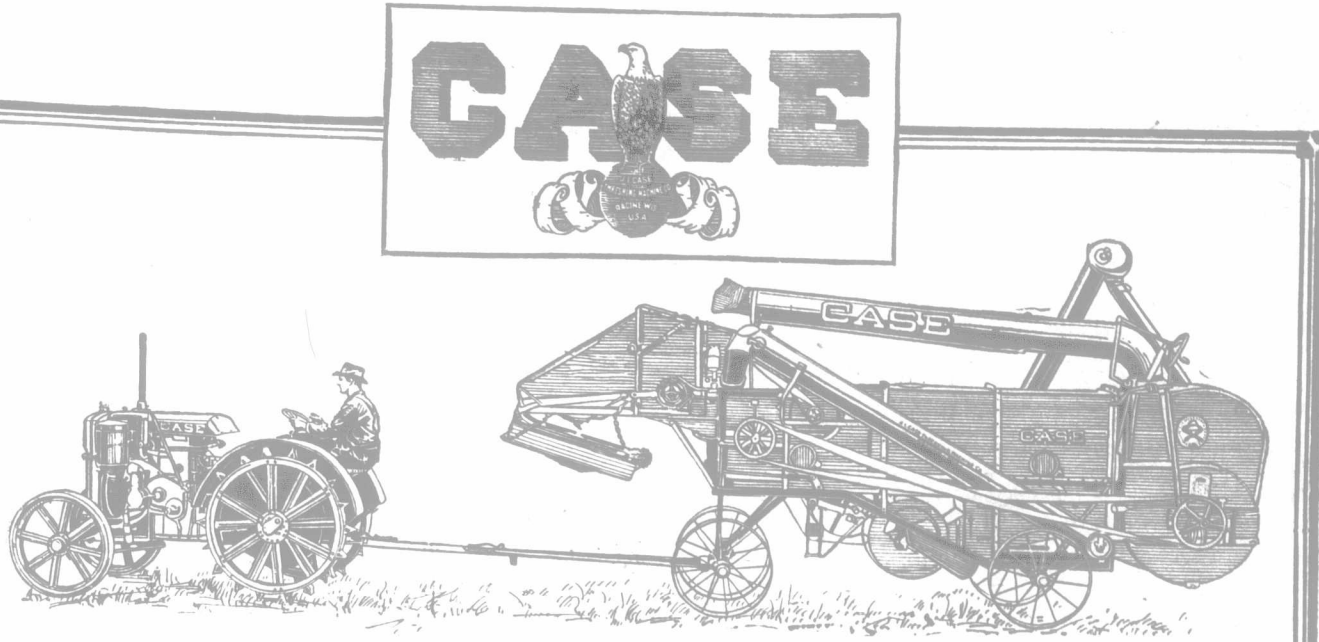
A and B each own farms. B suggests working one of A's fields on shares. B furnishes all the seed and does all the work and gets two-thirds of the crop. Would A be entitled to all the straw, or just one-third of it? Would A be expected to pay his share of the threshing? G. N. B.

Ans.—The matter will depend entirely on the agreement which was drawn up. If it was agreed that B should get two-thirds of the crop, and nothing was said about the straw, he would be entitled to that portion of the straw. Again, in regard to threshing, unless it was specifically stated that A should bear a portion of the threshing expenses, B would be obliged to pay for the work if he agreed to supply the seed and do all the work. In such cases it is well to have a definite agreement, with the various points which might come up specifically stated.

Cow Not Milking Well.

A pure-bred cow freshened a week before she was due. She is giving very little milk and at first it was clotted and now seems a little bloody. She eats well and appears normal. She was not quite dry when she freshened. What can I do for her? W. L.

Ans.—This is a case where very little other than good care and feed can be done to bring results. When a cow is near the end of her lactation it is not uncommon for the milk to be somewhat clotted, and, as you state this cow was not entirely dry when she freshened this condition might easily occur. The bloody milk is due very often to weakness of the veins in the udder and little can be done to bring relief. The cow has scarcely had a chance to do good work as she has no reserve force built up for milk production this year. It pays to have the cow dry from six weeks to two months before freshening. She will no doubt pick up somewhat on grass and it might be advisable to supplement the grass with grain.



This Efficient Case Outfit For Quick and Satisfactory Threshing The Case 10-18 Tractor and Case 20x28 Thresher

For a reliable, small threshing rig use a Case 20x28 Thresher driven by a Case 10-18 Kerosene Tractor. This well known combination will save you valuable time in the rush of threshing days. It will do a thorough, economical job and enable you to thresh at a time most convenient and profitable to you.

The Case 10-18 Tractor provides the even power to run a thresher steadily, as it should be run. The friction clutch belt pulley (fitted with brake) is mounted on crank shaft, the logical place for it.

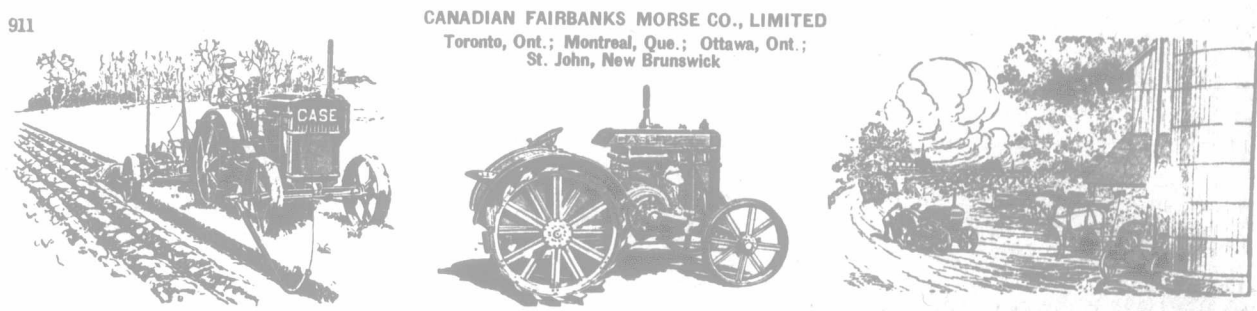
It is equally well adapted to all drawbar work—such as plowing, disking and seeding, hauling, road grading, etc.

A governor-controlled, four-cylinder valve-in-head Case Motor is mounted crosswise on a one-piece main frame. This engine can develop at least 20 per cent more power than its rating.

The Case 20x28 Thresher pictured above is built of steel. It is a simple, easy-running machine, noted for perfect separation, cleaning and saving. Operated with a Case Tractor it is an ideal rig.

This outfit in your hands will enable you to do your threshing at your own convenience without loss from delay. Ask any Case dealer about it now. We will send you a catalog free on your request.

J. I. CASE THRESHING MACHINE CO., Inc., FOUNDED 1842 1931 Erie St., Racine, Wis., U. S. A.



FOR SALE JERSEY BULL Two-years old, Hood farm breeding. I think this is the best bred bull offered for sale in Canada today. His dam has a record of 10,027 lbs. milk and 617 lbs. of butter as a two-year-old. Also a bull calf and two-year-old heifers. For full particulars, pedigree, price and reason for selling, apply to E. A. SMITH, Maplehurst Jersey Farm, 42 Roseberry Place, St. Thomas, or 'phone 400.

Twenty-five Years Breeding Registered Jerseys and Berkshires We have bred over one-half the world's Jersey champions for large yearly production at the stall. We bred, and have in service, the two grand champion Berkshire boars. If you need a sire for improvement, write us for literature, description and prices. HOOD FARM, Lowell, Mass.

Brampton Jersey Bulls We are offering a half dozen young bulls of serviceable age at prices that should clear them fast to make room for our coming importation. These bulls are all from R. O. P. dams and sired by our Bright Prince and Raleigh herd sires. B. H. BULL & SONS

BRAMPTON ONTARIO PROSPECT FARM JERSEYS The daughters of our senior herd sire, Brampton Bright Togo 5760, are just coming into milk, and they are a very promising bunch, with udders, teats and milk production away above the average. Our junior herd sire is Torono of Prospect Farm 168010, A. J. C. C., a "Sophie Tormentor," the leading family of the breed for both milk and butter production. We will tell more about him and his breeding in a later edition. We offer for sale choice young cows or heifers, fresh, or to freshen soon, purebreds and high grades. Use Jersey milk—the milk of quality. Come and see our herd, they will please you. R. & A. H. BAIRD, R.R. 1, New Hamburg, Ont.

The Edgeley Champion Herd of Jerseys Our present offering is a year-old bull calf, the 20th May. His two grandams will average 1,100 lbs. butter, and 17,500 lbs. milk. His sire is a son of Sunbeam of Edgeley, and his dam's dam is Fanny of Edgeley. His two grandams won 1st at Guelph, in aged class, in 1916 and 1918, and on re-test in 6 months have given 9,000 lbs. of milk, and are giving 47 lbs. a day now. He is a double grandson of the Champion cow, Sunbeam of Edgeley. Anybody interested please write at once. James Bagg & Son. (Woodbridge, C.P.R.; Concord, G.T.R.) Edgeley, Ontario CANADA'S MOST BEAUTIFUL JERSEY HERD Herd headed by Imported Champion Ronwer, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported prize-winning cows. Also some cows and heifers. Prices right. We work our show cows and show our work cows. JNO. PRINGLE, Prop

Cream Wanted Ship yours to us, as we must have it to supply our well-established trade with good quality butter. Therefore, we are prepared to pay you highest market price paid. We furnish cans and pay express charges. References any bank. Mutual Dairy & Creamery 743 King Street West Toronto - Ontario

SNAP-SHOTS Your roll developed 10 cents. Prints 3 cents up. Enlargements any size. Highest workmanship. Postage Paid. GOODFELLOW & BALCOMB 16 Heintzman St. - Toronto.

JUST JERSEYS Baldwin's REGISTERED COATICOOK, QUE.

Toronto, Ont.

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Friesians

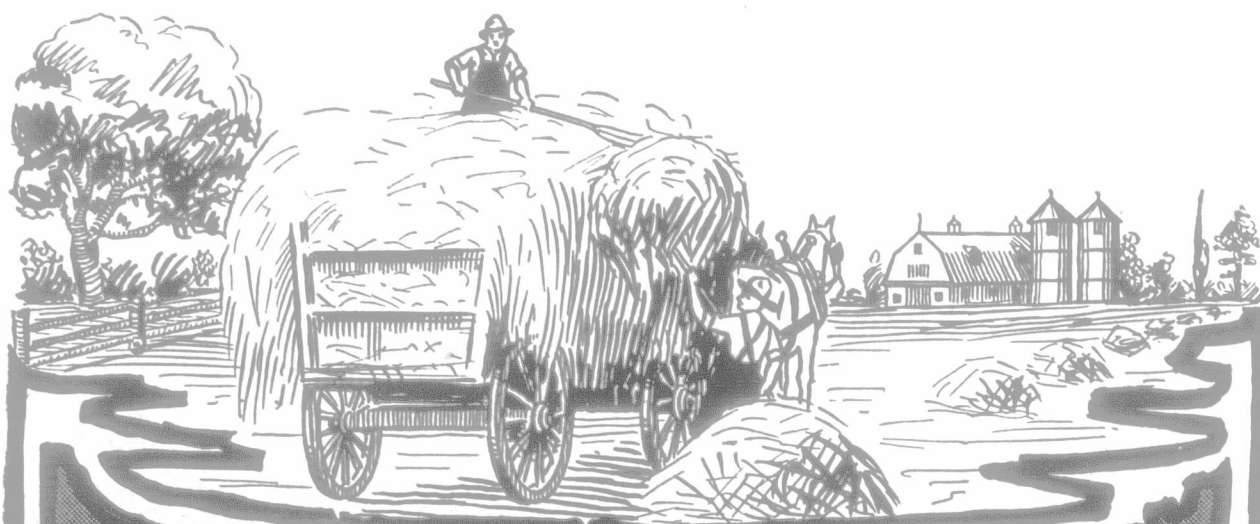
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Steins

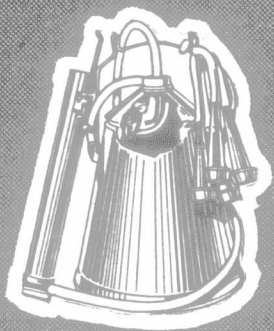
BULLS

Station, ORONO, ONT.





**Haying Time**  
**Dont Envy Your**  
**Fellow Dairyman**  
**Follow His Lead**

Install  Now

Canada's Standard Milker  
**The HINMAN**  
**H. F. BAILEY & SON**  
**GALT, ONTARIO**

**PATENT YOUR INVENTIONS**  
 send direct to Ottawa for free patentability report and booklet "Patent Protection". Clients' patents advertised in the "Patent Review".  
**Harold C. Shipman & Co. ATTORNEYS**  
 PATENT CENTRAL CHAMBERS, OTTAWA, CANADA.

**Glencair Ayrshires**—Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. Thos. J. McCormick, Rockton, Ont. Copetown Station, G.T.R.

**CITY VIEW AYRSHIRES**  
 Bulls ready for service. Bull calves, some have 7 crosses of R. O. P. blood. Heifers just freshened. Two-year-old heifers for early fall. Nothing reserved. Write to: James Begg & Son, St. Thomas, Ont.

**Choice Offering in Ayrshires**  
 AT SUFFICIENT PRICES. Several young bulls of serviceable age. All on R. O. P. sire and also on King of the Mountain. JOHN A. MORRISON, Mount Erin, Ontario

**NORTHERN ONTARIO**

Millions of acres of virgin soil, obtainable at 50c. an acre in some districts—in others free—are calling for cultivation. Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here right at the door of Old Ontario, a home awaits you. For full particulars as to terms, regulations and settlers' rates, write to:

H. A. MACDONELL, Director of Colonization, Parliament Buildings, Toronto, Ont.  
 G. H. FERGUSON, Minister of Lands, Forests and Mines

**Homestead Farm R. O. P. Ayrshires**

At the head of our herd at present we have a grandson of the great Jean Armour. He is being used on the daughters of our former sire Garraugh Prince Fortune (imp). We can spare a few R. O. P. females of this breeding and also have young bulls. MacVicar Bros. Phone 2253, Harrietsville, Belmont, R.R. No. 1, Ont.

**Westside Ayrshire Herd**—I can price females with records up to 12,000 lbs. milk, and have Snow King, and closely related to Briery 2nd of Springbank and Lady Jane on his sire's side. Also young bull calves, with dams giving 65 lbs. per day in mature class and 45 lbs. per day as 3-year-olds. Write, or come and see them.  
 DAVID A. ASHWORTH, Denfield, R. 2, Middlesex Co., Ont.

**Questions and Answers.**  
**Miscellaneous.**

**Sweet Clover.**

I have seeded three acres to sweet clover. Will it give me two years' crop, or only one year? W. C.

Ans.—There will be a fair amount of pasture this fall and the main crop next summer. It is a biennial plant similar to red clover.

**Leaky Teat.**

What is a cure for a cow that leaks milk? G. M.

Ans.—Little can be done to stop the trouble until the cow is dry. Then it is possible for a veterinarian to operate and partially close the opening. The cause of this trouble is due to too large a teat opening, or to a weak muscle.

**Loss in Cattle.**

A farmer sells a number of cattle to a drover and agrees to deliver the cattle the next day, the drover paying \$25 down at the time of purchase. The farmer turns the cattle out in the barnyard the next day with the intention of delivering them to the drover. One of them happens with an accident and breaks its leg. What is the lawful way for the farmer to proceed with this animal? Who is responsible for the loss? G. S.

Ans.—Under the above circumstances, the farmer would be responsible until the cattle had been delivered to the drover. Of course, in case of a broken leg there would not need to be very great loss if the farmer killed the animal and dressed it for market, as the demand for meat would no doubt warrant him a price almost if not quite as large as the drover would pay. There would be the extra trouble of butchering.

**Miscellaneous.**

1. I have a field of sweet clover which is a fairly good catch. I would like to save it for seed. When is the right time to cut it for seed? Is it like red clover? Can I cut the first crop for hay and thresh the second? How is the crop cured for hay?

2. How much corn should be sown to fill a silo 12 by 37 feet? How thick should the corn be sown and what kind is considered good silage corn? Would you advise using strawy manure and plowing it under, or let the manure rot and apply as a top dressing on new seeding?

3. I have a sow which was due to farrow late in May. We put rings in her nose and she lost the pigs a few hours afterward. Would ringing cause abortion? Would it be wise to keep her?

4. I have a mare which got kicked on the hock and was quite lame for a time. There is a swelling. Would a blister help to remove it? H. S.

Ans.—1. The first crops of sweet clover can be cut for hay which will be around the middle of June, and in order to save the leaves it is well to cure it in coil. Care must be exercised not to cut the sweet clover too close to the ground. Unless some new shoots are started below where plant is cut, it will die. For this reason many recommend cutting the first crop for seed. However, it is possible to get both hay and seed in the one season. It should be cut for seed when the pods become brown, and can be cut with the binder.

2. Ten acres of corn going 10 tons to the acre should fill the silo of the dimensions given. Sowing in rows three or three and a half feet apart and using from 25 to 28 lbs. of seed per acre should give a good stand. If the land is weedy it could be cultivated both ways, if the corn were sown in hills. On clay soil, plowing under strawy manure adds humus and helps to loosen the soil. On light, sandy soil the well-rotted manure is possibly preferable. White Cap, Leaming, Golden Glow, Bailey and Wisconsin No. 7 are among the varieties of dents which give good satisfaction as silage corns.

3. It is possible that the sow was injured when the rings were being put in her nose. We would consider it quite safe to breed her again.

4. Applying an absorbent liniment should assist in removing the swelling. Applying daily, with smart friction, a liniment made of 4 drams each of iodine and iodide of potassium and 2 ounces each of alcohol and glycerine should prove effective.

**Questions and Answers.**

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Could you give me a recipe for making the running water in a well? I put in a pump and it will not run.

Ans.—It is possible that the well is not deep enough to reach the water table. You could try to dig a few feet deeper. If the well is already deep, the water may be so low that it will not run. You could try to pump the water out of the well and see if it will run.

How much corn should be sown to fill a silo 12 by 37 feet? How thick should the corn be sown and what kind is considered good silage corn? Would you advise using strawy manure and plowing it under, or let the manure rot and apply as a top dressing on new seeding?

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**Questions and Answers.**  
Miscellaneous.

**Sweet Clover.**  
I have three acres to sweet clover. I would like to know how best to lay out the grounds.  
W. C.

**Questions and Answers.**  
Miscellaneous.

**Fixing a Lawn.**

We have a new house about finished. It is 10 or 12 rods from the road. I would like to know how best to lay out the grounds.  
L. M.

Ans.—Without seeing the location it is more or less difficult to give a definite idea as to how to do the work to best effect. We believe that you could secure the services of A. H. Tomlinson, Landscape Gardener, O. A. C., Guelph. He would give you a blue print on which would be marked the location for planting the various kinds of shrubs. A distance of 10 or 12 rods is a considerable area to keep cut; however, it would make excellent grounds for tennis, croquet, or some of the other outdoor games. A perennial border along one side, in which was a variety of shrubs and plants which flower at different seasons of the year, would give a pleasing effect. Mock Orange, Spirea, Snowball, Flowering Almond, Flowering Currant, Hydrangea, etc., are some of the shrubs which look very nice in the lawn. Then there might be beds of roses, pansies, etc., and other beds for setting out annual plants, like asters and geraniums. Care should be taken to level up the ground and have sufficient rich, loamy earth on top in which to sow the grass seed. Lawn-grass mixtures are on the market, or a mixture of Kentucky blue grass, timothy and White Dutch clover makes a very nice lawn.

**Testing Cream.**

Could you give me instructions regarding the running of a Babcock test? What could I put in my cream to preserve it so I will only need to test once a week?  
W. W. T.

Ans.—It is not difficult to test the cream but accuracy is essential. The sample to be tested must be taken from the bulk after it has been well stirred, and it should be between 60 and 70 degrees in temperature. The scales are the most accurate method of measuring samples, but for testing on the farm the 17.6 cubic centimetre pipette is most generally used for milk. The pipette is filled by drawing the milk up through it and it is held there by placing the finger over the top. As the finger is released, admitting air, the milk will run out. For testing cream an 18 c. c. pipette is used or if the scales are used 18 grams of cream are taken. Test bottles graduated to read 30, 40 or 50 per cent. fat are made for cream, while test bottles graduated to read up to 10 per cent. are used for milk. Deliver the cream into the test tube and then slowly add the acid. Be careful with this material as it will burn clothing or practically any substance with which it comes in contact. For both milk and cream 17.5 c. c. of the sulphuric acid is used. This should be allowed to flow gently down the side of the bottle, then thoroughly mix the acid and cream by giving the bottle a gently rotary motion. Keep the neck of the bottle pointed away from your face and that of anyone else. The bottles will get very warm by the action of the acid. The acid dissolves the constituents of the milk except the fat. After the cream and acid are thoroughly mixed the bottles are put in the tester, care being taken that it is balanced. It is then whirled for five minutes at the speed designated on the tester, after which water at a temperature of 140 degrees is poured into the bottle to raise the fat in the neck of the tester. The bottles are again put in the machine and rotated for two minutes, then the amount of fat is ascertained by the amount in the neck of the tester. One should have little difficulty in reading the percentage of fat on the neck of the bottle. To keep the cream for a week or ten days for testing, corrosive sublimate tablets can be purchased at dairy supply houses or drug stores for putting in cream sample. If the powder is used, as much as can be fitted on a ten-cent piece is sufficient for each bottle. This composite sample should be kept in a tightly-stoppered bottle, and it should be remembered that this material is poison. In taking the cream for the composite sample be sure to have it thoroughly mixed.

**Teat.**  
I have a cow that leaks milk. I would like to know how to stop the milk from leaking.  
G. M.

Ans.—It can be done to stop the milk from leaking. Then a veterinarian to operate on the teat to close the opening. The trouble is due to too large a teat or to a weak muscle.

**in Cattle.**

I have a number of cattle to deliver to a drover paying \$25 down on purchase. The farmer put in the barnyard the intention of delivering them. One of them happens to be broken and breaks its leg. I would like to know the best way for the farmer to handle this animal? Who is responsible for the loss?  
G. S.

Ans.—The above circumstances, the farmer is responsible until the animal is delivered to the drover. If the animal is broken before delivery, the farmer is responsible for the loss. If the animal is broken after delivery, the drover is responsible for the loss.

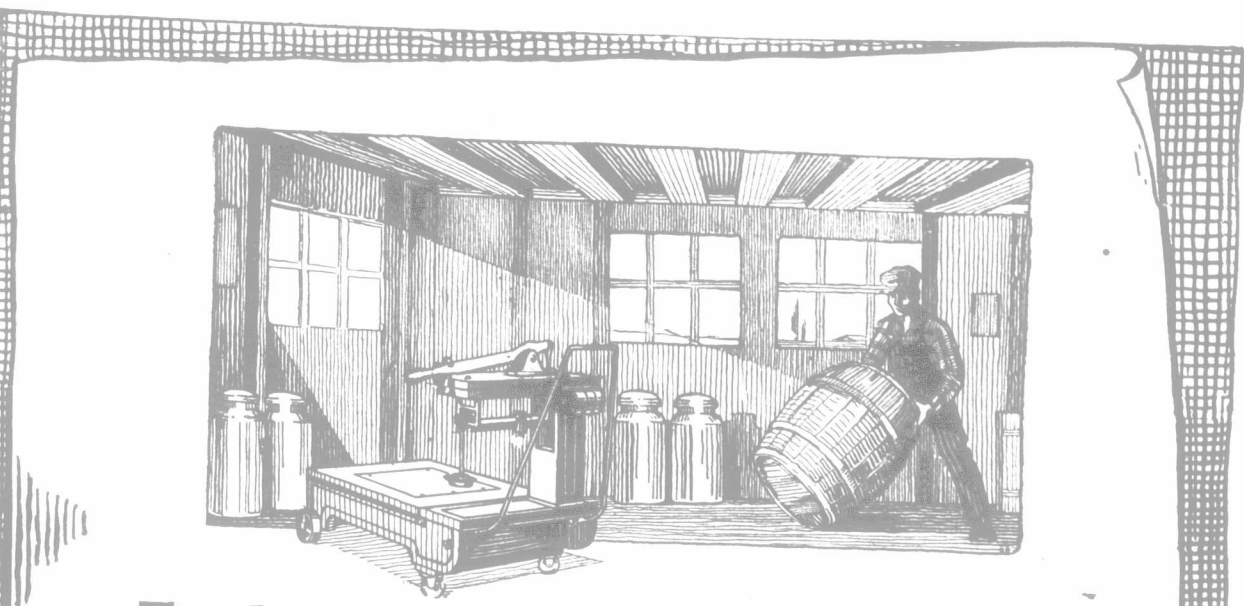
**Miscellaneous.**  
I have a number of sweet clover plants. I would like to know when is the right time to cut them? Is it like red clover?  
H. S.

Ans.—Sweet clover should be cut when the plants are in full bloom. It is like red clover. The crop for hay and threshing is the crop cured for silage.

**corn should be sown.**  
I have a number of sweet clover plants. I would like to know when is the right time to cut them? Is it like red clover?  
H. S.

Ans.—Sweet clover should be cut when the plants are in full bloom. It is like red clover. The crop for hay and threshing is the crop cured for silage.

**that the sow was.**  
I have a number of sweet clover plants. I would like to know when is the right time to cut them? Is it like red clover?  
H. S.



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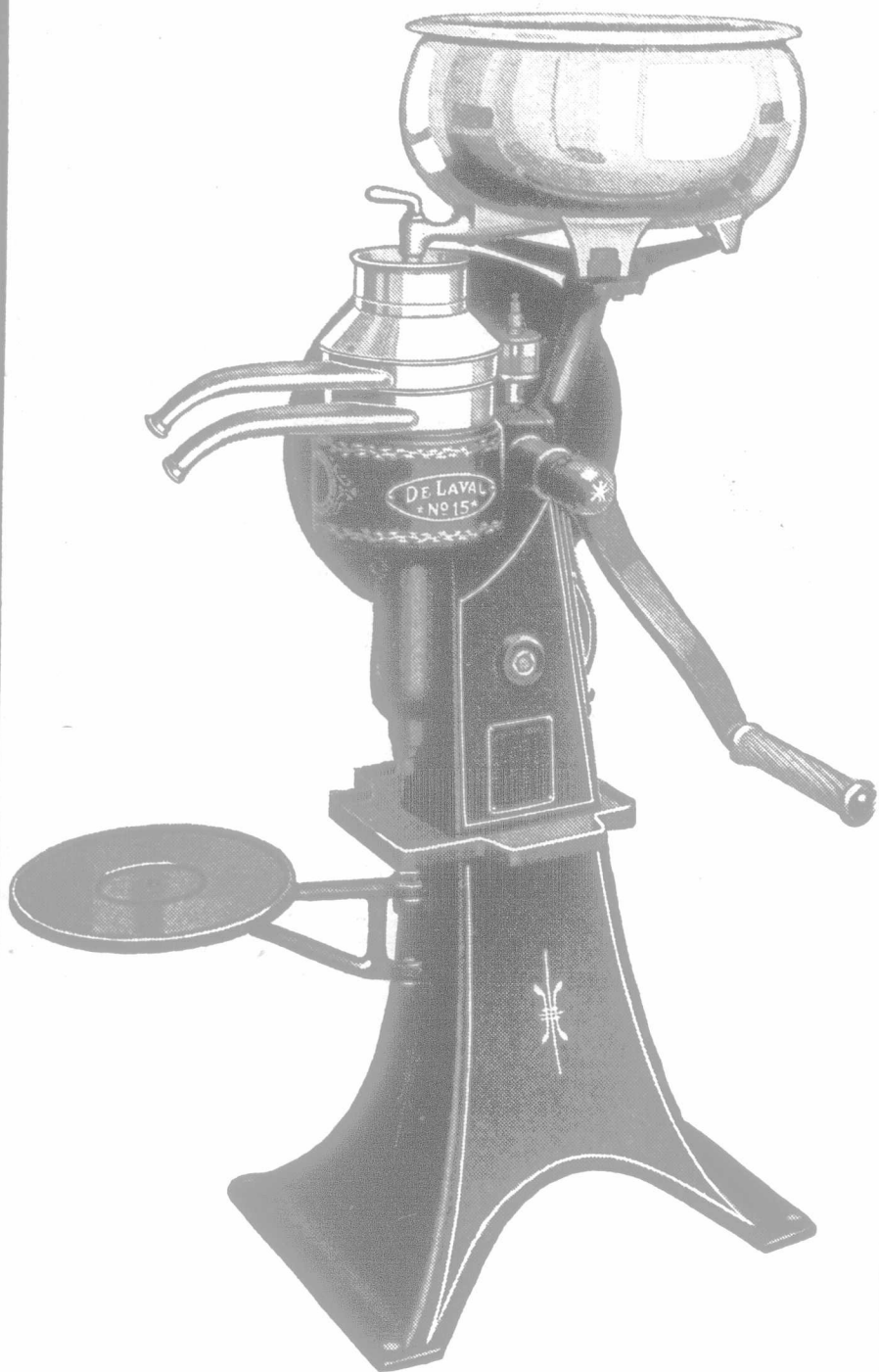
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## Our School Department.

### The Brownsville Community School.

In the issue of May 1 there appeared an article on the "Rural School, Past and Future," by Sinclair Laird, and accompanying this article was an illustration of the Brownsville School. Being interested in community work in rural districts, H. G. Martin of the Stratford Normal School wrote to Miss Mable Boyce, Principal of the Brownsville school for information and we have been permitted to publish the reply which appears in the following paragraphs:

"You ask how the people were induced to build such a school. About six years ago it was necessary to build a new school and being an enterprising and progressive people, the cost and up-keep of an up-to-date school were not considered in its building. Hence we have a school where each pupil can get a public school education, also the first two years of high school work, fitting him to take his place in any branch of society on leaving school altogether, or enabling him to enter high school as a third-form student.

"Needless to say, the school building and equipment are graded No. 1 on inspection. Worthy of mention are the slate boards, single seats, oiled floors, steam heating, separate play-rooms in the basement for girls and boys, inside toilets, spacious halls, separate teachers' room, library, and three cloak rooms connected with each class-room, for teachers, girls and boys. A piano in the reception hall fills the requirements of a Literary Society, Physical Drill, etc. A sectional book-case in each class-room containing reference books and supple-

mentary reading is an added convenience, while the library itself contains interesting reading for the pupils outside of school hours.

"In addition to an up-to-date school, Brownsville can also boast of a number of exceptionally clever pupils. Several trophies have been won in school fair work. A silver cup donated by a Woodstock firm, as an inter-school live-stock judging trophy was won three years in succession by this school and hence became its property. A six-flask Babcock milk tester was won before the silver cup. This reminds me that you referred to the problem of community leadership, in your letter. In the stock judging contests, a number of young men, farmers in the community, volunteered their services to take classes from farm to farm and instruct them in live-stock judging. This is only an example of the interest and co-operation shown by the people of Brownsville."

### Cultivation Increases the Water Capacity of a Soil.

BY J. G. ADAMS.

We have seen that one purpose of cultivation is to keep a loose layer of soil on the surface to prevent evaporation and loss of soil moisture. This, of course, is beneficial to growing crops, particularly in seasons of drought.

This idea would lead us to think that shallow surface cultivation might be sufficient. It may serve the desired purpose very early in the season and later when the moisture from rains is to be kept in the soil. But more commonly the soil is cultivated to a depth of four to six or more inches. Why is this done? What reason has the farmer for doing this? If asked he would say it was to make a fine seed-bed. But why does he want this? One reason is that the soil may hold more water.

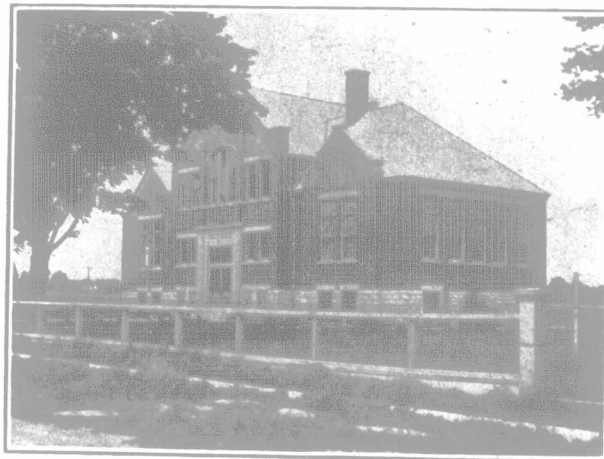
If a sample of any kind of soil be closely examined, it is seen to be made up of particles which vary in size from the extremely small ones of clay to the larger granular ones of sand. When a soil is undisturbed these small particles may become more or less firmly packed together to form larger lumps. Cultivation, breaks these

down into small, fine particles again. How does this affect the water holding capacity of the soil?

To illustrate how most of the moisture is retained in the soil, dip a marble in a basin of water. When it is removed a thin film of moisture adheres to its surface which cannot be shaken off. Similarly the soil particles carry a film of water over their surface. And it is in this form that most of the residual soil moisture is carried in the soil, as water adhering to the surfaces of and between the soil particles.

Obviously then the more free surface we can create in the soil the greater will be its water content. How does the surface of a particle vary with its size? This may be difficult to determine accurately since each is irregular. But for illustration, suppose each is a cube two inches on a side, its volume is eight cubic inches, and its surface is sixteen square inches. If this be divided to make a cube one inch on a side, its volume becomes one cubic inch and its surface becomes four square inches in area. Or when the volume is decreased to one-eighth of its former volume its area is only decreased to one-quarter of its former value. In other words, when we decrease the volume of the body by breaking it up we increase the proportion of surface. As a class exercise this principle might be verified for a sphere thus co-ordinating mensuration with agriculture.

Hence, by breaking up the soil particles by cultivation into finer parts, the total free surface in the soil is increased and the amount of water which may be held in the soil in this way is increased.



The Brownsville School.

mentary reading is an added convenience, while the library itself contains interesting reading for the pupils outside of school hours.

"I think you can now judge for yourself what community needs this school is serving. Pupils are admitted from adjoining sections on paying tuition fees. All requirements for literary work, either in the school or outside the school, are supplied.

"The lawns and floral decorations are well kept and ample playground is provided at the rear of the school.

"Perhaps the community interest of the young people asserts itself most prominently in the purchase of the park adjoining the school grounds. It is Hydro lighted and the noted Brownsville Garden Party given every summer by the young people is held here. The receipts average about a thousand dollars and the proceeds are used for supporting a library or for patriotic purposes in the last four years. The library contains over 1,500 volumes of various classes of reading and new books are being added as they are published. The library is open to the public two evenings and one morning each week. It has proved a decided success, and has been satisfactorily managed so that another community need has been met.

"In connection with the park is the tennis court and basket ball, where the young people find amusement in the summer months. The Literary Society during the winter season has been most interesting and instructive. Of course the war has taken its toll from Brownsville, but with the return of peace we are



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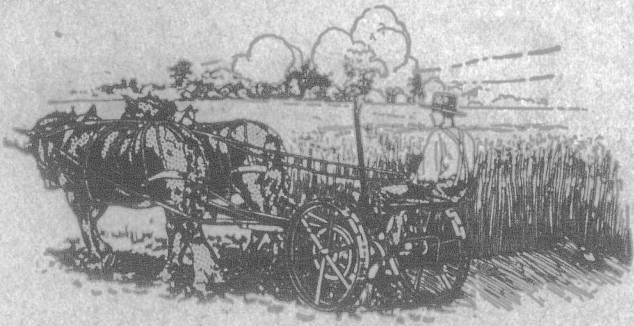
our Knitting Club and hope the community interests as  
 on to an up-to-date school, can also boast of a number of clever pupils. Several have been won in school fair cup donated by a Wood-son inter-school live-stock show was won three years in this school and hence be-coming a property. A six-flask Babcock was won before the silver cup. We hope that you referred to the community leadership, in the stock judging con-ference of young men, farmers' community, volunteered their services from farm to farm in live-stock judging, an example of the interest shown by the people.

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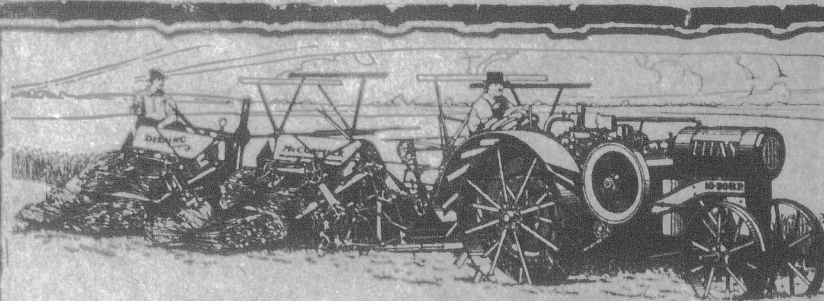
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 C. A. Waltemath, of Gem, harvested a crop of 55 bushels to the acre of oats which were not seeded until June 5th.

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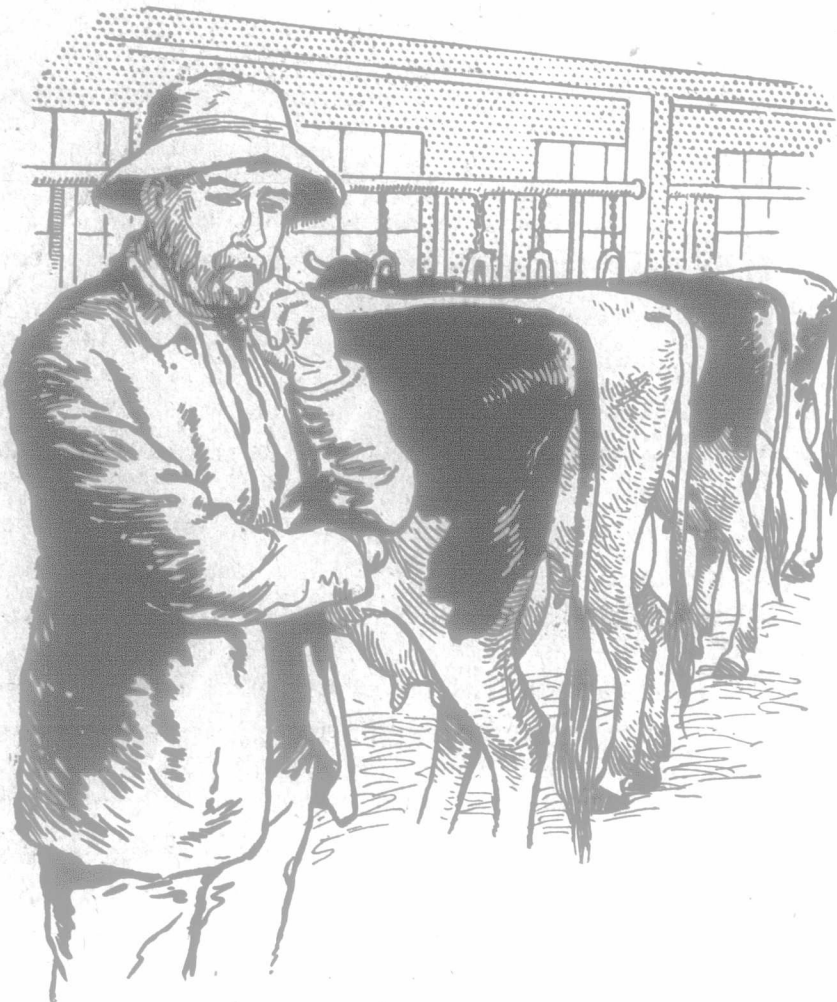
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When you want to increase capacity all you have to do is to order a bowl of the size you need—450, 650, 800 or 1,000 lbs.—with attachments; we make an allowance for return to us

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