

MAY 13, 1920

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

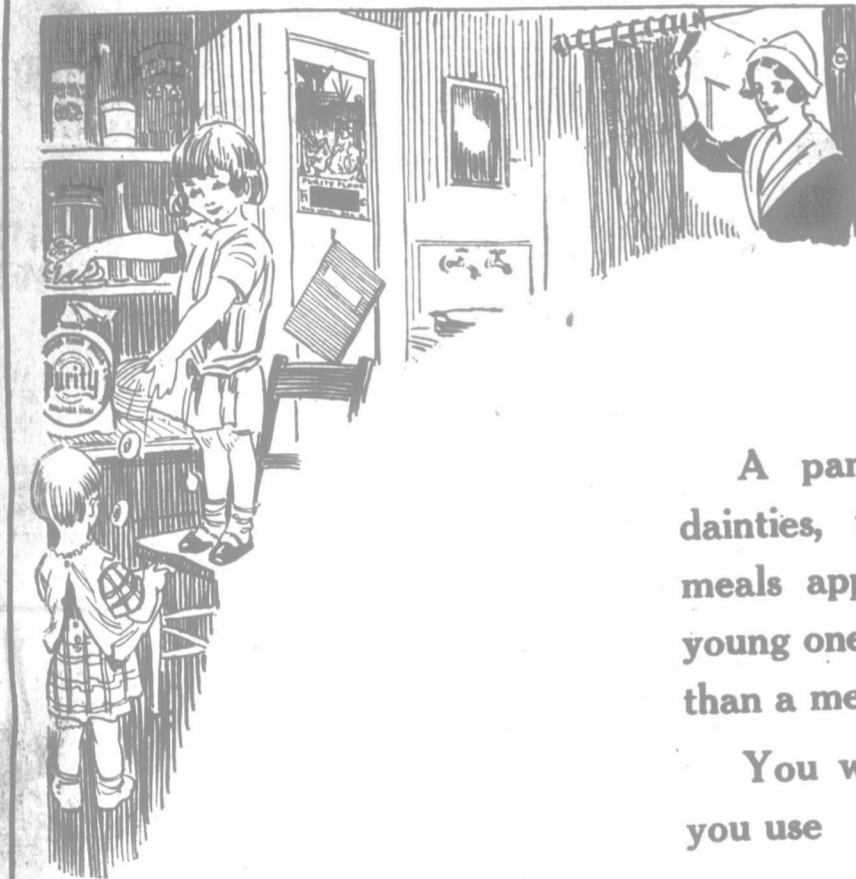
PERSEVERE  
WILL  
SUCCEED  
FOUNDED 1880

Dairy and Cold Storage Com-  
missioners  
Dept. of Agriculture  
1919-20

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

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LONDON, ONTARIO, MAY 20, 1920.

No. 1443



A healthy child  
will have a  
healthy appetite

A pantry filled with delicious dainties, to satisfy the between meals appetites of your growing young ones, is a better investment than a medicine chest.

You won't need medicine when you use

## PURITY FLOUR

for all your baking

The first requirement of health is proper food, and in PURITY FLOUR, the perfectly milled product of the world's best wheat, we offer the nearest approach to food perfection.

Use the coupon to secure a copy of The Purity Flour Cook Book, containing 631 tried and tested recipes for all manner of dishes for all meals.

COUPON

Western  
Canada Flour  
Mills Co., Limited  
Toronto, Ont.

I enclose 20 cents for Purity  
Flour Cook Book.

Name.....

Address.....

Gentlemen,

Thus far we find the Metal the best we have ever used. The writer's son has had charge of some of the largest Government jobs in the United States. He pronounces your metal first-class.

Yours truly,  
Frankford Canning & Packing Co.  
A. H. ALLEN, Manager.

### "Best We've Ever Used"

IN this testimonial an expert of wide experience plainly states his high opinion of

## PRESTON SAFE LOCK SHINGLES

Our shingles are different from others in their method of defying the severest strains. The interlocking construction locks the shingle together in a way that makes it impossible to separate or spread them in the slightest degree.

The nails are covered and protected by the cleverly de-

signed, locking overlap of the shingle on the next row above.

Specially important is the heavy galvanized coating of purest spelter, reinforced inside by the new copper-bearing process, the most durable steel known to science. It means many added years of perfect service, and safety from rust.

THE M S AND S G LIMITED  
METAL SHINGLE AND SIDING COMPANY  
ASSOCIATED WITH THE A S ORNEY CO. LIMITED  
PRESTON - MONTREAL - TORONTO  
WINNIPEG - SASKATOON - CALGARY

Write for descriptive folder of Preston Safe-Lock Shingles.

**"Let me talk Mileage to you."**  
K. & S. Tires save you time and money and give more care-free miles than you ever dreamed possible.

K. & S. Tire and Rubber Goods, Limited  
Branches: Toronto, Montreal, Hamilton, Winnipeg, Weston

# MELOTTE Cream Separator

There is only one "Melotte"—The "Melotte" that we have been selling to Canadian Farmers for 25 years.



FOUR MODELS—16 SIZES

Skims Cleanest  
Turns Easiest  
Lasts Longest  
Everybody Knows It.

The Cream Separator with the Suspended Bowl

Think of it! A bowl hanging naturally on a ball-bearing spindle—a real self-balancing bowl.

Large stocks of the "Original Melotte" just received from England. Order now from nearest local agent.

R.A. LISTER & CO (CANADA) LIMITED  
TORONTO & WINNIPEG

## Makes Harness and Axles LAST LONGER

### Imperial Eureka Harness Oil

remains in the leather (unlike vegetable oils) and prevents cracking or breaking of stitches. Keeps straps and tugs pliable and strong—preserves the harness against the action of sweat, moisture and dust—wards off insects. Imparts a rich, black lasting finish.

### Imperial Mica Axle Grease

smooths the surface of axle and hub with a filling of fine mica—relieves the cause of friction—coats and cushions with a layer of high-grade lubricating grease. Lessens the strain on harness and horses. Cuts down repair bills. Sold in sizes from a 1 lb. tin to a barrel.

### Known Everywhere

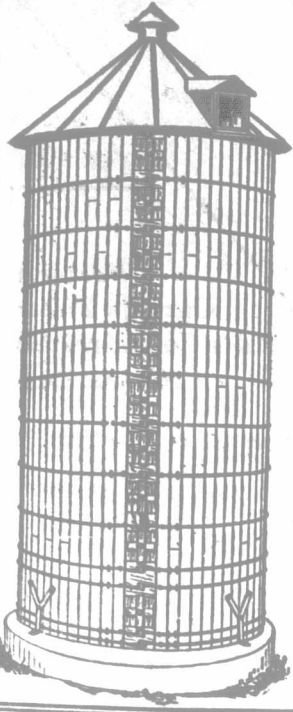
If you do not use Imperial Mica Axle Grease and Imperial Eureka Harness Oil ask your neighbour about them. They are the highest quality made. You cannot get better at any price. Used by farmers and teamsters in every community.

MADE IN CANADA



IMPERIAL OIL LIMITED

Power, Heat, Light, Lubrication  
Branches in all provinces



## TWO SILOS, EACH A LEADER IN ITS CLASS

We are now manufacturing two silos to meet the demands and means of every Canadian farmer. Both are wood silos. Experiments prove that cement and tile silos do not preserve silage perfectly—that nothing but wood will do this.

1. BURLINGTON CABLE BAND SILOS are the strongest-hooped silos on the market. The hoop, instead of being a solid iron rod, is a seven-stranded galvanized cable. This cable is protected by patent No. 168358. We use No. 1 Norway Pine Staves, side and end matched and treated with red preservative. THE SILO THAT GOES UP WITHOUT TROUBLE. No scaffold needed. See inside front cover, Christmas number, Farmer's Advocate, London, Ontario.

2. We also make CRANE THREE WALL SILOS. They are absolutely the best equipment that can be purchased by you today. They are permanent buildings. They preserve silage perfectly, and the cost is moderate.

In the CRANE THREE WALL SILOS there are three distinct walls. An inner wall of 2"x6" side and end matched staves (same as in Burlington Cable Band Silos). The centre wall is weather and acid-proof felt, similar to Roofing felt. The outer wall is clear B.C. Fir wound spirally from top to bottom of silo, ship-locked and metal protected. No bands required; an absolutely permanent building.

Both of these silos have Continuous Refrigerator Door System and Interchangeable Doors. We want you to know all about them. Let us send you free complete information. Sold direct from Factory to Farm. Write to-day. Fill in the coupon now.

The Nicholson Lumber Co., Ltd., Burlington, Ont.

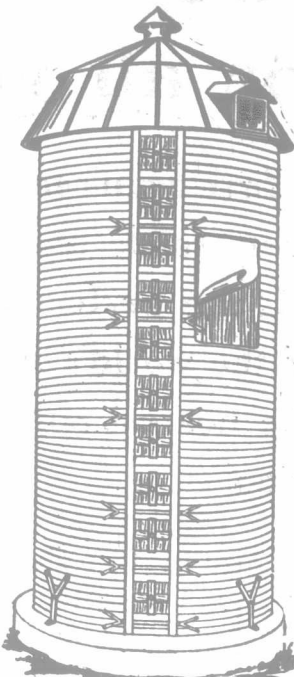
The NICHOLSON LUMBER COMPANY, Ltd., Burlington, Ont.

Send me full information on Burlington Cable Band and Three

Wall Silos

NAME.....

ADDRESS.....



## GILSON SILO FILLERS

THE GILSON SILO FILLER is the one blower which can be successfully operated with as little power as 4 h.p. There is a Gilson Silo Filler for every purpose—for the individual farmer, for the syndicate, and our large capacity machine for the custom jobber.

We guarantee every Gilson Silo Filler to cut and elevate more ensilage with the same power than any other blower on the market.

Will Silo Filling Time find you ready?

Write for catalogue to-day.

Gilson Mfg. Co. Ltd.  
1,399 York St., Guelph, Ont.



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156 Yonge Street Toronto, Ontario

"Advocate" Adverts. Pay.

**MTE**  
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The "Melotte"  
Canadian  
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Cleanest  
as Easiest  
Lasts Longest  
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ADA) LIMITED  
NIPEG

LES LAST  
LONGER

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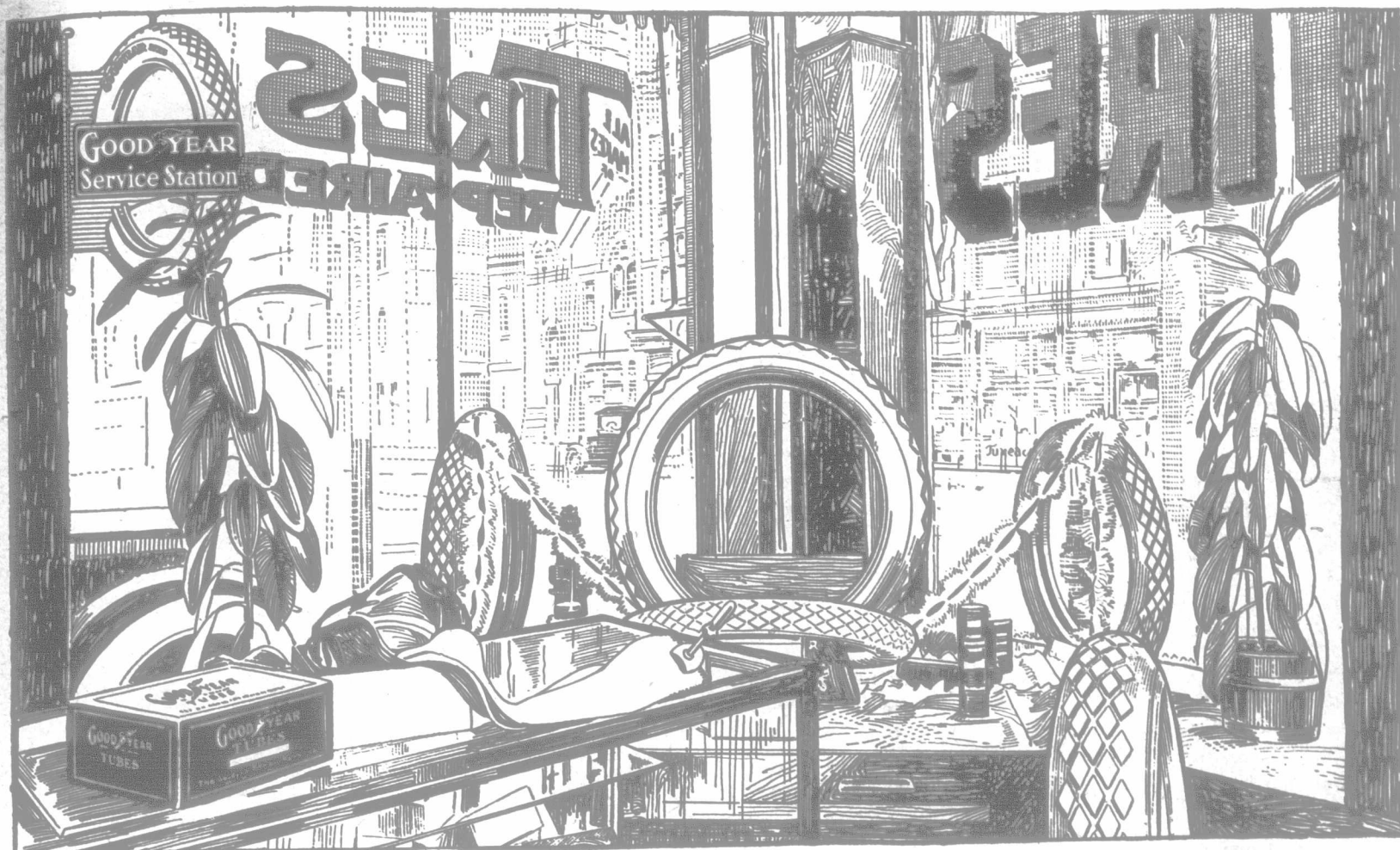
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every Gilson Silo Filler to  
be more suitable with the  
in any other blower outfit.  
Filling Time  
find you ready?  
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Trade Marks and Designs  
Procured in all Countries.  
given to patent litigation.  
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UT & MAYBEE  
Toronto, Ontario

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## Get all the Tire Mileage You Buy!

**T**HE average motorist is only getting about 60 to 80 per cent. of the mileage which is built into his tires at the factory.

This is the basic reason behind the Goodyear Service Station policy and Goodyear Tire Savers. Many tires are ruined by poor tubes and lack of tube care.

Buy good tubes and give them the best of care.

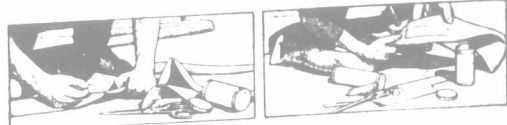
Clean the rust from rims when you change a tire.

Be sure the inside of the casing is clean before you insert the tube.

Learn to use a sprinkle of Goodyear French Talc to prevent chafing and friction.

Keep your valves clean and air-tight, and the air-pressure up.

Carry spare tubes



Repairing a tube with the Goodyear Tube Repair Kit

The tube repaired and ready for taking

in Goodyear Tube bags to prevent injury by loose tools and from chafing.

Let your Goodyear Service Station Dealer show you the advantages of Goodyear Heavy Tourist Tubes, and how to use the Goodyear Tube Repair Kit.

He is glad to do this, and many other things that save tires, to increase your mileage. He knows that long mileage tires bring customers to him.

He is taught by Goodyear that low-cost-per-mile has built for Goodyears the largest sale of any tire in the world.

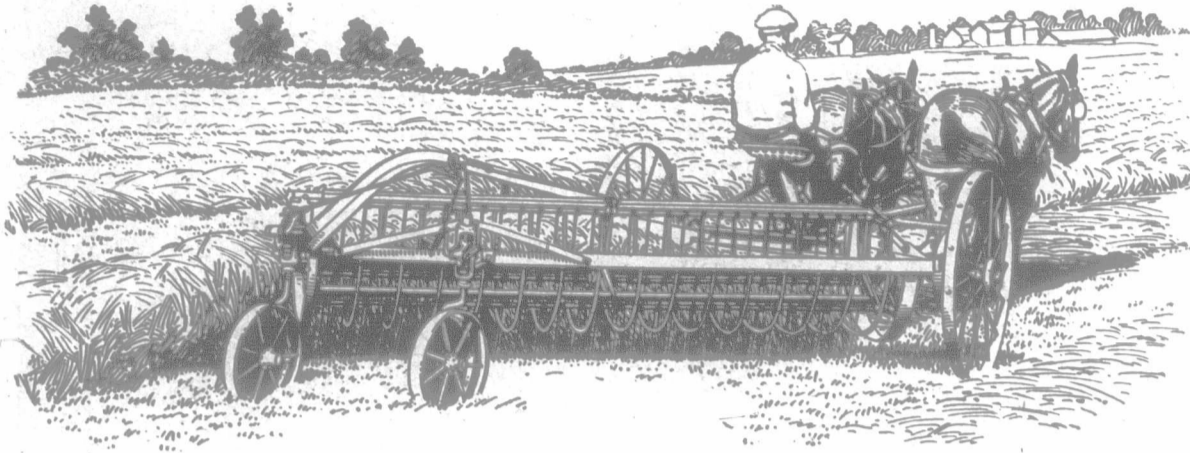
To supplement his work, we will gladly send you, free, our Tire Conservation Course. Write us at Toronto for this course.

The Goodyear Tire & Rubber Company of Canada, Limited  
Toronto, Ontario

# GOODYEAR

MADE IN CANADA

## Air-cure Your Hay the International Way



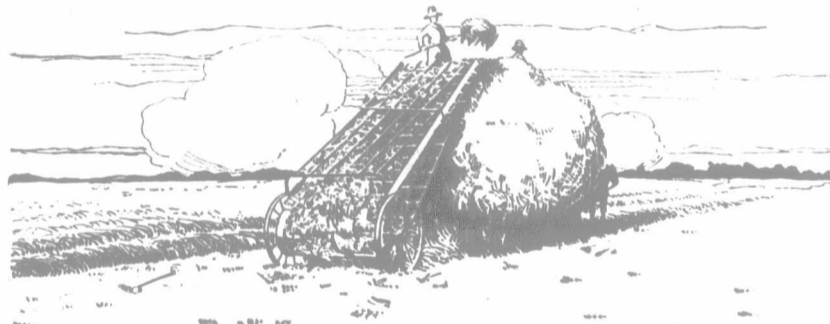
IT ISN'T sun-drying that puts quality into hay, but *air-curing*. And hay is air-cured best when side-tedded into light, breeze-sifting windrows such as those that trail off in the wake of

### International Combined Side-delivery Rakes and Tedders

You can follow closely behind the mower with this machine and rake the hay before the leaves begin to wilt. The teeth strike the heads of the hay first and rake clean, picking up every last wisp — and there is no shattering of leaves. The hay is turned completely over and deposited in snug, airy windrows through which the air circulates freely, curing evenly both stems and leaves with its magic touch.

There are points of mechanical excellence that distinguish this fast-working, gentle hay-handling machine from all other types of side-rakes and tedders. There are also many points of mechanical excellence that distinguish all hay machines made in the International Harvester factories — McCormick and Deering mowers and self-dump rakes, International sweep rakes, stackers and loaders.

Ask your nearby International agent about these good hay tools.



### INTERNATIONAL HARVESTER COMPANY

OF CANADA LTD.

HAMILTON CANADA

WESTERN BRANCHES — BRANDON, WINNIPEG, MAN., CALGARY, EDMONTON, LETHBRIDGE, ALTA., ESTEVAN, N. BATTLEFORD, REGINA, SASKATOON, YORKTON, SASK.

EASTERN BRANCHES — HAMILTON, LONDON, OTTAWA, ONT., MONTREAL, QUEBEC, QUE., ST. JOHN, N. B.

### Quack, Couch or Twitch Grass.

(Experimental Farms Note.)

This weed is a perennial, propagated by seeds and creeping rootstalks, persistent in all deep plowed lands and in all crops, having great power in spreading and choking out other plants.

The permanent means of bringing this weed under control is to adopt for the area infested a short rotation of crops or cropping plan which includes a hoed crop, once in three or four years. A short rotation of three years duration is preferable since there is a hoed crop and only one crop of hay in a three-year period, conditions which tend to give the pest the least chance of flourishing. Another suitable rotation is one of four years duration of one year each in hoed, grain, clover and timothy hay crop. For timothy hay or pasture areas the procedure is as follows.

Allow the plant to exhaust its substance in the production of a hay crop, which should be cut and removed as soon as the head is formed and before it is in bloom. Plow shallow, roll, disc once or twice to break up the sod and then cultivate with a stiff-tooth cultivator until the rootstalks have been pulled to the surface of the soil. When the accumulation of roots is so great as to interfere with the efficient working of the cultivator remove or burn them and continue cultivating in order to complete the work. In the autumn, ridge or deep plow the field. Ridging exposes a greater surface of soil and couch roots to the action of frost than ordinary plowing. Frost is an agent in the control of quack grass that should be made use of on every possible occasion.

Grain areas that contain quack are not in fit condition to be seeded down to grasses and clovers nor are they in shape for the growing of profitable crops in the future until after control measures have been introduced. Immediately after harvest stubble land should be shallow plowed, disced once or twice to break down and consolidate the furrow slices after which the stiff-tooth cultivator can be employed to advantage to obtain the necessary depth to facilitate the drawing of the root stalks or underground stems of quack to the surface. Cultivation should be thorough and the fall treatment as outlined for meadow or pasture land will apply on stubble.

The stiff tooth cultivator is an essential implement in any cultural plan for the control of quack grass. The disc harrow used as the combatant implement acts as a force against the success of otherwise thorough treatment. The use of the disc harrow in this connection should be limited to work of disintegrating and pulverizing sod and surface soil. The object is to draw the entire rootstalk to the surface rather than break each root into several parts. Each small piece, like the potato set is capable of establishing a new plant.

The following spring the area treated as described, should be planted to hoed crop for which manure may be applied, before the last plowing or ridging in the fall or during the winter or spring. This brings us to the first year of the rotation from which period the procedure in cropping would be as outlined in the rotations recommended.

Where no regular hoed crop is grown, which is poor farm practice, rape or buckwheat sown on an infested area after it has been thoroughly cultivated and the rootstalks removed, prove excellent smothering crops. For late sowing and as "first aid" in the control of the weed on an exceptionally dirty field where other crops would be choked out and before attempting a hoed crop the two mentioned crops are very useful. Smothering crops, however, are recommended only as a temporary means of control. It is only by thorough, persistent cultural methods and the proper utilization of crops that any satisfactory degree of success will be attained.—W. L. Graham, Assistant, Dominion Field Husbandman.



## "GALT" Corrugated Steel Sheets

FOR ROOFING AND SIDING

We manufacture these Sheets both in Galvanized and Painted Steel, in lengths of 4, 6, 8 and 10 feet.

WE ALSO MANUFACTURE

"GALT" STEEL SHINGLES, VENTILATORS  
ORNAMENTAL EMBOSSED STEEL CEILINGS, ETC.

The Galt Art Metal Co., Limited, Galt, Ont.

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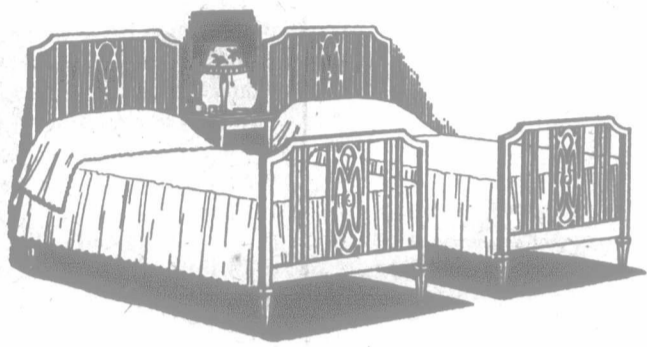
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Dominion Field

# Your day's work- and your need of sleep



Simmons Limited, 1920

WITH a good rest and sound sleep every night, the healthy man or woman ought to feel fresh, bright, ready for anything the next morning. If you feel "tired" any considerable part of the time, it may be the fault of your bed. Or you may have a sturdy, noiseless bed but with a faulty *spring*, or a lumpy *mattress*.

## A BED is bought to sleep in.

Yet you will go into store after store—inspect beds beyond number—be told everything about styles and prices, but never hear a word about *sleep*.

Sound sleep is a state of absolute repose.

The body is relaxed—digesting food, eliminating tissues used up during the day's work, rebuilding for tomorrow.

The nerves are composed—but always alert.

No matter how sound asleep you are, your nerves catch the slight rattle of your bed, the little squeak in the spring, or feel it tremble or give. They tense the muscles. And while you may not actually wake up, there is a feeling the next morning of being "all tired out."

THERE is one organization in Canada that knows this subject from start to finish. For thirty years they have been thinking about *sleep*—producing beds that *invite* sleep.

Simmons Limited, of Montreal, makes metal beds—*good beds*—four square, steady, with not the slightest rattle or squeak. Beds you can sleep on—*soundly*—all night.

Their beds, springs and mattresses cost no more than the average.



SIMMONS LIMITED are the inventors of the practical *corner lock* of the Simmons bed. They are the inventors of the Waldorf Box Spring—the one spring that really *does* give freely to all the contours of the body, yet supports the spine in any sleeping position.

They are the inventors of the new *Three-piece Bed*—the spring combined with the side rails into one unit.

They are producers of beds and bed springs complete—not mere assemblers of commercial "parts."

They own and operate immense plants in Montreal, Toronto, St. John, Winnipeg, Calgary, and Vancouver.

They have given more thought than any other manufacturer to the *Twin Bed* idea, the principle of a sep-

arate bed for each sleeper—urged by physicians for years and welcomed by people of nice feeling everywhere.

The Twin Bed makes for deep repose and sound sleep. One sleeper does not disturb the other. Colds and other infections are not communicated. One sleeper does not draw on the vitality of the other. Twin Beds make for better health.



SIMMONS Metal Beds and Waldorf Box Springs are known and sold from Coast to Coast and have been for more than thirty years. Not by every dealer, certainly—but wherever there is a merchant who has given thought to *sleep* in choosing his beds and springs, you will find Simmons Beds.

The Simmons principle is that a bed is made to sleep in. This is worth remembering the next time you buy a bed, a spring, a mattress, or pillow.

And when you are selecting your Simmons Beds with an eye to their appearance in the room, you will see that Simmons has for the first time established *beautiful and authoritative design* in Metal Beds.

Sleep is a big subject! Write us for the brochure, "What Leading Medical Journals and Health Magazines say about Separate Beds and Sound Sleep." Free of charge.

SIMMONS LIMITED

ST. JOHN

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## SIMMONS BEDS—Built for Sleep

**"Save the surface and you save all" - Paint & Varnish**

## To All Who Own a Home

**I**s your home ageing? Is its surface protective coating wearing away and giving rot and rust a chance to get in their destructive work?

When you think that a painted or varnished surface will successfully stand exposure to rain, hail, snow, sun—and the wear of contact, surely the absolute necessity for keeping your surfaces protected is apparent.

Every property owner knows what his property costs him—he knows it stands for money just the same as the figures in his bank book. Would he stand for false figures that cut his balance in the bank? Should he stand for false figuring on the upkeep of his property which saves a few paint dollars and loses many dollars in repairs or replacement? If you spent a day watching the surfaces in your home and counting the times some of them come in contact with wear—the continuous contact of others with weather—you would write a more convincing message perhaps than we can write to you. Saving the surface of your property is the most common-sense idea in the world. Save the surface and you save all.

**THIS ANNOUNCEMENT** is issued by the 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 entire 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



### The Cottage Difficulties on the Farm.

EDITOR "THE FARMER'S ADVOCATE":  
When a farmer sets out to build a cottage for his hired help, he should take into consideration the following points: 1. He will have two houses to keep in repair; 2, he must supply garden space, well appointed, and protected from animals and poultry; 3, he will need to please two people instead of one, as is the case with the single man.

As regards the first, the amount of repairs needed would, including painting and paper, depend largely upon the kind of family engaged. Should the family be clean and orderly things would run smoothly, as far as house is concerned. On the other hand, should the family fail to take into consideration the cost of keeping a house in habitable condition, and the necessity of keeping it so, there would be just cause for annoyance on the part of the owner. I lived in town four or five years and have had the experience of moving into houses vacated by the latter type of people, and in three cases out of four I have had to live in a dirty house or fix it up with as little expense as possible myself. It is discouraging to the owner to have his house spoiled through carelessness, and it is discouraging to a person who wants to be clean and tries to keep things in proper condition.

In the second place, to the man with a family a good garden is a very valuable and important asset. I had one garden which was doing very well, and I was feeling a little proud of it. However, "pride goeth before a fall." I discovered that there were things that were neither proud nor particular, for hens and chickens cleaned up beets, garden peas, tomatoes, ripe or green, and made the potato patch look like a hen-run. That kind of treatment will be sure to cause unpleasantness, but a farmer will find he will be appreciated if he sympathizes with and does what he can to help a man who delights in a good garden as a means of reducing expenditure and providing wholesome food for his family.

In the third place, when a farmer hires a married man, it is certain the farmer will have two wives to please, instead of one. The wife will have to go shopping, and the farmer will have to find accommodation. Some women would be satisfied with any old thing, so long as it is safe, and others would wonder why the farmer couldn't take them in his motor. Some women would not allow the children to annoy the farmer's wife by too frequent visits to her house, and others would not mind, and would very likely be a little too frequent themselves. Some women would not mind the farmer buying their supplies, while others would say they had a right to spend their own money and that they might, perhaps, be able to spend it to better advantage. As a rule, the married man has no cash other than a small insurance, and I am of the opinion that a farmer should understand that as a rule, those who have to live from hand to mouth are more likely to buy economically than those who have enough and to spare. The reason why married men do not stay on the farm is because the farmer cannot or will not sympathize with conditions that require regular money in order to secure supplies, and where there is a farmer who is not willing to allow a monthly remittance for house-keeping purposes he has no right to hire a married man at all. Free milk, free house, free garden, are good things, but a good wage must be distributed at any rate by the month to be of real benefit to the wage-earner and his family.

I have not written the above with any intention of discouraging cottage building, but to point out a few things that may help the farmer and laborer, and to show the farmer that there may and will be many things that may be as hard to overcome by having help in the cottage as in the home.

W. J. ANTHONY,  
Northumberland Co., Ont.

## LISTER PREMIER CREAM SEPARATOR

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

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

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

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

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

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



Age Difficulties on the Farm.

FARMER'S ADVOCATE": Farmer sets out to build a hired help, he should take the following points: 1. Have two houses to keep in...

Should the family be... Should the family be... Should the family be... Should the family be... Should the family be...

place, to the man with garden is a very valuable asset. I had one garden...

face, when a farmer hires it is certain the farmer wives to please, instead...



Cord or Fabric

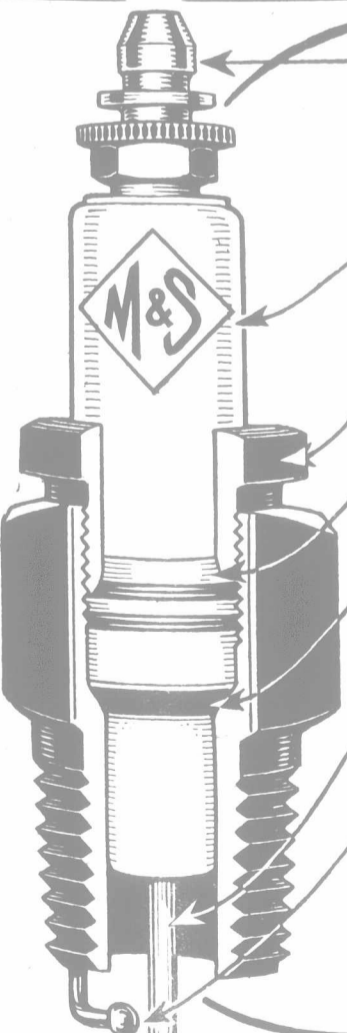
Always Near

A mile and a half, or a day and a half, or a world and a half away.

Your journey back, will be safe and sure if your car is equipped the Partridge way.

116A

PARTRIDGE TIRES Game as Their Name



Three-in-one terminal adapted to any style ignition wiring, slip-on, screw connection or Buick style.

High grade, non-absorbent porcelain, petticoat style. High heat test. Interchangeable.

Bushing which holds porcelain within outer shell.

Copper asbestos gasket between bushing and porcelain.

Copper asbestos gasket between porcelain and outer shell.

One-piece centre electrode (not welded) 97% nickel steel.

Ball point concentrates the current and intensifies the heat, giving larger and hotter spark.

The Plug with the Hotter Spark

MACHINE & STAMPING CO., Ltd., 1209 King St. West, Toronto, Ont. Commercial Dept. Russell Motor Car Co., Ltd. 105

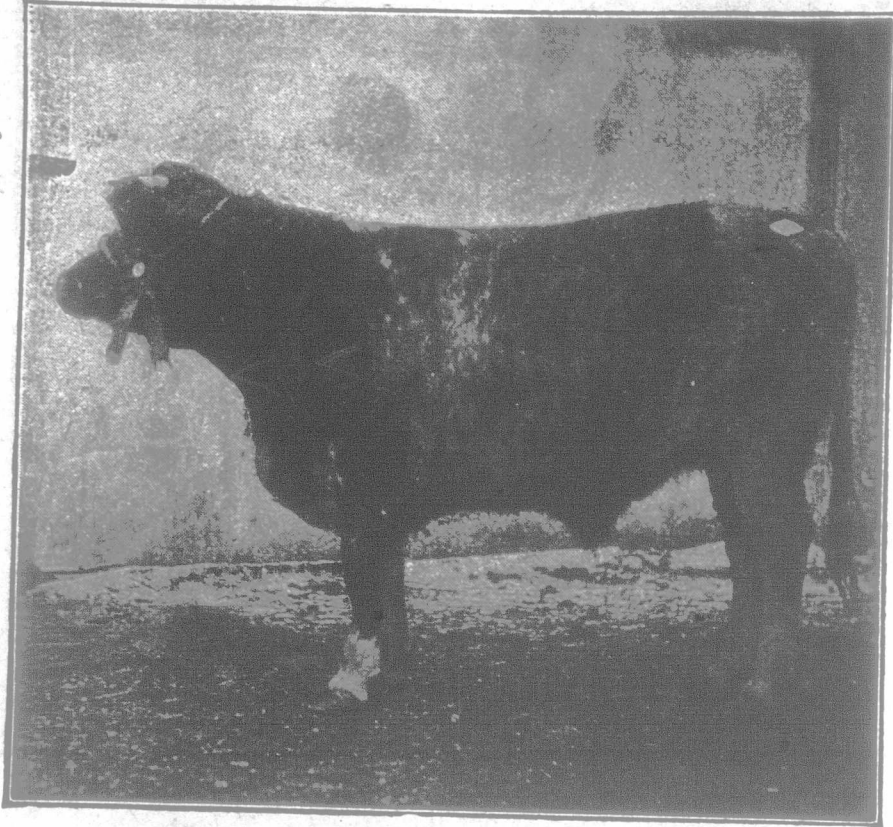
Lowe's advertisement featuring an illustration of a car and text: 'If your neighbor with a car or two can make his "old bus" look like new—so can you'.

Canada's Opportunity On the Highway of Success—What has that to do with GATES? Everything! PEERLESS LONG SPAN GATES. THE BANWELL-HOXIE WIRE FENCE CO., Limited.

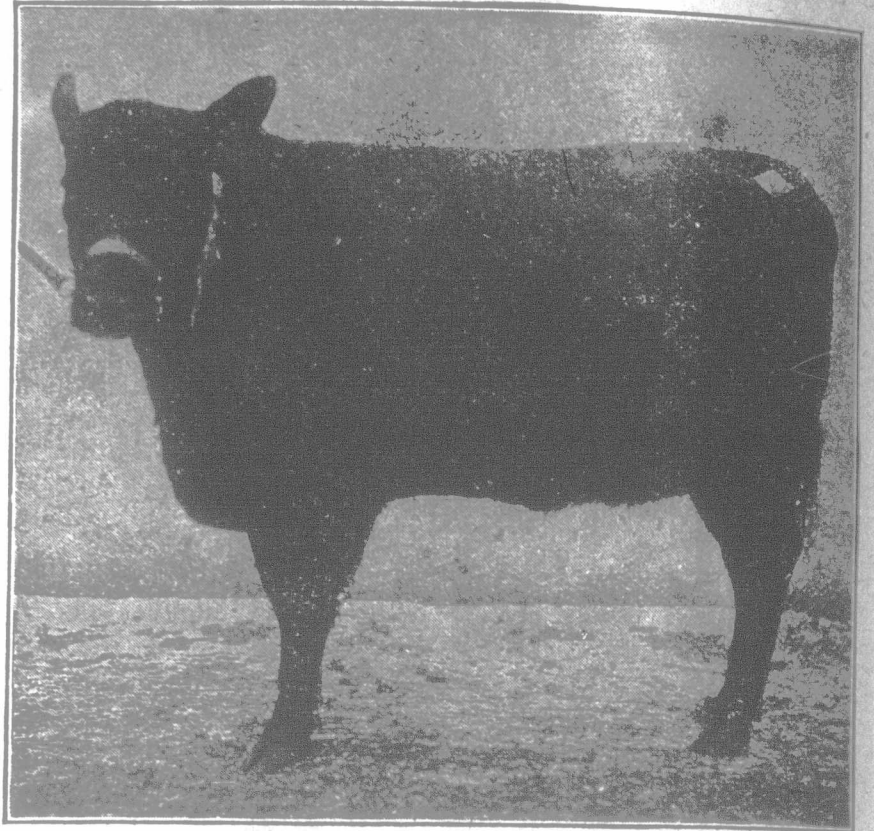
NORTHERN ONTARIO. A vast new land of promise and freedom now open for settlement to returned soldiers and sailors FREE; to others, 18 years and over, 69 cents per acre.

# ROYAL PURPLE CALF MEAL

EVERY farmer should endeavor to fit two to three calves for Christmas Baby Beef. You can make as much money off three calves if the proper attention is paid to them, as you can off ten acres of first class wheat. A great many progressive farmers are doing it now so why not you. You can produce these calves with our Royal Purple Calf Meal without using one drop of milk if necessary as our calf meal contains the proper amount of fat and protein to develop the calves. Our experience is that it requires 10% fat in a calf meal and not over 20% protein to produce this result. Less than 10% fat is not sufficient to develop your calves without using milk and over 20% protein is more than a calf can digest properly. Fat costs two to three times as much as protein in any form. This is why the cheaper grades of calf meal do not contain the high percentage of fat as you will find in our product.



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



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

Last year we gave a cash prize to the Toronto Fat Stock Show for the best calves raised on our Royal Purple Calf Meal. There were twenty-three entries. These two cuts show two of the prize winners. One of them sold for 33c. per pound which is the price of turkey and they showed a profit of over \$200.00 each to their owners. TEN of these calves weighed one thousand pounds or over each and not one of them over a year old. This Royal Purple Calf Meal is put up in 25-lb., 50-lb., and 100-lb. bags and is sold everywhere throughout Canada by prominent merchants. Write us for descriptive advertising matter and we will tell you where you can get your supplies. Any person can mix up grain products and call it calf meal, but our business is making a high class product scientifically prepared as a substitute for milk, made up to a standard, not down to a price.

MADE BY  
**THE W. A. JENKINS MFG. CO., LIMITED, LONDON, ONT.**



## Hard Work in the Fields

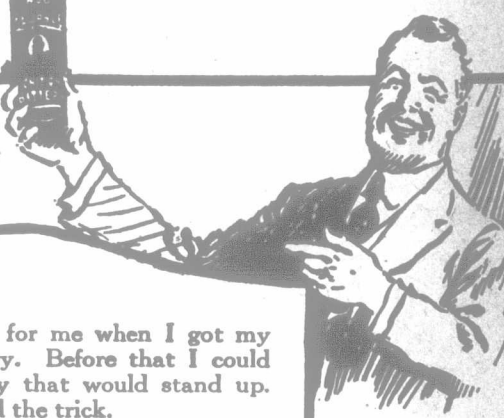
FROM seeding until harvest time, the man on the farm wants overalls built for constant wear and freedom of movement. He finds that nameless work clothes will not last a season. And he knows that

### KITCHEN'S "Railroad Signal" OVERALLS

will stand the rubbing frictions, the pulls and tears of hard service in all kinds of weather. The material is strong as whipcord, the buttons will not wear or tear off and the seams are stitched to resist strain like wire. **MADE ONLY BY** 61

**The Kitchen Overall and Shirt Co. Limited**  
Exclusive makers in Canada of Open Front Work Shirts  
Brantford - Ontario 61

*"I always use a RELIABLE"*



It was a lucky day for me when I got my first Reliable Battery. Before that I could never get a battery that would stand up. But the Reliable did the trick.

Each three time tested Reliable No. 6 Battery is fitted with the **Big Brass Cap** that puts every spark to timely work—give longer lasting service on your engine or for any ignition use. Equipped with the "Fahrenheit Clip" if you request it. No additional charge.


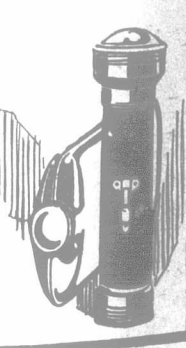
If you put a large Reliable Flashlight Battery in your case, whether it is a Flashlight or Daylo, you will get from 12 to 16 hours of service.

Also ask your dealer for a Reliable ignition unit—doesn't need to be charged like a storage battery—always ready.

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# The Farmer's Advocate and Home Magazine

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REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

LV.

LONDON, ONTARIO, MAY 20, 1920.

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## EDITORIAL.

Corn is still King.

Those "participation certificates" were worth saving after all.

Store the wool clip in a dry place and don't commit that oft-repeated crime of tying it with binder twine.

Many farmers are un-fencing rather than fencing their fields this spring, as a consequence of the lack of help.

The prospects now are for a bountiful fruit harvest and producers should do their part to make the product a clean one.

Start to swat the fly early. Those flies on the wing now will be great-great-grand-parents in a remarkably short time.

The sheep and lambs are entitled to their annual bath in some tick-destroying mixture. Don't neglect to dip this spring.

Cleanliness and sanitation about the stables are more powerful agents in the prevention of disease than tons of drugs and lotions.

General Sir Arthur Currie, who achieved military fame, will, as President of McGill University, train Canadian boys for the battles of life.

It is not a good omen when Canadians sell their Victory Bonds and purchase stock in theatres and amusement houses. We are worshipping false gods.

Would it not be well to stifle our little grievances, if such we have, and join with the children on Empire Day in giving three cheers for the world's greatest Empire.

Ornithologists or bird students, in other words, should get busy and study this "Round Robin" we hear so much about. Perhaps it is a bad bird and should be extinguished.

A cow's breeding and producing efficiency depends, to a large extent, on her ancestry and the treatment given her as a calf. Care well for the calves if you would have profitable cows.

Good conscientious road work on the part of everyone will accomplish a great deal and perhaps bring the farmer more direct benefit than the millions spent on county and provincial highways.

The unfortunate circular letter sent out by the Secretary of the U. F. O. was, we presume, the result of over-zealousness and should be viewed as such. In this twentieth year of the twentieth century we should be big enough to forgive and forget.

A reasonable butter-fat content and cleanliness are the standards by which milk is judged. Milk producers' organizations throughout Canada are endeavoring to have their product measure up to the standard in these regards, and then they are asking recognition on the part of the consumer.

### A Curb Bit on the Legislature.

On two recent occasions the Secretary of the U. F. O. has circularized the secretaries of local clubs, asking them to use their influence with members of the Legislature in regard to matters before the House. Mr. Morrison, we believe, is actuated in this by the noble resolve to have the U. F. O. members live up to their pledges of retrenchment and conduct themselves in accordance with the principles which gained their election. Nevertheless, it is possible that the Secretary's zeal may exceed his good judgment, and his actions embarrass the Government whom he helped to elect.

It is obvious that the U. F. O. group in the Legislature have hewn very close to the line in order to preclude any just criticism of class favoritism, and the Premier, Hon. Mr. Drury, is to be congratulated on having come fresh from the ranks of agriculture and gained the confidence of all classes—a confidence equal, in sum total, to that accorded any premier of Ontario who has preceded him.

Under these circumstances, any undue influence emanating from rural clubs has a rather disquieting effect, and only encourages critics to ask (quite within their right) in whom power of Government is actually vested in this Province of Ontario. Whether Mr. Morrison's views in regard to the "Round Robin" and the "Superannuation" were right or wrong is not the subject for discussion here. In our opinion his opposition to increased indemnities at this session was based on good judgment, but we think he has erred in his opposition to the Superannuation Bill. However, the matter of any individual's opinions regarding these questions is not relevant. "The Farmer's Advocate" desires only to point out the lack of wisdom and the injustice of sending representatives to the Legislature and then withholding from them, in the name of democracy, the right to their own honest opinions. We can democratize as far as we like, but we must still have some form of responsible government which we can trust without a curb bit in the mouth.

### Silage Crops.

The time was when corn held an exclusive franchise in the field of silage crops. Where it can be grown satisfactorily there is nothing that can excel it, and farmers everywhere in corn-growing districts should produce as much of this king of all crops as they can conveniently handle. Not only is it par excellence for winter feeding, but a great many producers are now ensiling more than enough for winter requirements so they may have a supply when the drought-stricken pastures are not yielding sufficient to sustain the cattle during the dry summer months. Few farmers ever err by growing too much corn. Corn is a South and Middle-Canada crop, but from the East has come another crop which is well adapted for cooler climates. A mixture of peas, oats and vetches has made a good silage crop in the Maritime Provinces, and it has done well in the northerly latitudes of Ontario. The West has also made its contribution to silage crops, for from that direction has come the word that sunflowers yield heavily and can be ensiled satisfactorily. In feeding value, it is claimed, sunflower silage practically equals corn. The point now under experimentation chiefly is just when the sunflowers should be harvested in order to obtain ample maturity without a superabundance of woody fibre.

Experimental and research work in connection with silage crops is of inestimable value to Canadian agriculture, and it cannot be too vigorously carried forward. Our winters make it necessary to store large quantities of succulent feed, and he is a wise farmer, indeed, who goes further and provides against parched and drought-stricken pastures in the summer-time.

### The High Cost of Legislating.

The famous "Round Robin" in the Provincial Legislature and the persistent demand of Ottawa members for larger sessional indemnities are simply in line with the increased cost of everything. Why should we expect to get our legislation at pre-war prices when everything we buy and sell has increased enormously. Someone may counter that if the law of supply and demand be allowed to operate some of this legislation would not be worth very much. However, even at their face value the Statutes handed out to us compare favorably with commodities on the market, which resemble only in appearance the product we desire. The crux of the whole matter is that a laborer is worthy of his hire, and the better man he is the more he is worth. Sessional indemnities should always be kept sufficiently high so any man whom the people choose to represent them in the Commons or the Legislature can afford to accept the duties thus imposed upon him and live like a decent, respectable citizen while thus engaged.

"The Farmer's Advocate" subscribes to the principles upon which our elected representatives are basing their claims for larger sessional indemnities, but just at this time when retrenchment is absolutely essential it seems to us that our Commoners and members of the Legislatures should not add their voices to the popular cry for higher wages and increased public expenditures. The members of the Ontario Legislature are pledged to retrenchment, and while many of them might have been ignorant of the cost of living in the city of Toronto, and did not fully appreciate what the expenses incident to being a member might amount to, they should have at least known what the sessional indemnity was. Under these circumstances it would be just as well to absorb the loss the first session and not take the country by surprise in asking for a larger stipend without preparing their constituents for the request. Above all, our elected representatives in the Commons and in the Legislatures are in the best position to appreciate the vital need of economy at this time, and the sacrifice on their part would be a splendid example to a people gone mad in an orgy of wanton extravagance.

### The Increase in Tuberculosis During One Decade.

There is sufficient evidence against tuberculosis in Canada to amply justify the campaign now being undertaken against this scourge. Not only is there a very substantial loss sustained by breeders and by the country generally, but danger to the health of humans generally is increasing at an alarming rate. Quoting from the report of the Veterinary Director-General, we find that in one year 4,630 cattle carcasses and 36,478 portions were condemned in inspected slaughter houses owing to the prevalence of tuberculosis. During the same year, 4,355 swine carcasses and 772,236 portions were condemned owing to the prevalence of tuberculosis. During that year 58.42 per cent. of the total condemnations in cattle carcasses were due to tuberculosis, while in swine 75.25 per cent. of the total condemnations were due to tuberculosis. Cattle affected with tuberculosis in Ontario and passing through inspected slaughter houses rose from 2.68 per cent. in 1910 to 3.5 per cent. in 1919. In Quebec, affected cattle rose from 3.36 per cent. in 1910 to 4.85 per cent. in 1919. For all Canada the percentage has risen from 2.96 in 1910 to 3.72 in 1919. These inspections in the slaughter houses indicate a steadily increasing spread of tuberculosis in Canada's cattle. In regard to swine, the figures are still more alarming. In 1910, Ontario swine passing through inspected slaughter houses showed 10.4 per cent. to be affected with tuberculosis, while in 1919 this percentage had risen to 21.4. The swine throughout Canada showed 8.9 per cent. of those passing through inspected slaughter houses to be affected in 1910, while in 1919

Purple Calf Meal Special,  
11-12, 1919, and awarded  
1st and 2nd prizes and exhibited by Mr.  
P.P., for South Huron.

the best calves raised on our  
two cuts show two of the ribs  
and they showed a profit of  
thousand pounds or over each

bags and is sold everywhere  
advertising matter and we will  
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BY  
CANADIAN MEN IN  
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Farmer's Advocate.

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

Published weekly by  
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers of any publication in Canada.
2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries, 12s. in advance.
3. ADVERTISING RATES.—25 cents per line, agate, flat. Live-stock advertising rates given on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until the explicit order is received for its discontinuance. All payment of arrearages must be made as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrearages are paid, and their paper ordered to be discontinued.
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12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known. Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
13. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
14. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

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THE WILLIAM WELD COMPANY (Limited),  
London, Canada

the percentage had risen to 19.4. During the last ten years the number of swine affected with tuberculosis has increased practically 100 per cent. Owing to the fact that swine are usually slaughtered before the disease gains much headway in them, the loss is not in proportion to the total number of condemnations. The disease usually finds lodgment in the head, tongue and throat, but the number of swine affected is a good index to the prevalence of bovine tuberculosis in the country, for it is from cattle usually that the infestation comes.

In the United States, during seven months previous to February 1, 1920, 363,244 cattle were tested in connection with accredited herds, and slightly over 4 per cent. reacted.

This question of tuberculosis in Canada's live stock should not be viewed altogether from the standpoint of monetary loss. There is a steadily increasing menace to health and human lives, and every citizen, whether he be a producer or consumer, is only safeguarding his own interests when he throws himself wholeheartedly into this cause which has for its object the reduction of disease in Canada's live stock.

### An Unique Experiment.

BY ALLAN McDIARMID.

The newspapers are not as interesting these days as they were about four or five years ago. We're not anxious to see another world-war just yet, but something like that has the effect of making one anticipate the coming of the mailman each day in a way that we cannot feel in the calm that follows the storm. Oh no, it's not very calm yet, we know that, but the clouds are beginning to break a little, and in the course of a few years, probably, the sun will be shining again. But the fact remains that it requires an effort just now to get really interested in the papers, unless it be that part of them that contains the market reports. These still hold their charm—for the producer.

However, there is an oasis in every desert, they say, and when we reach it we appreciate it all the more because of the dry sands over which we have travelled in our search. A case in point is the story of Fannie Hurst, a well-known authoress of New York, who has just lately announced her marriage on the fifth anniversary of her wedding. Five years ago she married a Mr. Danielson with the understanding that it was an experiment, pure and simple, and that, if it didn't

turn out better than the average thing of the kind, it would be called off, and they would be no worse friends.

But the unexpected happened, as usual, and Fannie Hurst has come to the conclusion that it's safe now to take the public into her confidence and tell them that she's on the sea of matrimony for a life-long voyage, and in a ship of her own designing, at that. She seems to have been taking note of some of the wrecks she has been passing in the course of her travels, and it probably aroused in her the resolve to steer clear of the rocks on which her sisters had come to grief. Anyway, she states her case partly as follows:—

"Being firmly of the opinion that nine out of ten of the alliances I saw about me were merely endurance tests, I made certain resolutions concerning what my marriage should not be.

"I decided, first, that married life should not interfere with my studies, or my work as a writer. My husband and I decided to live separately, for the time being, and to see one another only as we felt inclined, not as a matter of duty.

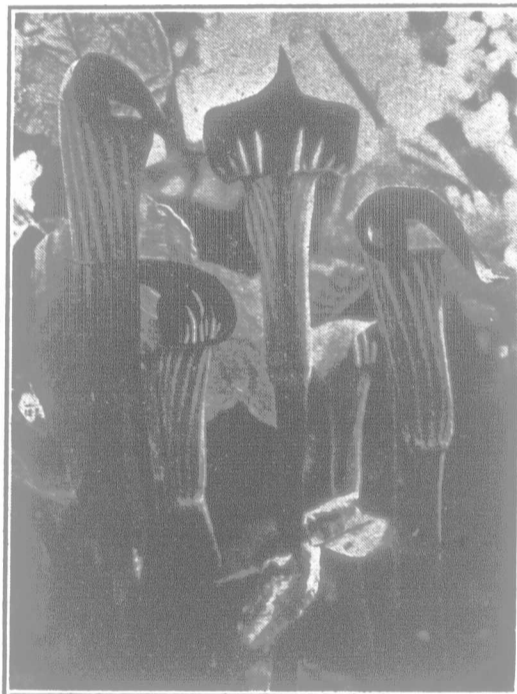
"We decided that seven breakfasts a week opposite to one another might prove tiresome. Our average is two.

"We decided that always being invited to the same social gatherings would end in the usual married wrangle of dragging one another to places we did not want to go. We have kept our separate group of friends.

"We decided that the custom of a woman casting aside the name that had become as much a part of her personality as the color of her eyes, had neither rhyme nor reason. I was born Fannie Hurst and I expect to die Fannie Hurst.

"We decided that accounting for our time to one another would prove troublesome, so for five years we have enjoyed our personal liberty just as we did before marriage.

"We decided, that since Nature so often springs a trap as her means of getting two people tangled up in matrimony, we would try out marriage for a year and if, at the end of that time it had proved itself a liability instead of an asset, we would quietly separate and no one be the wiser or the worse. But the proof of the pudding is in the eating. The one year stretched into five and here we are, announcing instead of annulling."



Jack-in-the-Pulpit.

Our authoress thinks that this experiment could hardly have been tried any place but in New York, and we are inclined to agree with her. It is the city of original ideas and actions. Also, it is a city where people cannot very well pay much attention to the affairs of their neighbors. There are too many of them to keep track of. It's a good place to realize ideals—or to have them smashed.

Now it isn't to be expected that many of our young men and women will follow the example of Fannie Hurst and her husband. They'd probably get into more trouble than they were trying to escape, if they did. But many of the conditions that are often found in connection with domestic life might be changed for the better if some of the ideas expressed above were put into practice.

One thing is evident from what our authoress says, and that is that she and her husband retained their respect for one another by the method she has outlined. And mutual respect is the only sure foundation on which to build. Without it those who have undertaken to live together for the rest of their natural lives have said good-bye to happiness, to put it mildly.

Conditions on the farm are not always the most favorable for keeping this respect for one another that is so necessary. We probably see too much of one another, if Fannie Hurst is right. Familiarity breeds contempt, I suppose, and appearances count. It's pretty hard for the farmer, or his wife, to be always looking their best, or to be wearing the latest style clothes. It's hard to even be always neat. But it's in that direction that the answer to the problem lies. When a woman wears a dress that looks like "a bran-sack that has been run through a threshing machine," as I heard it put once, she loses any claim she might have

had to the respect of her husband. And, of course, it works the other way as well. When a farmer goes around with his trousers hitched up by one suspender and his boots laced with binder twine, his wife has a right to wonder what has become of the man who induced her to leave the perfectly good home she had with her father.

There are other ways of keeping the respect of our friends; and ways perhaps more important than those we have mentioned. Such as honorable dealing and the practice of the various virtues mentioned in the decalogue. But we haven't time to go into this phase of the question just at present, and it will probably be enough, for the time being, if we look into the merits of the conditions we have spoken of. And if in doubt go to Fannie Hurst.

### Nature's Diary.

BY A. BROOKER KLUGH, M. A.

#### The Jack-in-the-Pulpit.

A plant of much interest found in our spring woods is the Jack-in-the-Pulpit or Indian Turnip. This plant is a member of the Arum Family to which the well-known Calla-lily and the Skunk Cabbage also belong.

"The Pulpit", that is the sheath which surrounds the central portion, is termed the spathe, and is really a leaf modified for the protection of the flowers. The central portion, ("Jack"), is called the spadix and on this the flowers are borne. Sometimes the spadix bears flowers of both sexes, sometimes of one sex only, the percentages of the different kinds usually being: staminate plants 54 per cent., pistillate plants 36 per cent and plants in which the spadix bears both stamens and pistils 10 per cent. A plant does not always bear the same kind of flowers from year to year, neither does it annually alternate from pistillate to staminate, as has often been stated. The amount of food stored in the corm (the underground bulb-like part of the stem) does not determine the sex of the flowers, as has been quite generally supposed, but Pickett, who has studied this species extremely carefully, finds that a shortage of water at the time of bud-formation, and the resultant checking of growth, causes the formation of staminate spikes.

Pollination in this species is brought about by small insects, mainly flies and beetles, which appear to seek the spathe as suitable places in which to hide. From the spathe containing staminate flowers these insects can easily emerge, as there is plenty of room between the wall of the spathe and the spadix, but egress from the pistillate plants is not so easy on account of the narrowness of the space towards the bottom and many insects remain in these spathe until they die.

The buds of the spadix, spathe and leaves for next year's growth are formed on the tip of the corm, just beneath the base of the present leaf-stalks, in June, and when the plant first appears above ground in the spring it looks like a sharp mottled peg. This peg consists of an outer sheath, within which the leaves are rolled lengthwise to a point, and within these rolled leaves is the spathe, also rolled lengthwise, and containing the developing spadix. At the time of flowering the leaves are not fully expanded but are flaccid and wrinkled.

Staminate plants develop more early than pistillate ones, and when both kinds of flowers are borne on a spadix the staminate ones mature first. During early summer the spathe withers and falls away, revealing the green, rounded, shining berries, and the leaves are fully expanded. In suitable locations, that is, where there is plenty of moisture, the leaves of mature plants often reach very large dimensions, and along the borders of woodland streams I have found plants with leaves over three feet in height. By August both the spathe and leaves have withered, and only the spadix, with its bright scarlet berries is left. These berries are not any more crowded on the spike than are the ovaries at the time of flowering, because as the fruit grows the spike elongates and enlarges by the increase of its air-spaces. The fruits are carried by birds, mice and chipmunks, and are dispersed in this manner.

Seedlings of the Jack-in-the-Pulpit produce a single, simple ovate or cordate leaf the first year. In their second year they produce a single trifoliate leaf, and in subsequent years they may have one or two, and sometimes three, trifoliate leaves.

This species, like all our spring-flowering plants, is a perennial, and the underground portion is a large flattened corm with a circle of roots round its upper border. This corm gives off little corms, so that the species spreads in this vegetative manner as well as by seeds, and this fact accounts for the usual occurrence of this plant in clumps. These little corms, which measure about half an inch in diameter, produce a leaf the next year, and bear leaves only for the following three years; in the fourth, fifth or sixth year they produce a staminate spadix and spathe.

The corm of the Jack-in-the-Pulpit is extremely acrid to the taste, and this biting property is not due to some peppery substance, but to the presence of minute, sharp-pointed crystals of Calcium oxalate, which penetrate the tongue and the mucous membrane of the mouth. These sharp spicules, which are known as raphides, are produced in special cells, and though they are found in nearly all parts of the plant, such as the leaf and the leaf-stalk, they are particularly abundant in the corm. When the corm is boiled these sharp raphides are dissolved so that it then becomes edible and it is because of its use in this condition by the aboriginal tribes of North America that the plant received the name of Indian Turnip.

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## THE HORSE.

Regularity in feeding and uniformity of feeds, both as to quantity and quality, are essential.

Joint-ill exacts a heavy toll each spring, but much of the loss can be prevented by taking the necessary precautions.

Grass in the spring has some medicinal value, but at this time of year it is a poor substitute for grain and good hay.

A bran mash on Saturday night in place of the full grain ration is a good thing for the horse that is being heavily grained.

A good many horses lose some flesh and shrink slightly in the shoulders during the busy spring weeks. In such a case the collar and draft should be adjusted in order to prevent sore shoulders.

The cost of horse labor would be reduced by raising colts from the brood mares and selling them before they wear out on the farm. Too many farmers hang on to their horses until they become too old for service other than on the land. Let others stand the loss of depreciation.

Owing to the coolness of the weather during seeding, trouble from sore shoulders was not so pronounced as it might have been had warm weather prevailed. Horses' shoulders have had an opportunity to become hardened, but as hot weather arrives the danger will increase. Lift the collar occasionally while the horse is in harness, and when the team goes to the stable bathe the shoulders with cold water.

If breeding mares of draft type this spring look about for a stallion of ample size and good quality. Small stallions weighing less than 1,800 pounds when mature and in good breeding condition will not leave the most profitable kind of colts for you. The light drafter finds demand mostly in agricultural work, while the heavy fellow will serve well on the farm, and will also find a ready buyer on the big horse markets of the country.

It is difficult to keep a team in proper condition without a good deal of grooming, and this few farmers, nowadays, find time to provide. Horses should be gone over roughly, at least, every night after they have dried off and then to keep them fit they should be gone over thoroughly in the morning. The thorough grooming of a three or four-horse team entails a great deal of extra time, which the average farmer feels inclined to spend in other lines of work. Nevertheless, one can only keep a horse in the pink of condition by supplementing ample feed and good care with regular and sufficient grooming.

### No Market for the Nondescript Horse.

As the season draws near, some farmers are beginning to think about breeding their mares, while others are considering the purchase of stallions.

My opinion of the horse market is that the breeder of good sound draft horses has a bright future ahead of him, and the man breeding nondescript horses is exceedingly dull. There was a time in the West here that any kind of horse sold at a profit, but that day is gone.

In proof of the above statement you can go to any centre where horses are sold in any quantity and see the demand for good draft horses, particularly well-mated teams, and the drug of scrub horses on sale that go begging.

There are several reasons why horses have not sold for higher prices than what are being paid. The first and main reason is the scarcity of good stallions in the country. The reason for this is the low service fee.

The man who buys a good stallion at a long price simply cannot make a paying proposition out of it at fees anywhere from \$10 to \$20 with the guarantee of a standing foal in some cases, and no foal no pay in all cases, brought under the writer's notice. We have proved the above claim by actual experience in handling stallions.

There is only one way of making the purchase of a high-class stallion a profitable undertaking, and that is that the man himself owns enough good mares to raise a good bunch of foals every year. The man that has ambition enough to bring a good horse into a district deserves the support of his neighbors and should be remunerated enough to warrant a reasonable interest on his investment. In this way, if the horse is prepotent to get matched teams of the much-prized type of drafter it will not be long before buyers get wise where they can secure matched teams and will pay handsome prices for them.

When a farmer can raise a pair of good geldings and sell them from \$350 to \$500 why won't it pay? Do they eat any more than inferior stuff? I think not. Another reason is that farmers as a whole do too much cross breeding. Now when the man with a Clyde or Percheron mare will breed to anything from Hackney or Standard Bred horse to Belgian stallions, what will the harvest be? Not much uniformity. I have seen fine cross-bred horses, but what about the next cross? If he is going to continue breeding horses he will never get anywhere, yet it is too often done. If you have good draft mares, whatever breed they may be, choose a stallion of the same breed and stay with the breed and with the same stallion if he is a good breeder.

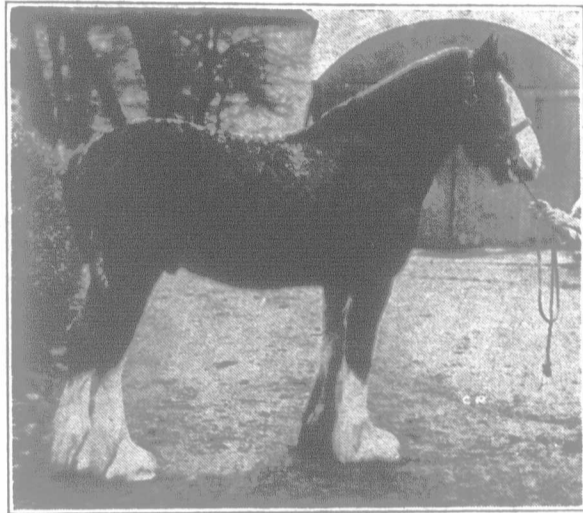
The demand for draft horses in Europe is beyond conception of the average farmer in Canada and there are two reasons why they have not purchased more horses in Canada. The first is that they simply haven't the money to buy them, and the second reason is that we haven't got the class of horse they want, and they will raise as many themselves as possible and we will lose a valuable export trade that would be a boon to any country.

We have enough faith in the future of the horse that we will breed our mares this coming season. The high prices of a few years back will surely come again.

And now for the last reason. Some people thought the tractor would displace horses on the farm and the motor truck in the city. I am not prepared to answer about the city, but on the farm they can only act as auxiliary power to the horse. I notice a great number of tractors in our country, but very few operating owing to crop failures, the owners using what horses they had. That goes to prove that the horse is the cheapest and most reliable power on the farm. In conclusion I would say breed your good mares to a good stallion of the same breed and little you should worry about the prices in a few years.

A'ta.

A. G.



**Craigie Excellence.**

First three-year-old Clydesdale stallion at Ayr and male champion at Kilmarnock.

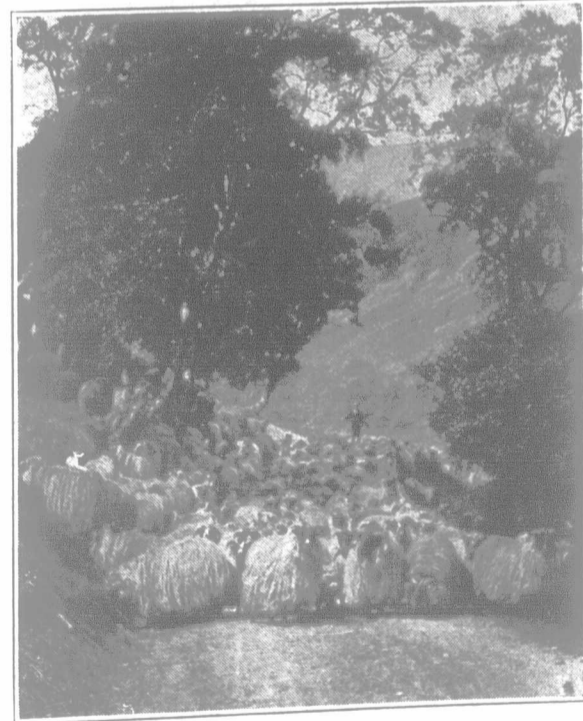
## LIVE STOCK.

Keep all the stock your land will carry, but do not over stock.

A better herd sire is the first step towards getting better calves.

The stock is more comfortable in the stable than lying on the ground on a cold, wet, May night.

There is no satisfaction in raising scrub stock. But, if a scrub bull is used what can be expected of the progeny.



**Black-faced Highland Sheep.**

The beef-ring helps solve the summer meat problem on the farm. Have you one organized in your community?

Tying the fleece with binder twine is an obsolete practice. The twine fibres mix with the wool and lower its quality.

Running the brood-sows and shoats on pasture is about the only way to breaking even on hog raising with present feed prices.

Judging by the price paid for breeding stock in the Old Land, British farmers are not pessimistic regarding the future of the hog industry.

It is not advisable to turn young calves to pasture. Keep them in a cool, box-stall during the summer and carry fresh clover to them rather than have them out in the hot sun.

Are you planning on fresh pasture for the hogs and calves next July and August? A paddock sown to rape or to oats and peas will give good feed when natural grass is drying up.

Do not delay sheep-shearing too long, as it results in loss of wool and discomfort to the sheep. It is not necessary to follow the tradition of washing sheep around May 24 and then shear a week later.

A fleece brings in as much revenue as a lamb used to, but the highest price is obtained only when the shepherd pays attention to the quality and cleanliness of the wool as well as to the way it is prepared for market.

At a sheep shearing demonstration at Ohio College of Agriculture, W. Beebe sheared a sheep by machine in three minutes, five seconds. This is doing the work with amazing rapidity and it is claimed that the work was well done.

Trees growing in or near a cultivated field may lessen the crop for a few rods in their vicinity but then shade is excellent for the stock during the hot summer days and it is quite possible that a few trees are an asset rather than a detriment in a cultivated field.

Have you noticed the feet of the cattle and sheep? Considerable trimming is usually necessary in the spring before the animals are turned on grass. Weak pasterns and some common diseases of the feet may be prevented by attention in regard to trimming.

The cattle and sheep on pasture require salt regularly. Rock salt is frequently used but it should be protected from rain. Some stockmen build a salt-box with a tight roof over it and place it in the field. Rock salt goes farther than loose salt as there is less waste.

It will not be long before flies will again be tormenting the stock. There are several commercial fly-repellents on the market which have proven effective, although some are practically useless. Use something to keep off the flies if you want your stock to thrive as they should.

Grass has been slow in getting started this spring and owing to feed shortage many have turned out earlier than the growth of grass would warrant. Unless a considerable acreage is devoted to pasture and the season is favorable there is liable to be some hungry stock before next August.

The consumer agitates for lower-priced meat, while the producer finds it difficult to make ends meet in his feeding operations at present prices of feed. If prices of finished stock are not commensurate with that of feed then the ultimate result will be a curtailment in production with the inevitable rise in price of meats when the supply does not equal the demand.

What does it cost at present feed prices to carry a brood sow from the time she farrows until she farrows again? What is the cost of raising and finishing a litter? Why not keep a feed account of the present litter and let "The Farmer's Advocate" readers know your experience through these columns. The kinds and amounts of feed used should be mentioned as well as the cost.

### How to Handle the Boar.

EDITOR "THE FARMER'S ADVOCATE":

Many a man has paid a good price for a boar that suited him in every respect, and then, by improper care, practically destroyed his worth as a breeder. A very serious mistake, though a common one, is to confine him in a close pen where he has very little exercise, while at the same time he is fed upon the richest and most fattening foods that the farm affords. Lack of activity and virility quickly follow this sort of treatment. Another very poor plan is to turn the boar with a bunch of hogs, gilts and stock hogs, where he is constantly fighting, fretting and teasing until he becomes shabby, unthrifty and the most ungainly hog on the farm.

A common sense, rational method must be pursued and these extremes avoided if the best possible results are to be secured. While too close confinement is to be shunned at all times, it is not as bad as to permit the boar to roam with other hogs over the farm. A comfortable pen should be provided for the animal with a fair-sized lot or pasture adjoining, and he should then be fed a variety of nutritious food, which is more than dry grain or thin slop. The majority of farmers are too apt to feed their breeding animals too much grain. The boar should always be in a good thrifty condition, but if he is overfat he will be clumsy and not a sure breeder.

It is a disputed question as to the age at which a boar should begin service. It is a fact, however, that many an animal is ruined by too early use. It is unwise to permit a boar to be with a sow until at least eight months old, and then only in exceptional cases. We cannot expect vigorous progeny from immature sires.

If the boar has been properly kept, moderate service will not injure him at a year old and he will be at his best as a sire from 18 months to five years old, when he is matured and fully developed and possesses every advantage over an immature pig. Invariably the largest and strongest litters are obtained from old sows bred to aged boars. An aged boar is generally considered a very unpleasant animal to have on the place, especially if he becomes vicious and is inclined to use his tusks, he is worse than a bull or a stallion. None of these animals are intended for pets. A fence that will keep the other hogs on the farm in their proper place will not do for the boar, for if the opportunity ever offers he soon becomes unruly and hard to manage.

The right and proper plan is to keep him in an enclosure right from the start that will afford him no practice in the art of breaking out. It is also a good plan, if conditions will permit, to have the quarters isolated from those of other pigs, especially sows and sow pigs; he will usually be more quiet and gentle, although much depends on the natural disposition of the animal.

We realize that it is of little use to recommend to all farmers who raise or purchase boar pigs that they keep them 18 months or two years before using them, as not very many men are willing to do so. Yet any one who will properly keep a boar for that length of time before putting him to service will find his value as a breeder greatly enhanced by good care.

In a great many localities the farmers keep only a few brood sows and it means quite an expense for each one to keep a boar; in this case it is much better for three or four farmers to club together and keep one boar, or one man may own him and the others can pay a reasonable service fee. Properly managed one boar will usually answer the purpose as well as three or four for that many farmers, and if so, the cost of keep is reduced to a minimum and the temptation to use a scrub or immature sire is removed, thereby ensuring an improved class of hogs in that locality.

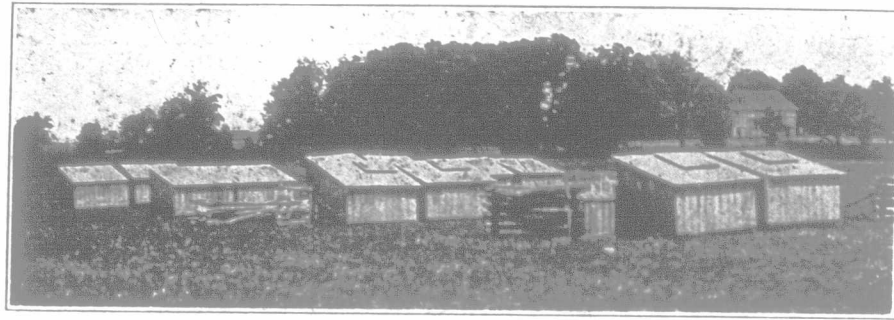
R. M.

### Turn the Hogs on Pasture.

The price of feeds as compared with the price of live hogs is rather discouraging to the hog feeder, and there is danger of many becoming disheartened if there is not a greater margin between the cost of production and the market price. A person can put up with a loss for a time, but is not likely to stay in a business that is losing money. The consumer who buys meat from the town and city butcher thinks that prices are plenty high enough, and has reason to do so, because there is a wide margin between what the producer receives for the carcass and the price at which the meat retails over the counter. As the supply of feed is apparently short there is little likelihood of the price being reduced until a new crop is harvested, and the price of live hogs seems to be beyond the control of the producer. The man who stays in the business must endeavor to feed as economically as possible. During the spring and summer, hog raising is considerably easier than in the fall and winter, and is more economical, provided pasture and green feed are made use of. Far too many hogs are confined to the pen during the summer without any form of green feed. It pays to have a paddock where the hogs can run and secure grass or other forms of green feed. A clover paddock will give pasture for the pigs very shortly, and oats and peas sown in the spring give good pasture on in June. Summer feed may be provided by sowing a small acreage to rape. It may not be convenient to have these runs near the piggery, and, as it is necessary to have some form of shelter for the pigs, many are loath to go to the extra expense. However, the wire used for enclosing the feed lot will last for many years if taken care of, and a small, portable shelter can be built for a comparatively small sum. The colony house, or A-shaped house, is in common use for this purpose. It is built on skids and can be drawn from place to place with the team. These houses might be used more

extensively than they are on the average farm. For a small number of pigs, or for a brood sow and her litter, the type of pen shown in the accompanying illustration is serviceable. They are only about five by six feet in dimensions, and three feet high at the back. They are built of inch-lumber, with the cracks battened. Practically the whole front may be lifted out during the summer. Many may consider that these pens are too small for a brood sow, but J. O. Duke, of Essex County, who uses them at farrowing time, recommends them highly and uses them as early as March, or, in fact, practically the year around. Being small, the body heat keeps them sufficiently warm even during the raw, bleak days of spring and fall. As they are dry, the young pigs will stand more cold than if they are in a damp pen. These pens may be set out in the field and a small run-way built so that the youngsters may take exercise, which is essential to health and thriftiness in young pigs.

If it is not considered advisable to have the pigs out on pasture, a saving in feed will be effected by cutting clover and throwing it in the pen. It is surprising how much of this feed a litter will consume in a day, with a



A Group of Small Farrowing Pens for Field Use.

considerable saving in grain. It must be remembered that pasture or green feed alone is not enough. Some grain must be fed. The aim should be to keep the pigs thrifty and growing. Once they get the frame then it may be advantageous to confine them to the pen for finishing as any animal getting a good deal of exercise does not fatten readily. The aim should be to get the frame as quickly and economically as possible before starting to finish.

The pasture is the ideal place for the brood sows. On good clover they will keep in good flesh without much grain. However, if they are not getting in condition during the gestation period, they should be fed sufficient grain to put them in a good thrifty condition at farrowing time. A thin sow cannot feed her litter as well as one that is in good condition. On the other hand, it is a mistake to have the sow too fat. While the young pigs are on the sow it is a good plan to have the pen arranged so that they can get out for exercise on the soil. This is where the farrowing pens illustrated, have the advantage over the farrowing pen in the piggery. If pasture is not available near the buildings, a portion of the hay field may be fenced off. This will make a little more work in feeding and watering the pigs, but it is generally found that it pays. Clover, alfalfa, sweet clover, rape, or oats and peas make satisfactory green feed for hogs and can be grown on most farms.

### Modern Methods on a Modern Farm.

Anyone wishing to arrange things to make the work about the farm more convenient should visit George R. Barrie, of Waterloo County, to see what a practical farmer of a mechanical and inventive turn has done to reduce manual labor and facilitate the doing of the work on a large farm. There are 350 acres in the farm, of which 50 acres are devoted to the growing of wheat, about 50 acres are put in spring crop, 8 acres in corn and

3 or 4 acres in roots. For many years the feeding of steers was a specialty with Mr. Barrie and his son, William, but owing to the difficulty of securing choice feeders, Messrs. Barrie have now a herd of Hereford pure-breds and grades and are raising the stock for feeding. In this way they have to pay out less money and the risk is a good deal less. By allowing the calves to run with the cows they are able to produce baby calves, which sell at around a year old and weigh close to the 1,000-lb. mark. Only a few milch cows are kept in the stable; practically all the stock runs loose. In order to give the calves that are with the cows an opportunity of picking at concentrates and hay, the youngsters are provided with a pen from which the milch cows are barred. In this pen they find a mixture of oil cake and oats, together with fresh, palatable hay. The calves are left on the cows until the cows dry naturally, and as they are accustomed to feeding there is no setback at weaning. After weaning, a heavier ration is fed. Corn and barley are added to the oil cake and oats. On this ration the calves do well. A few head which were in the stable at the time a representative of "The Farmer's Advocate" visited the farm were

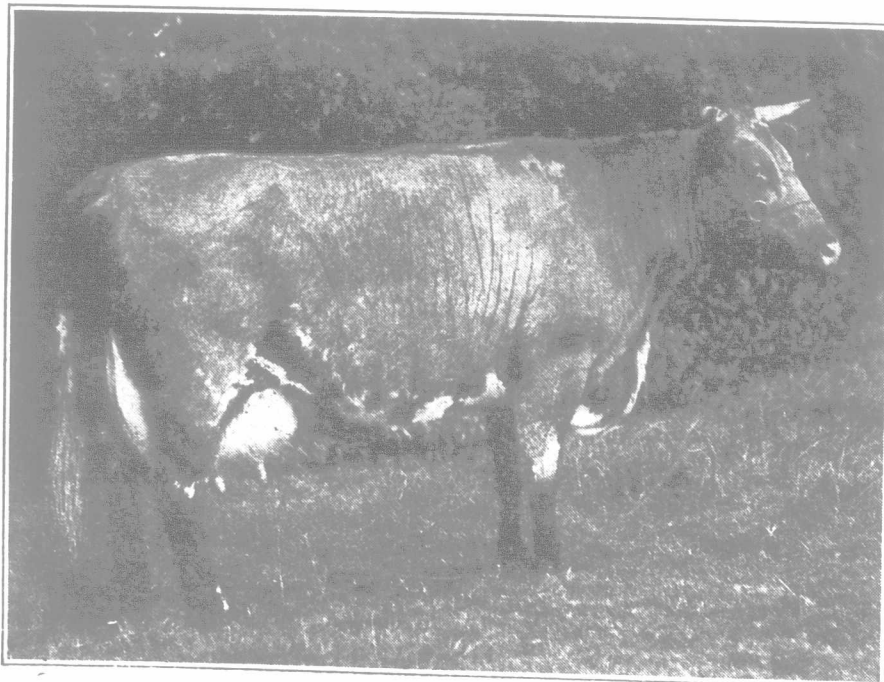
thrifty, growthy individuals of exceptional high quality. Under one part of the barn there is space for thirty head of cattle. A large manger is built down the centre of this pen for the feeding of hay, silage or grain. One can imagine the difficulty of carrying silage and roots the full length of this manger, when there were thirty head or more of cattle anxiously waiting to be fed. To overcome the labor and facilitate feeding, Mr. Barrie built an overhead track from the mixer

room in the main stable to the manger above referred to. A large feed box was constructed and suspended by means of chains to a car on this track. The feed box was raised and lowered by means of a crank, which was constructed by using a couple of cog wheels and a handle which was secured at comparatively small cost. This feed carrier is run into the manger and the silage or roots pulled out by means of a fork. Probably others who are feeding cattle in loose stalls would find that an overhead feed-carrier would lessen their work a good deal.

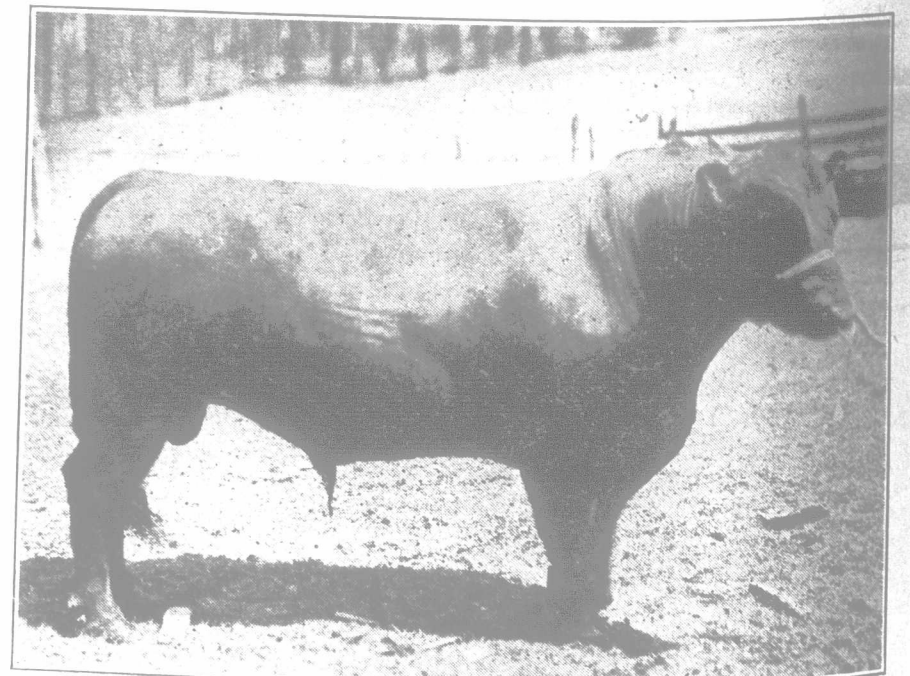
Anyone who has been feeding molasses knows that it is rather difficult to handle. It does not mix very readily with water, and if dipped out of a barrel, it is rather hard to apply to the feed. Mr. Barrie has the molasses barrel in the barn, with a tap over a hole in the barn floor. This tap is slightly open so that the molasses runs slowly into a barrel in the stable. This barrel is about half filled with water and it is found that the molasses running slowly into the water readily dissolves, and the solution may easily be sprinkled over the feed.

When the stock are on pasture, some find it rather difficult to keep the gate shut. We noticed, however, in going through a gateway that the sliding latch on the gate was held shut with a spring. There are many gates on which a spring could be attached to the latch, and so prevent the danger of the gate coming open.

The wagons used by Mr. Barrie about the farm attracted our attention. They are not the ordinary kind of wagon but have nine-inch wheels at the back and from four to six-inch wheels at the front. Wheels of this nature would cost a good deal if bought from the manufacturer, but Mr. Barrie has made use of a binder drive-wheels. Two-inch gas pipe is used for the rear axle, with iron wedged in where the strain comes. A four-by-four-inch piece rests on top of this axle, being fastened there by means of clips which go around the axle. The bolster is placed on top of this to raise the box on a level with the front. It is necessary



A Typical Dual-purpose Shorthorn in England.



Tro Pride of Alloway.

Winner at London and Guelph, for Col. Robt. McEwen, London, Ont.

MAY 20, 1922

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many years the feeding of Mr. Barrie and his son. The difficulty of securing choice is now a herd of Hereford are raising the stock for have to pay out less money ss. By allowing the calves are able to produce baby a year old and weigh close a few milch cows are kind the stock runs loose. In are with the cows an op concentrates and hay, the th a pen from which the his pen they find a mixture with fresh, palatable hay, until the cows dry natural- ed to feeding there is no weaning, a heavier ration added to the oil cake and lves do well. A few head the time a representative visited the farm were rificy, growthy individuals exceptional high quality.

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ture, some find it rather e. We noticed, however, t the sliding latch on the ring. There are many e be attached to the latch, the gate coming open. r. Barrie about the farm are not the ordi- nine-inch wheels at the ch wheels at the front. st a good deal if bought r. Barrie has made use o-inch gas pipe is used lged in where the strain ee rests on top of this means of clips which go is placed on top of this e front. It is necessary



London, Ont.

to keep the front fairly high so as to get as much sweep as possible in turning. These bolsters are forty-eight inches wide.

The advantage of the wide wheels is that the wagon may be used when the fields are soft without cutting them. It is handy for drawing manure and is used for hauling grain and hay. Mr. Barrie has several of these wagons which he made himself.

Besides being very handy with tools, Mr. Barrie is an exceptionally good farmer. The farm is comparatively free from weeds and a specialty has been made of growing seed grain. Last year a carload of registered seed wheat was sold to one firm. This entails considerable extra work as the seed must be kept free from other varieties and carefully selected. Before shipping, the seed is all inspected and then the bags sealed. If the grain were harvested in the ordinary way it would be more difficult to keep it pure, but Mr. Barrie is equipped for doing his own threshing and threshes right off the wagon, so that there is no danger of mixing the varieties in the mow. It may take a little longer to draw in the grain, but there is no threshing to do later in the fall. The barn is long enough to permit of eight loaded wagons standing on the floor at once. It is customary to load these in the evening and thresh the grain while the dew is on in the morning. Of course, very few are equipped to handle the grain in this way, but quite a few farmers have their own threshing outfit and are finding it advantageous to fork from the wagon to the threshing machine, rather than into the mow.

The gasoline engine for running the thresher, chopper cutting-box, etc., is set some thirty feet from the barn, and a two-inch shaft connects directly with the crank-shaft on the engine. This shaft runs underneath the barn floor and pulleys of the correct size to run the different machines at the right speed are attached to the shaft. Many might find it convenient to connect their gas engine up the same way, rather than run the risk of having it in the barn. The gasoline engine used by Mr. Barrie is an eighteen horse-power and has been in use for over twenty years and is still giving good service.

There are many handy contrivances about this farm which Mr. Barrie has invented and made. One could spend several hours very profitably on this Waterloo County farm, and we feel satisfied that many new ideas would be conceived that would help out at home.

## THE FARM.

### A Drastic Increase in Postal Rates Proposed.

Notice has been given in the House of Commons, Ottawa, regarding the introduction of a Bill that vitally affects, both directly and indirectly, every Canadian citizen. We refer to the Bill amending the Post Office Act, and which will provide for an increase in the postal rate on newspapers and magazines from  $\frac{1}{4}$  cent per pound, as it is at present, to 1 cent per pound, to take effect on January 1, 1920. More than that, this Bill will provide that on January 1, 1922, the rate will jump to  $1\frac{1}{2}$  cents per pound, or an increase of 500 per cent.

This enormous and sudden loss Canadian publishers will not be able to absorb, and the inevitable outcome will be ruin to some publishers and an all-round increase in the subscription price of newspapers, magazines and periodicals. The sum total effect of such a drastic increase of postal rates on second-class matter will retard the reading of Canadian publications and deal a blow to Canadian ideals and citizenship, for which any far-seeing Government would not care to take the responsibility.

We are living in strenuous times. Costs are increasing enormously all the time, and publishers are having their full share of the difficulties. The cost of paper has become almost prohibitive; inks and supplies are difficult to obtain even at enormously enhanced prices; wages and salaries, paid to the staffs who put these periodicals into the form in which the reader receives them, have increased several fold. In spite of all these increased burdens a few publishers have been clinging to their old subscription rates, in the hope that the tide would turn and a readjustment could be made without passing these abnormal costs on to their subscribers. "The Farmer's Advocate" has so far been able to retain its old rate, but many publishers have been forced by circumstances to increase their subscription rates and others were considering the same step when this sudden and drastic increase in postal rates was proposed. If this Bill carries as introduced there will be no alternative for a great many publishers but to still further increase their subscription rates and force the reading public to bear an additional cost.

Realizing that the Post Office Department is likewise called upon to meet heavier expenses in handling Canada's mail, publishers proposed a 100 per cent. increase, or  $\frac{1}{2}$  cent per pound, and urged the Government not to enact more severe requirements until a thorough investigation of the whole question had been made, and until after the mails had been relieved of tons of useless material now being carried free. A 100 per cent. increase now may be necessary and wise, but a 300 per cent. increase on January 1, and another 200 per cent. increase in 1922, is unreasonable, unjust and not in the best interests of Canada generally.

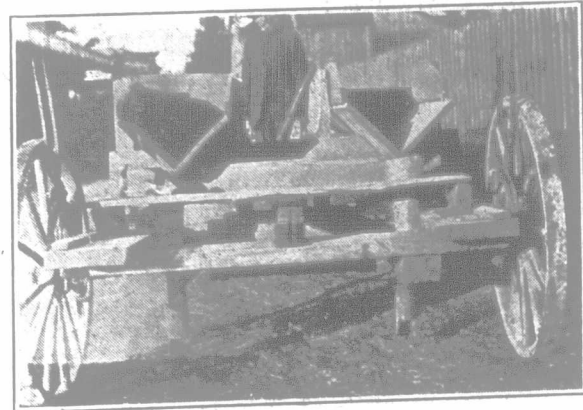
If such drastic postal rates, as proposed, are permitted to go into effect the Government and Commons will thereby put themselves on record as placing no value whatever on the educational influence of agricultural papers, magazines, religious and educational papers, or the press generally. Agricultural papers are of inestimable benefit to a young producing country such as this,

yet an exorbitant postal rate will strike at the very heart of the publishing business, and the accuracy of the statement will be better appreciated when it is known that only two or three of the dozen farm papers published in Canada have ever returned a dividend to their shareholders. Agriculture is the basic and greatest wealth-producing industry in Canada, and much of its progress can be attributed to a virile, useful and intelligent farm press. Without farm papers, all the many institutions conducted by the Government for the benefit of agriculture and all the Government agencies working in this field would be isolated from the people they desire to serve. The agricultural press is the vital link between the farm and the outside world, and every wide-awake, public-spirited citizen will agree that it should be encouraged rather than suppressed.

Religious and educational publications in Canada are not in a position financially to endure additional burdens, yet they are potent forces in the upbuilding of a strong, wholesome character and high national ideals. Our magazines are at present fighting against enormous odds, for United States publications are coming into Canada in great volume, and, since the business of the publishers there is based on a population of over 100,000,000 of people, they have a tremendous leverage over the Canadian publisher with a scant 9,000,000 of people to serve. It would be a national crime to cripple Canadian magazines and Canadian literature, thus allowing United States thought and United States ideals full sway in this Dominion. Canadian magazines should be encouraged to build up a distinctive Canadian literature and thus contribute to a national conscience and national ideals. Burdens, such as an excessive postal rate, will only further strangle our magazines and render them still less able to struggle with the overwhelming competition they are obliged to meet.

Newspapers and the press generally would be dealt a severe blow if this Bill proposing such a drastic increase is allowed to carry. The press is the greatest educational factor extant in Canada. Why cripple it with unreasonable postal rates?

Publishers will be forced to pass the extra charges on to someone, and subscribers will naturally be expected to pay for having their papers brought to them. Many subscribers will, no doubt, be willing to pay the extra subscription price for their favorite papers, but the general effect will tend to thwart the press and seriously discount its influence for good. This is a national question and a question which concerns the individual and the home. It is to be hoped that sound judgment will prevail when this Bill is under discussion, and that true statesmanship will find expression in the modification of this dangerous piece of legislation.



Homemade Potato Planter.  
Made by Geo. R. Barrie, Galt, Ont.

### The Corn Crop for Silage Purposes.

May 24 has long been accepted throughout the silage-growing districts of Ontario as a safe date on which to begin corn planting. Corn has been planted earlier than this on many occasions, and good crops have been produced. During the last several years planting, too, has been forced on into June, and growers have found that it pays even then to plant corn for the silage crop. With seeding out of the way in fairly good silage crop. With seeding out of the way in fairly good silage crop. With seeding out of the way in fairly good silage crop. With seeding out of the way in fairly good silage crop.

Those who did not plow last fall for corn should not curtail their acreage because of this fact. It is a moot question which is the better for corn anyway, fall or spring plowing. Good crops can be grown with both kinds of a seed-bed, and if spring plowing is necessary it should in nowise discourage the grower. A sary it should in nowise discourage the grower. A sary it should in nowise discourage the grower. A sary it should in nowise discourage the grower.

Growers of corn for silage have been getting much of their information from the seed-corn-producing districts. From experiments carried on at Wellwood, and from what we have been able to learn from growers all over Ontario, we are convinced that silage production and seed-corn production require slightly different methods. The grower of silage is striving for a large tonnage of well-matured, good-quality corn. The chief

aim of the seed grower is grain. Planting in hills has some advantage when it comes to cultivating, but we believe that under most circumstances drill-planted corn will produce the larger tonnage. It is possible also that a little heavier seeding per acre than is customary will give better results when silage corn is being produced.

### GOOD SEED FOR SILAGE PURPOSES.

It has been a long time since so much good seed corn was available for planting. Corn matured well last fall, and the seed this spring is, generally speaking, excellent. Growers should not, under any circumstances, put poor seed into the ground this spring for there is enough of A-1 quality to go around. There are two or three points in connection with seed corn for silage purposes that have not been given sufficient attention by silage-corn growers. The first of these is the size of the germ. Some seed corn, while the kernel may look large and healthy, has a small germ, short and narrow; other seed corn has a broad, deep germ which almost covers the whole broadside of the kernel. This is the kind that should be selected. The start the young seedling gets depends upon the vitality of the germ, and a young corn plant coming on from a feeble germ and weak kernel has about the same chance as a weak calf on a dam that gives very little milk. Many a corn crop has been blasted while the plants were still young simply because of inclement weather and a dearth of support from the seed below.

Another point to be considered in growing silage, particularly in cool climates, is that the large ear, both in length and circumference, indicates tardiness in maturing, and a roughened surface on a dent corn gives the same warning. On the other hand, these features indicate large stalks and heavy yields, so the grower must judge for himself just how far he can sacrifice maturity for heavy yields.

### VARIETIES.

We have long been told that dent varieties of corn will produce the largest tonnage for silage purposes, and while there is no experimental evidence to disprove this, we have a very deep-rooted suspicion that the flint varieties in Eastern and Central Ontario are very close rivals of the dents. This is something growers might well investigate for themselves, as it is difficult to ascertain at any experiment station what is absolutely best for widely varying climatic and soil conditions throughout a whole province. Longfellow, as a flint, is a good yielder of both stalk and grain. Salzer's North Dakota and Compton's Early are likewise good flints, but hardly equal over a wide range of conditions to Longfellow. In the recognized corn-growing districts a grower can select from practically any of the dents. However, when we get back from the front, so to speak, it is well to give these varieties some consideration. In cooler climates and shorter seasons the Golden Glow, Bailey and early strains of White Cap Yellow Dent are most suitable, but if a grower desires a little more bulk he might add Leaming and Wisconsin No. 7.

### COMBATING CROWS.

Sometimes crows give a great deal of trouble and they have been known to ruin whole fields by walking methodically along the rows and pulling up the kernels. Numerous devices have been tried, but possibly the best way to combat the crow is to give the corn kernels a slight tarring before planting. Too much tar is detrimental to the seed, and the operation should be carefully done. Put the seed corn in a bucket or tub, dip the end of a stick in tar, and then stir the corn until every kernel becomes coated with a very slight film; use as little tar as possible to accomplish the purpose.

### SPRING CULTIVATION.

A light harrow or weeder on the corn land gives excellent results, and such can be used even when the corn is up three or four inches. If possible to prevent it, the surface of the field should never become crusted or hard. The harrow, or weeder, will keep a surface mulch on the land and prevent weeds getting a foothold. Just as soon as the rows of corn can be observed, the cultivator should be started and kept going every week until the crop has become large enough to prevent the use of teams and large implements.

## AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

### What Constitutes a Good Lightning Rod.

BY PROF. W. C. BLACKWOOD, O. A. C., GUELPH.

I have consented to give a paper on the subject: "What Constitutes a Good Lightning Rod," in the hope that as a representative of the Ontario Agricultural College at Guelph, I might to some extent, assist the Fire Marshal for Ontario in the excellent work which he is carrying on in connection with the prevention of loss by fire. I feel that in giving to you from a scientific point of view the requirements of a good lightning rod, I am co-operating with the Provincial authorities concerned, the insurance companies of the Dominion of Canada and the rodding companies of this country in dealing in a national way with the conservation of resources, whenever and wherever the lightning rod can form an integral part of the entire protective system.

In dealing with the problem in hand, before stating

definitely what characteristics in a lightning rod as a protective device (when properly installed and kept in repair) will give maximum efficiency, I wish to point out the duties which a rod has to perform. The original conception of a charge of electricity on a cloud to be got rid of by attracting it to the earth by means of a lightning rod, the end of which projected upward to meet the cloud, called for a rodding system made up as follows: A rod of sufficient capacity as a conductor to take a quiet discharge of energy in the form of a direct current of more or less constant value, was all that was required. The upper end of this rod extended into the air for a few feet above the building on which it was installed, and the lower end had to make only a more or less inferior connection with the ground. "The arrangement" of rod on the building was of little or no importance. The latest conceptions of conditions to be dealt with by means of an efficient and efficiently installed rodding system are as follows:

1. Between the cloud and the earth there may be produced during an electrical storm a steady electrical strain of the atmosphere separating two oppositely charged bodies "cloud and earth." This strain must be got rid of by neutralizing the oppositely charged bodies concerned, or a dangerous violent discharge is the result.

2. Between an upper and a lower cloud a sudden discharge may take place which raises the potential of the lower cloud very suddenly. This lower cloud charge then overflows, as it were, to the earth beneath in the form of a sudden and violent rush of electrical energy. Rods cannot prevent the flash under these conditions.

The first duty of a rodding system is, therefore, to neutralize slowly the difference of potential between the cloud and earth by letting the earth charge leak off points, thus causing the cloud to rise higher in the air due to the reduced electrical attraction and prevent any sudden dangerous discharge. This first duty may be satisfactorily performed by a rod or cable composed of any conductive material even of inferior grade and small cross-sections of any shape, if the system has a few points properly located and at least a fair ground wire connection. The conducting cable forms a path between the points referred to and the ground wire. The second duty of a rodding system is to carry off harmlessly those flashes which cannot be prevented. It is in performing this second duty that the up-to-date rod is called upon to possess certain special properties and characteristics. The lightning discharge being very sudden must be dissipated in an extremely short space of time. The conductor and rodding system which will permit of this dissipation in the most efficient manner is the one to be selected. Such a conductor must have the following characteristics:

1. It must be and must remain continuous mechanically and electrically from point to ground. (A flexible, non-corrosive conductor which will permit of expansion and contraction without breaking will permit most readily the fulfilling of this condition.) The more flexible the cable the easier it is to establish good connections between all metal parts.

2. It must have sufficient body, or capacity to insure against fusing or deflagration. Surface area has a great deal to do with this capacity.

3. It must have sufficient ohmic resistance to dampen the discharge, and dissipate it in the form of heat, to prevent a surging of energy in the conductor which is dangerous unless metal parts of the rodded building are properly grounded.

4. It must be as far as possible non-corrosive, to prevent if possible replacing during the lifetime of the building on which it is placed.

5. It must have as large an available surface layer of metal as possible in order to avoid inductive resistance which is liable to cause side flash if not guarded against.

6. They must be made of as many wires as possible without interfering with the mechanical strength of the cable. Numerous wires reduce induction in the cable. These wires should run in as direct a path as possible from end to end of cable to avoid abrupt turns in the path of the current.

7. A point should extend about 18 inches above the highest point of building on and near which it is located and should be fairly sharp. Use a sufficient number of points to allow brush discharge and weaken flashes that cannot altogether be prevented.

8. Ground connections should be made as perfect as possible, special attention being given to grounding whenever and wherever difficulties arise due to local conditions.

These I consider to be the fundamental characteristics of an efficient rod. I trust that through the efforts of the Fire Marshal's Department, legislation will soon be enacted which will make it impossible for any rodding company to place on the market any rod which will not measure up to the standards mentioned in the above list. Practically speaking, a poorly rodded building is not much safer than one which is not rodded. It is poor workmanship which has in the past given to the general public the idea that lightning protective rods cannot protect. It is left for lightning rod makers to clear the atmosphere in this regard, and to do so by intelligent and honest workmanship to give to the user a rod which will speedily disabuse their minds of the erroneous idea above referred to.

The first lightning rod paper on lightning rods was published by W. C. Blackwood, Professor of Physics, in 1804. At a convention of lightning rod men held in London in April, 1810.

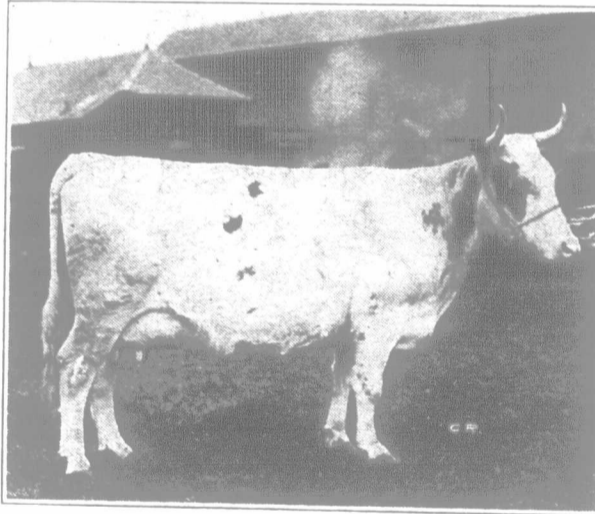


A Road Scraper that Does Good Work.  
Made by Geo. R. Barrie, Galt, Ont.

## THE DAIRY.

### Co-Operative Cheese Selling.

Co-operation in Ontario seems now to be fairly rapidly adjusting itself to the needs of the situation and in such a way as should tend to bring to producers a fairer share of the price that their products bring on the larger domestic or world's markets. In February, 1919, the United Farmers Co-operative Company established a live-stock commission department on the Union Stock Yards, Toronto, and has since done a phenomenal business, which we believe to have been greatly to the benefit of live-stock shippers the Province over. This business has since been extended to the Montreal market, to which a great deal of the live stock of Eastern Ontario goes. Just recently the same company has actively taken up the question of egg marketing, a matter that has long given those interested much cause for thought. It looks very much as though this business, too, is going to develop in a thoroughly satisfactory manner with a capable man at its head; and greatly to the advantage of the producers and their company. There is also some discussion of the co-operative manufacture and sale of creamery butter, but we do not understand this matter to have advanced very far as yet.



White Beauty.  
First Ayrshire cow at Kilmarnock, 1920.

Some two years ago the matter of co-operative cheese selling was broached and it has since been more or less before the dairymen of the cheese sections of the Province, backed by the benevolent interest of the U. F. O. Co-operative. Some time ago The United Dairymen Co-operative, Limited, was provisionally organized and a charter obtained. When the matter was first broached to the dairymen of the Province a giant combination of scores or hundreds of cheese factories was contemplated which would involve the buying outright by a central company of all local factories included, stock to be taken by the patrons of local factories to the approximate amount of the price paid for the local factory in which they were interested. It was thought that the proposed company, operated along the lines of the Saskatchewan co-operative creameries, but on a much larger scale, would be eminently successful and a great forward stroke in Ontario Agriculture. This giant scheme has been gradually reduced by the laws of practicability to more moderate proportions, until it has finally, we believe, reached the level of feasibility. This has necessitated the abandonment of the scheme for factory ownership except for the co-operative ownership of single factories by the patrons, which plan had developed to some extent prior to the advancement of the larger scheme. It has, we understand, been recently decided to confine the operations of the United Dairymen Co-operative, Limited, to the co-operative marketing of cheese on the Montreal market for the benefit of all factories that desire to affiliate with the company. The plans as so far advanced, call for the assembling of the cheese at Montreal in a warehouse provided by the company, grading of the cheese probably by the Federal Government and its sale by auction under the auspices and control of the manager of the company, whose office will be in

Montreal and who will look after the interests of the producer. The adoption of some such scheme should provide considerable prospect of success for the new venture in co-operative selling.

The present proposed basis of co-operative cheese selling was first suggested, we believe, by J. A. Ruddick, Dairy Commissioner, Ottawa, and was fully outlined in an address delivered at the 1919 convention of the Dairymen's Association of Eastern Ontario held at Belleville, January 9 and 10. "The Farmer's Advocate" at that time referred in a very complimentary manner to Mr. Ruddick's proposal and gave it considerable prominence in an early issue thereafter. The following paragraphs will serve at the same time to recall this proposal and to outline the principles of the present plan as decided upon by the United Dairymen Co-operative, Limited with the exception that butter was included by the Commissioner in his suggestion, whereas cheese only is under contemplation at the present time.

"All cheese and butter would be shipped regularly from the factories to a central warehouse at Montreal, where it would be graded by a Government grader and then offered for sale by auction to the highest bidder and according to the real quality of each lot. I do not advance this scheme for the sake of proposing something new, but because I believe, after long and careful consideration that it offers substantial advantages to the individual factory and to the industry at large without imposing corresponding disadvantages. It would reduce the cost of marketing and add that much to the price of butter or cheese as the case might be. The individual factory would make a direct saving in not having to employ a salesman. There would be an indirect saving by the elimination of the commission or salary paid to the country buyer, which amount would come back to the factory in the higher price which the exporter could afford to pay. The charge of auctioneering would be a mere trifle and all other expenses such as freight to Montreal, cartage, cooperage, and warehousing, must be paid in any case.

"Of course I anticipate that there will be some opposition to this proposal. The country cheese buyer—and by that title I refer to the man who buys for a Montreal house on salary or commission—could hardly be expected to look upon such a proposition with favor and possibly some of the exporters located in the country may see reasons to object. One is always sorry to propose anything which may be inimical to the interest of any particular class of the community. In this case the regret is all the deeper because I number among my good friends many men who are country cheese buyers. The interests involved, however, are too large to permit of these personal considerations having any influence in the matter. Every improvement, or reform, entails a measure of inconvenience or hardship on someone.

"It is quite possible that some of the Montreal exporters may have reasons for opposing the central selling, but I know that some of the leading houses would welcome the inauguration of such a plan. Opposition or no opposition I feel convinced that this system will eventually prevail. There is so much in its favor and so little that can be put in the balance against it, that it seems to me there can be only one outcome. It will not likely come all at once. I do not think it would be desirable to make the change all at once. A gradual turn over would be more likely to succeed.

"As I see it there are two ways in which this scheme can be carried out: First, a co-operative organization among the factories, to provide warehouses and facilities for handling the business at Montreal. The alternative is to have a private firm or company undertake the auction business at a fixed rate. There are likely to be some new warehouses erected in Montreal in the near future and they will afford excellent facilities for handling a business of this kind."

We are informed that arrangements have been made with a Montreal dealer to warehouse the cheese at a fixed rate per box, which is in the neighborhood of 5 cents. When cheese stored in the company's warehouse is sold to dealers in Montreal, the latter will be given storage for a certain length of time at fixed rates. Grading of the cheese will be done upon a basis not yet thoroughly determined upon, but in all probability the work will be done by the Federal Government, the Dairy Branch of which has been actively interested in this phase of marketing work for some years. This branch did contemplate the institution of grading for export purposes, but it is doubtful if this method of grading would meet the needs of the present case. Until recently it had been practically arranged that the grading work for the new company would be done by the Ontario Department of Agriculture, but in view of the fact that grading is really a national rather than a provincial problem and because the Federal Government already had in mind a system of grading, it was apparently thought better for the latter to do the work. The Quebec Agricultural Co-operative Society has already instituted much the same system of selling cheese, but in this case the grading is done by the Provincial Government on the basis of sale only. This is somewhat different from the method of grading for export, in as much as the latter grades are determined primarily upon the requirements of different markets. Thus what might be number one cheese for the Manchester market in Great Britain might grade only number two for the Liverpool or London market, which fact would apparently make it impossible for the grades established on the basis of sale to Canadian exports only, to become finally applicable. The present practice is for the dealers who buy cheese in Montreal on the basis of sale, to re-grade them for the various markets

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in which they are selling. Thus, out of, say, 500 boxes of number two cheese purchased in Montreal, there might be 100 boxes of number one Liverpool cheese. It would seem unwise, however, to institute a permanent system of grading on this more or less mixed basis. We have an example already in Canada of an excellent grading system for Canadian farm products in the case of eggs. Our eggs now go to Great Britain as number one, two or three merely, with the guarantee of the Government of Canada behind them. These egg regulations are being well enforced and have already meant much to the Canadian poultry industry. Cheese grades, we believe, could be established in an entirely similar way, notwithstanding the old custom among exporters of grading in a different manner for each market.

What will happen to the local cheese boards if the new system of selling gains widespread favor is a matter that must be given consideration. As at present operated these boards are expensive to the industry, but they originally served the purpose and do still, to a certain extent, of providing an individual market for the cheese of any particular district. This advantage operates in the case of several well-known cheese districts, the cheese from which frequently commands a premium over the product of other less well-known districts. It is commonly asserted, however, that cheese which is sold to be the make of a certain district is frequently not made closer than 100 miles away, although it may be of equal quality. With the establishment of permanent grades, number one cheese from all districts would be sold indiscriminately and for the same price, although if a special grade were created the cheese from the very best districts would naturally be elevated to this grade along with any other cheese of special quality. We are convinced that the principle of uniform grades is the soundest one and one which experience with eggs has taught us to believe that the British importer can be educated to appreciate.

It is to be hoped that the plan of co-operative sale by auction will be thoroughly tried out and that patrons will support a move which will extend their influence to the primary markets of the country and even into the export market. Before co-operation can reap its full and rightful harvest for the Canadian producer the co-operative sale of farm products must be further developed.

### Udder Troubles in Cows.—Part 1.

MAMMITIS.

Mammitis or mastitis, commonly called "garget," consists in congestion with more or less well-marked inflammation of the mammae (in the cow called the "udder") which consists of four glands. As the period of gestation nears completion the glands increase in size, become more pendulous, increased in density and more muscular, and the teats are considerably developed so that the glands have attained dimensions and offer appearances very different from those they exhibited a short time previously; while milk is secreted in greater or less quantity, generally in proportion to the development of the mammae.

It is during this period that the activity of the mammae exercise so much influence on the health of the animal, and it is also at this time that these glands are most liable to derangements which are more or less serious. Even their normal physiological development, when it occurs rapidly and considerably, under certain conditions, often occasions uneasiness and pain. The temperature of the glands is increased, and they are much more sensitive than usual. This disturbance is usually very temporary, and in most cases disappears in two or three days without special treatment.

This condition may be called normal or physiological enlargement of the mammae; but there is often seen a diseased or pathological enlargement which is often the commencement of more or less serious inflammation of the glands.

Congestion of the mammae is due to many different causes, as direct injuries of many kinds, over repletion, exposure to wet and cold or alternate heat and cold, irregular milking, stings of insects, rough usage by milker or offspring. In many tubercular animals there appears to be a well-marked predisposition to the trouble, recurrent attacks appearing more or less frequently without apparent cause. Probably the most frequent cause is failure to remove the milk, either on the part of the offspring or attendant. The tendency of the mammae to become enlarged when the lactal secretion is not removed at the proper time, is often made available with a fraudulent motive, when unscrupulous dealers are disposing of cows for milking purposes. The milk is not withdrawn for some time, the glands become greatly distended, and assume an excessive development, which may impose upon the unwary prospective purchaser, and give rise to the

belief that the animal possesses extraordinary lactiferous properties.

Symptoms.—When the congestion is due to accumulation of milk, the symptoms are, of course, gradually developed; but if arising from injuries, they may appear suddenly, a certain part becoming all at once swollen, hard and tense, but not entirely losing its softness and elasticity. We have already stated that the udder of the cow is composed of four "glands," commonly called "quarters." These glands or quarters are in close contact, apparently forming one mass which hangs more or less pendulous between the hind legs, each quarter terminating inferiorly with a teat. When we know that in cases of inflammation or congestion, or both, all quarters may be involved, or only one, or two or three, we can readily see that a diseased condition of the glands may give rise to very diverse symptoms, due to these anatomical peculiarities.

The real congestion may be limited to one or more quarters, though at the commencement the whole udder may be swollen, and localization occur only at a later stage of the trouble. There is often a swelling of a doughy nature around the udder, which, in some cases, extends to other parts of the abdomen; appetite is usually more or less impaired, and there is usually a tendency to constipation. There is also usually a well-marked increase in temperature.

The secretion of milk is diminished; it may at first be normal in consistence, and in some cases it may contain streaks of blood, which give it more or less of a rose tint. When the condition continues, however, its degree of fluidity is changed, and it becomes lumpy and clotted with a quantity of thin, yellowish serum, or the whole may be practically serum, without clot. In some cases the coagula obstruct the canal and prevent the escape of milk. This alteration in the milk is usually limited to the quarter or quarters involved, in the others the secretion may be normal in consistence, and healthy, though less abundant. In severe cases the quarter or quarters involved will be hot and tender. When the whole udder is involved, the patient usually stands with hind feet well spread, in order to avoid pressure upon the udder. She does not wish to move, and if forced to do so, will walk with a straggly gait.

Treatment.—While local treatment is of greater importance than constitutional, it is wise to administer a purgative in the early stages, as 1½ lbs. Epsom salt, and 1 oz. each of gamboge and ginger in about 3 pints of warm water as a drench. She should now be fed nothing but a little sloppy, easily-digested food until purgation commences. This should be followed by 3 to 4 drams of nitrate of potassium 3 times daily for 2 days, and she should be fed lightly on food that does not tend to cause secretion of large quantities of milk. Local treatment consists in applying heat to the udder, either by keeping hot poultices to it, or



Plenty of Shade and Water are Valuable Factors in Milk Production.

bathing long and frequently with hot water, and each time after bathing, rubbing well with hot camphorated oil. Keeping hot poultices to the udder is very troublesome, and if the poultice is allowed to become cold the reaction is harmful; hence, unless the attendant can give almost constant attention, it is better to not attempt it. A poultice of a preparation known as "antiphlogistine" (which has adhesive properties) applied warm gives good results, lasts much longer and does not require so much attention as an ordinary poultice. In nearly all cases the fluid should be drawn from the affected quarters 3 or 4 times daily until the milk becomes normal. In some cases the milk ducts become occluded by the lumps or curds, in which case careful manipulation will generally succeed in forcing them out and allowing escape of the fluid.

In most cases where prompt and proper treatment is given early and properly attended to a complete recovery will result, but there are exceptions. The inflammation will not continue indefinitely. It must have a termination. We hope to discuss the different terminations and results in a future number.

WHIP.

## HORTICULTURE.

If you are going to take care of the orchard this year, try and take care of it right. Remember that frequent thorough cultivation throughout the summer months is as necessary to fruit of good size as pruning and spraying.

Do not allow the old orchard to fall into neglect until you are sure it is past all redemption. Most of the neglected orchards throughout the country can be made profitable by careful pruning, spraying, fertilizing and cultivation.

Many successful orchardists have adopted the idea of leaving a sod strip for from four to six feet on either side of the apple or pear row in order to heighten the color of the fruit and to reduce the cost of cultivation. If this is done, however, the grass should be cut at least once during the summer.

Every successful gardener maintains a compost heap as a means of profitably utilizing waste vegetable materials about the place. Muck, peat, pond or river mud, old leaves, sods, the cleanings from ditches, road scrapings and loam can all be used to good effect, if built up in layers four or five inches thick with layers of manure in between.

Some orchards are so thickly planted that the branches are growing into each other. In such cases treatment will depend upon how aggravated this undesirable condition is. If the trees are very thick it will undoubtedly pay to remove every other tree so as to give plenty of room for the remainder, but if they are not thick enough to make this profitable, the ends of the branches should be headed back so as to allow of about three feet of air space between each two trees.

### Maintaining Fertility in Orchard Soils.

No good farmer would think of trying to grow crop after crop of wheat, barley, or oats without replacing the fertility drawn from the soil. With the apple orchard however, the situation seems to be different and on many farms there are orchards that are expected to go on producing year after year without any additional plant food being furnished for the trees. This, of course, is unreasonable, because no tree can continue to draw its nourishment from the same soil year after year and bear good crops of fruit unless some effort is made by the owner to keep up the supply of available plant food. The fertilizing of orchard soils is probably the factor in successful orchard management that is most neglected. On light soils this factor is particularly important because the available plant food in such soils is more easily and more quickly drawn out.

The following paragraphs on this subject are intended for Ontario conditions and are taken from Bulletin 194 of the Ontario Department of Agriculture:

In this matter the orchards are more thoroughly neglected than any part of the farm. With most soils in this Province, to produce a profitable crop the orchard must be fertilized. Light sandy soils and also heavier soils which have been intercropped until the fertility has become exhausted, show splendid results from fertilization. The most essential elements to the production of fruit are nitrogen, phosphoric acid and potash. Roughly speaking, nitrogen encourages growth. Potash is essential to the development of the fruit and also is associated with the development of flavor in the fruit. Phosphoric acid is essential to the proper ripening of the wood and fruit. Lime is sometimes employed as a fertilizer for its secondary effect as it assists in the liberation of plant food.

Barnyard manure is more generally used than any other fertilizer. It supplies all the elements necessary to plant life and improves the physical condition of the soil. Where plenty of it can be had commercial fertilizer will not often be necessary. In the vicinity of large cities stable manure can be obtained in car lots at low prices, and the freight rates are sufficiently reasonable to make it profitable to ship up to at least 100 miles. An application of 10 tons per acre given yearly should keep the orchard in splendid condition. The manure should not be piled around the base of the tree under any consideration. In bearing orchards it should be applied in the same manner as for field crops, covering the ground evenly in all directions. In young, non-bearing orchards, the best way to apply barnyard manure, when it is only desired to manure the trees, is to spread it around the trees, about as far as the roots will spread, leaving clear at least from one to two feet from the base of the tree. The old practice of piling manure up against the tree places the plant food away from the feeding roots of the trees, and forms a harbor for mice in winter. As a tree develops, the greater proportion of the root feeding system is away from the trunk.

The use of commercial fertilizers has become more general among fruit growers, due largely to the fact that stable manure is somewhat scarce in many fruit-growing districts. When this is the case the mechanical condition of the soil and supply of nitrogen should be kept up by the use of cover crops and by the judicious application of commercial fertilizers, the other ingredients, phosphoric acid and potash, may be supplied.

In order to get the best results from the use of fertilizers, the grower must study his soil, and by observing the results obtained from experimental applications

he will soon find out which elements his soil lacks and which give him best returns. Commercial fertilizers are expensive, and require intelligent handling. Many growers have, without sufficient cause, condemned their use, while others, after studying their soil conditions are securing excellent returns for the money invested. There is no comparison between the labor involved in handling the same amount of available plant food in the form of stable manure and of fertilizer, and labor nowadays is worth saving.

Commercial fertilizers being the subject of much controversy amongst leading horticulturists, it naturally follows that considerable differences arise. A certain investigator in the United States claims that fertilizers used on an orchard in New York State over a period of 12 years produced no appreciable increase in the yield of apples. The nitrogen content of the soil in this orchard, however, was sufficient for a great many years, hence many are of the opinion the experiment did not demonstrate that commercial fertilizers would not be of any use in an impoverished soil. The high cost of fertilizers makes their application a matter of serious consideration and forethought, especially at the present time when potash is practically off the market, and others are away up in price.

### The Pruning of Young Apple Orchards.

Apple growers have differed to a marked degree in their opinions as to the proper methods of treating young trees before they reach the bearing age. This is true both as regards the training and the actual pruning of the tree. Too few growers distinguish sufficiently between training and pruning, with the result that the pruning problem is intensified by the confusion likely to be created in the mind of the pruner who does not usually separate the two operations when he is using the knife or saw. We do not mean that the pruner should go over the orchard twice, but merely that he should understand clearly that when branches are being taken out of the tree for the purpose of bringing it more nearly to the shape that is most convenient for cultivation and harvesting, the tree is not necessarily being pruned for increased fruit production. In fact, some kinds of training may readily result in delayed fruit bearing and are, therefore, the direct opposite of pruning, which, as it is correctly understood, is the effort of the grower to increase the quality and the quantity of the fruit by the judicious use of the saw and clippers.

Apple growers are usually particularly anxious that the young orchards set out shall bear at the earliest possible date and the matter of handling the young tree so as to secure precocity or early bearing, has given rise to serious differences of opinion. Just as growers differ as to whether trees should be headed low or medium high, so do they differ in the matter of pruning heavily, moderately or not at all, while the tree is young. At one time it was thought that young trees must be cut back more or less heavily each year, but of late years the opinion has become more prevalent to give the minimum of pruning until the bearing age is reached. The efficiency of summer pruning also in bringing trees into bearing has been fairly widely advertised and in some orchards it has become one of the regular orchard operations of the year. It has been the practice hitherto to summer prune about the last of July or even later in some districts, depending upon when growth ceases for the season. The theory of summer pruning at this time is, briefly, that if young trees are pruned at just about the time growth ceases in the summer, the little time for growth that still remains will be just sufficient to swell some of the leaf buds (that have been formed during the season) into fruit buds that will bear fruit the season following, but that there will not be time, if the right period is chosen, for a second growth to occur. This theory was based upon apparent experimental evidence that while the fruit buds that will produce fruit for the following year are partly developed during the summer months, these may develop into leaf buds and produce branches if the stimulus to growth is too strong. The practice of summer pruning in Canada and the United States is taken from the practice of European fruit growers who successfully summer prune earlier in the season by the method of pinching out the tips of the young growth when it has attained only a short length and leaving only about six good leaves.

The pinching out must needs be done by hand, of course, and is, therefore, a very laborious operation. It does, in fact, require too much expenditure of labor for new world conditions, with the result that the adaptation explained above, was made. This European practice is based upon the primary fact that the work of the leaves in elaborating the raw food materials sent up by the roots is necessary to the continued growth of the tree and that any checking of this growth has a tendency to produce greater quantities of fruit or seed. This increased fruitfulness is, of course, merely following out the law of nature that the primary function of plants and animals is to reproduce themselves.

These problems of the grower have given rise to experiments in one form or another with the idea of proving the usefulness of summer pruning. One of these experiments it is our intention to refer to at some length in as much as it was conducted at the Horticultural Experiment Station at Vineland, Ontario. The orchard was set out in 1911 to 14 varieties of apples and the pruning experiment was begun in 1914. The orchard, it will be seen, is still young and the experiment is still in progress, but certain results are observable as a representative of "The Farmer's Advocate" was able to note on the occasion of a recent visit to the experiment station.

The 14 varieties were all treated in three ways, some trees being given summer pruning in August,

tance from each tree so that the relative size is well produced, while the three trees are all of the same variety, Cranberry Pippin. The results to date were summarized as follows by E. F. Palmer, Director of the Station, who is fair enough to point out the weaknesses of the experiment in the light of present knowledge, as well as to draw attention to the points brought out:

"The heavy winter pruned trees have made much less growth than either the unpruned or the summer-pruned trees. Moreover, the summer-pruned and the unpruned trees have been bearing fruit since 1915, which would lessen their ability to make new growth. Their real gain over the heavily pruned trees is therefore greater than actual figures would indicate. The winter-pruned trees have been much later in coming into bearing, producing in 1915 only 3 pounds of fruit for the whole block, as against 127.7 pounds for the summer-pruned block and 209.4 pounds for the unpruned block. With the season of 1919 and those intervening, the ratio of production has been practically the same. The winter pruned trees have barely started to bear as yet, while the summer pruned and unpruned trees have increased in productiveness each season. The summer-pruned trees have made considerably more growth than the winter-pruned trees and have practically held their own with the unpruned trees except in the case of the Greening variety, where the unpruned trees have outdistanced the summer-pruned trees. The unpruned trees while having made more growth than either of the other systems are on the whole becoming very dense, which increase very materially the difficulty and cost of spraying, etc. There are indications also that the fruit is falling off in color, due to the dense growth. This density of growth varies, of course, with the variety, the Spy being very thick and bushy, while varieties such as Wealthy and Duchess are quite open. Even these varieties, however, lean badly from the prevailing wind, due to the resistance offered by their unchecked growth.



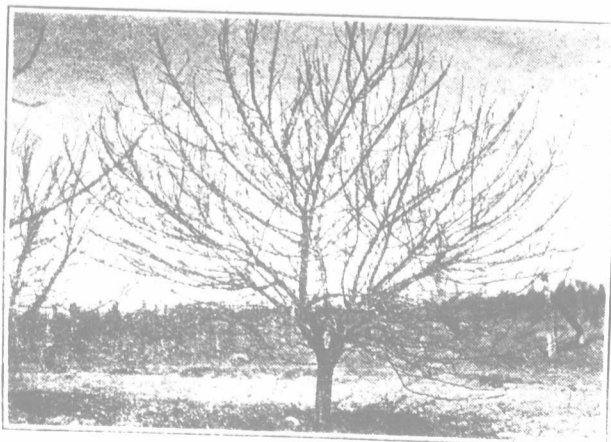
The Greening on the Left and the Duchess on the Right were Both Unpruned, and Indicate that Some Varieties, Even When the Trees are Young, Require More Pruning Than Others.

others being winter pruned in March or April, while still others were not pruned at all except to remove broken or otherwise injured branches. The trees that were winter pruned were severely cut back and thinned out in March or April, the object being to form a strong framework for the tree that would be capable of bearing a heavy load of fruit when maturity was reached and at the same time form a growing tree that would be pleasing to the eye. Fruit bearing was not to be taken into consideration for at least seven years. The summer pruned trees were well thinned out in August when growth is stopping in that part of the province and the maturity of the wood is beginning to take place. Terminal growths were cut back only sufficient to keep the tree within bounds, which meant cutting back only the main branches. The object of this type of pruning, as already explained, was to promote early bearing, to admit as much sunlight to the centre of the tree as possible and at the same time not to sacrifice the natural shape of the tree any more than necessary.

The results of the experiment to date are well shown by the accompanying illustrations, which were taken so as to show the average difference between trees of the three different types that is shown over the whole of the orchard. The photographer stood at the same dis-

experiment is really a comparison between heavy dormant pruning vs. light, dormant pruning vs. no pruning. This points out a further defect, which is that moderate, dormant pruning has not been taken into consideration. In spite of these well-founded objections, our results, while of course, incomplete as yet, have been of very considerable value. In view of the results already given, light, annual pruning just sufficient to retain the proper shape of the tree to allow sunlight and air to get through and to keep out all crossed and broken branches, seems, therefore, to be the proper method to pursue for the young orchard until it comes into bearing. After bearing age is reached pruning will likely have to be more severe so as to maintain a proper supply of new wood each year. What constitutes severity of pruning will, of course, vary with the variety."

The latter point mentioned by Mr. Palmer is well instanced by the larger illustration, which shows two unpruned trees, one of Greening and one of Wealthy, standing side by side. The smaller or Wealthy tree shows every indication of bearing a good crop and the branches are not noticeably thick or dense. The other one, however, the Greening, shows a very dense growth and indicates clearly that this variety needs



Unpruned

Note that this tree has the greatest amount of growth, but the tree is actually denser than when maturity is reached. It must be heavily cut back to improve its shape.



Summer Pruned

Note that this tree is neither so dense, nor so large as the unpruned tree to the left. Photos were taken at the same distance from each.



Heavy Dormant Pruning

The heavy winter pruned trees attained the least size on account of the severe cutting back they received. They were also the slowest to come into bearing.

MAY 20, 1920  
much more pruned, the less vigor of this and similar trees, too heavily winter pruned, and then back into...  
From this summer-pruned effect in bringing possibly a definite light shaping...  
Palmer that has also been by virtue of the formed during which the crop the fruit sets for fruit buds for beyond any point the fruit sets for this to have been by two independent and that it has from part of, so give a fine crop fruits on the other after they are the following year...  
Six acres of land to Spy, M for the purpose of pruning. F kinds of pruning light, dormant 4, heavy, dormant, followed into shape; 6, been borne, for tree into shape sought that with both young and...  
Constru...  
For the far is a considerable house for the vantage does n...  
The laying floor permanently l the barns and feeding them...  
During the sun should be given and if the hopp may be placed requiring an u...  
them. For th convenient an skids and can l is steadily bec...  
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As mentioned always possible the growing of why, where 7? should not be to provide th range over th buildings will ditton for the l...  
Speaking of house, F. C. says: "With th at will, the p another and t a nuisance th help scatter th have a rotati helps the othe with a fruit f edge of the c most advanta especially with chicks are ea headland, or houses. The hawks etc., an the grain is insects eaten."  
"An added paratively sm house room is required; a as the increa otherwise go of the weathe house can be becomes too bluff, where sun."  
"With m while a perm the fencing o house. Colo system of fe





Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending May 13.

Receipts and Market Tops.

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

Table with columns for CATTLE, CALVES, HOGS, and SHEEP, showing Receipts, Top Price, and Good Steers/Selects for various weeks ending May 13, 1919, and May 6, 1919, for Toronto, Montreal, Winnipeg, Calgary, and Edmonton.

Market Comments.

Toronto (Union Stock Yards).

During a week of brisk and active trading, previous week's values were fully maintained on a normal offering of cattle. Monday's receipts totalled thirty-seven head, and although trading was a trifle slow, no change in prices occurred. On Tuesday only odd lots were offered for sale, most of the good cattle being carried over until Wednesday when eleven hundred additional cattle were received at the market; trading on the latter day was exceptionally good and values looked a trifle firmer, some sales being made at an appreciation of 25 cents per hundred; the market closed with a good steady undertone on Thursday. Local butchers were liberal purchasers, while outside abattoirs handled several car loads and were a factor in maintaining the tone of the market. Several car loads of stockers and feeders were shipped back to country points, but the cold backward spring, and subsequent lack of pasture, together with the high initial cost, is retarding the free movement of cattle to country points. Local prices are considerably higher than American quotations, and Buffalo speculators have, for the time being, ceased to be a factor in the local live-meat trade. A few heavy cattle were on sale, but there was an absence of prime loads such as were the feature of the markets during the previous few weeks. One choice steer which weighed thirteen hundred and thirty pounds sold at \$16.50 per hundred, nine head of equal weight at \$16, one load averaging fourteen hundred pounds at \$15.50, while most of the steers weighing twelve hundred pounds and upwards, sold from \$14.75 to \$15.50. Steers of ten hundred to twelve hundred pounds, as well as those of lighter weights, were in popular demand, and quit a number which weighed around eleven hundred pounds sold at \$15.50 per hundred; one load of twenty-four, which averaged eleven hundred and fifty pounds, moved at \$15, while close to three hundred head ranging from ten hundred to eleven hundred pounds in weight sold at \$14.50, and an almost equal volume at \$14.25; most of the steers in these weights sold from \$13.75 to \$14.75. Thirty-five cattle, purchased by Rush Bros., of Hatchley, Ontario, which weighed nine hundred and forty-six pounds at time of purchase last fall and costing \$10.95, were sold on the market during the week at \$14.25; they made a net average gain of two hundred pounds. Handy-weight steers and heifers under ten hundred pounds included a few baby-beef and \$16 per hundred was paid for a dozen head, with a load of butcher quality averaging nine hundred and seventy-four pounds selling at \$14.50; other representative sales included twenty-two head averaging nine hundred and ninety pounds at \$14.25, twenty-four head averaging eight hundred and sixty-four pounds at \$14, and twenty-one head averaging one hundred pounds at \$13.75. Cows and bulls moved in sympathy with other grades, and as high as \$13.75 was paid for one choice cow, and \$13 for a few choice bulls. Good cows sold at \$11.50, from \$11 to \$12.50 per hundred, and best bulls at an average of \$11.50, to \$12.50. A few specimens of stockers and feeders were in country points, and a few were sold at \$12.50 to \$13.50.

Table with columns for TORONTO and MONTREAL (Pt. St. Charles), showing Classification, No., Avg. Price, Price Range, and Top Price for various categories like STEERS, HEIFERS, COWS, BULLS, CALVES, HOGS, LAMBS, and SHEEP.

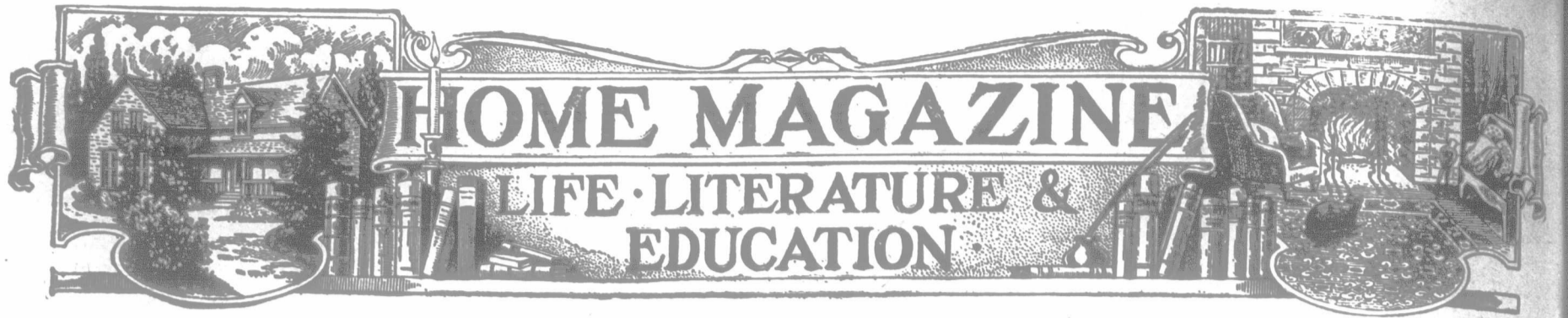
from \$10.50 to \$11.50 per hundred during the past ten days. A load of choice feeders was shipped to Middlesex county at \$14.25 per hundred, and a load of grass cows at \$10.25, indicating no lack of optimism on the part of some farmers regarding the future of the meat trade. Milch cows were unchanged in value; very few good cows are being marketed and few sales were recorded above \$130, but good cows are saleable at \$165, and the common kind as low as \$80, per head. With Eastern American markets glutted with an exceptionally heavy offering of calves, the local calf market dropped to the lowest point of the season, and packers were afforded an opportunity to purchase at low initial cost. Local receipts were augmented by heavy shipments from Montreal, and as the market became more or less congested with medium and common calves, values were down \$2 to \$3 on the week. A few calves sold early in the week at \$18.75, but on Thursday \$15.75 was the top price paid, most of the week's offering of approximately four thousand head selling from \$13 to \$16 per hundred.

previous week. Packers contend that present prices prohibit them from catering to the overseas trade except at a financial loss, but any attempt to reduce prices here is followed by a shortage of shipments from country points, and this has had a tendency to keep values up. Local butchers are again becoming quite a factor in the hog market, and are responsible in many cases for the stronger tone of the market. Fed and watered hogs sold at \$20.25 to \$20.50 up to Thursday, on which day several sales were put through at a decline of 50 cents per hundred. The total receipts from January 1 to May 6, inclusive, were 101,986 cattle, 29,464 calves, 119,248 hogs and 19,591 sheep; compared with 108,943 cattle, 20,074 calves, 131,078 hogs and 27,115 sheep, received during the corresponding period of 1919.

to \$11.50, or at prices almost equal to those prevailing at the same period of one year ago. The most generally expressed opinion is that while prices will improve somewhat over the past week's low level, they will not return to the high level during the previous few months. Prices for cattle remained firm, and although a few head were unsold, nearly all sales were made at prices equal to those paid during the previous week. One load of top cattle sold at \$15.25, and another at \$15.50 per hundred; two choice cows and two very fat breedy heifers were included in the latter load at \$15.50; other than these two loads the majority of the good cattle moved between \$14 and \$15. A small number of common steers were disposed of at \$10, but nearly all steers brought \$11 or over. Bulls of real choice quality brought \$13 per hundred irrespective of weight, and the same figure was paid for choice cows. Heavy fat cows sold from \$11.50 to \$12, and cows poorer in quality down to \$7; the majority of common cows moved between \$8 and \$9.50. Canners sold from \$5 to \$5.50, and cutters up to \$7. Common bulls sold from \$8.50 up.

Vertical text on the right edge of the page, partially cut off, containing market news and prices for various commodities like wool, hides, and other livestock products.





**The Return of the Home-Born.**

BY ALFRED NOYES.

All along the white chalk coast  
The mist lifts clear.  
Wight is glimmering like a ghost.  
The ship draws near.  
Little inch-wide meadows,  
Lost so many a day,  
The first time I knew you  
Was when I turned away.

Island—little island—  
Lost so many a year,  
Mother of all I leave behind  
Draw me near!  
Mother of half the rolling world,  
And O, so little and gray,  
The first time I found you  
Was when I turned away.

Over yon green water  
Sussex lies.  
But the slow mists gather  
In our eyes.  
England, little island  
God, how dear!  
Fold me in your mighty arms.  
Draw me near.

Little tawny roofs of home,  
Nestling in the gray,  
Where the smell of Sussex loam  
Blows across the bay.  
Fold me, keep me, draw me close,  
Lest in death I say  
The first time I loved you  
Was when I turned away.  
In *The Empire Magazine*.

**Our Unpaid Farm Hands.**

EVERY farmer has a host of unpaid farm hands to whom he gives never even a thank you. Long before he gets out of bed, unless he gets up with the gray dawn, these hands are "on the job," and if the farmer could compute the amount in dollars and cents that they save him in a year he would be amazed. The trouble is that he can't see it with his two eyes, and so it never occurs to him that it exists. On the contrary, so stupidly, blindly unimaginative is he, sometimes, that if he sees one of these unpaid helpers treating himself to some cherries, on a fine summer morning, he takes out his gun and shoots him.

Of course we are speaking of the birds, and we cheerfully admit that the robins do eat quite a number of cherries in a season. The stupidity of the man who shoots them to stop the feast exists in the fact that he cannot see that the robins, by the amount of insects they eat in a year, make up a thousand times for the cherries they take, even if they ate every blessed one of them. For the robin can't live on cherries. All the rest of the year he has to live on other things, chiefly bugs. If the farmer knew a thing or two he would plant some wild cherry trees, "bird-cherry" and "choke-cherry," along the border of his cherry orchard. The birds like wild fruit best, and will go to it in preference almost every time if it is to be had.

As a rule people have no idea of the enormous appetites of the birds, and the tremendous numbers of insects even one bird can make way with in a season. The average man, if he had a bird's appetite (in proportion to his size), would get away with from 30 to 31 pounds of food a day. And the smaller the bird the bigger seems to be its appetite. A German scientist who kept a canary under observation for a month (in the peaceful days before the War) discovered that, although the little creature weighed only 16 grams, during the month it managed to eat 512 grams of food,

about 32 times its own weight. It must, therefore, have eaten its own weight in food every day. The average bird, however, eats only about one-fifth of its own weight daily, and the only reason it doesn't wax fat and corpulent and die, probably, of fatty degeneration of the heart, is that it has to work so hard for what it gets. From morning to night it is on the go, eating, most of the time, but "scrambling" for every bite. Then when the eggs hatch out and there is a family of nestlings with gaping mouths to be fed, more than double duty must be done. No wonder the Maytime lover hasn't time to sing any more. For a fellow can't sing love-songs and "saw wood" at the same time.

Considering then, that one bird eats so much (and all of our native birds are insect eaters), try to imagine the vast number of insects put out of business in our country in a year. Indeed it has been computed by scientists that if the entire bird life of the world were to be destroyed the vegetation upon which we depend for life would be eaten by insects in about three years. Insects multiply with incredible rapidity—and it is the birds, chiefly, that keep them within bounds at all. If you don't believe the above assertion about the devastation wrought by insects, put this into your pipe and smoke it for a while: The American naturalist, Riley, has estimated that the hop aphid—to name but one species amongst the vast horde of insects—develops 13 generations in one year, and that at the end of the twelfth

generation there will be *ten sextillions of individuals*. Forbush, another naturalist, says: "If this brood were marshalled into line, ten to the inch, it would extend to a point so sunk in the profundity of space that light from the head of the procession, travelling at the rate of 184,000 miles per second, would require 2,500 years in which to reach the earth!"

Insects destroy more than \$1,000,000,000 worth of fruit and grains every year, even under present conditions. Birds eat insects.—Read the moral for yourselves.

**Are the Birds Diminishing in Numbers?**

Probably many who read this can look back to a time when the wild birds were much more numerous than they are now,—when bluebirds were very commonly seen in the woods, scarlet tanagers were not rare, cedar waxwings with their pretty crested heads were a beautiful sight among the orchard trees. The great grandfathers and great grandmothers, too, looking back over fourscore years, tell of a time when the wild pigeons were so numerous that they afforded one of the most common meat dishes for the pioneer's table.—For several years past the Audubon Society of America has offered a prize of \$1,000 to anyone finding a single pair of wild pigeons. The prize remains unclaimed; mourning doves have been discovered, but not a single passenger pigeon.

Where are the tanagers? Where the bluebirds? Where the waxwings? Where the passenger pigeons?

It must be confessed, with shame, that very many of them have paid sacrifice for their beauty for the adornment of women's hats. It is a matter for real thanksgiving that the wings and bodies of beautiful birds are no longer in fashion for millinery—partly because the good taste of many women has rebelled against wearing the dead bodies of songbirds on their hats, partly because drastic laws have been made in some places against such desecration. But 15 or 20 years ago there was no such restriction. Then no beautiful bird was safe from the cruelty of woman's vanity; even the stuffed bodies of *humming birds* were frequently seen on hats, and great numbers of men made a business of snaring and shooting birds for the millinery trade.

Some sort of revolution has come about, but it has not gone far enough. Even yet women are frequently seen wearing hats adorned with tufts of egret or osprey. Could those women bow their heads in church if they realized that the dainty plumes of the egret grow on the parent birds only in the nesting season, and that when they die to adorn a woman's hat a whole nestful of little ones is left to starve?

As a matter of fact this country now exists upon about 10 per cent. of the bird life that was here once upon a time, and—even leaving millinery out of the question—the number is continually decreasing. As the forests decrease and the cultivation of fields extends the birds are robbed of their natural nesting places. Many nestfuls of eggs and even young birds of the "ground" varieties, are sacrificed by the relentless mower in the hayfields. Cats and other enemies take their toll. It was even found some time ago that foreigners making up construction gangs along the railway route in Northern Ontario were shooting and cooking songbirds. Then there are the endless dangers during the migrating season—the countless numbers dashed to death against wires and buildings and shore lights. Some of the birds are becoming wise and flying very high, but many still fall by the way.

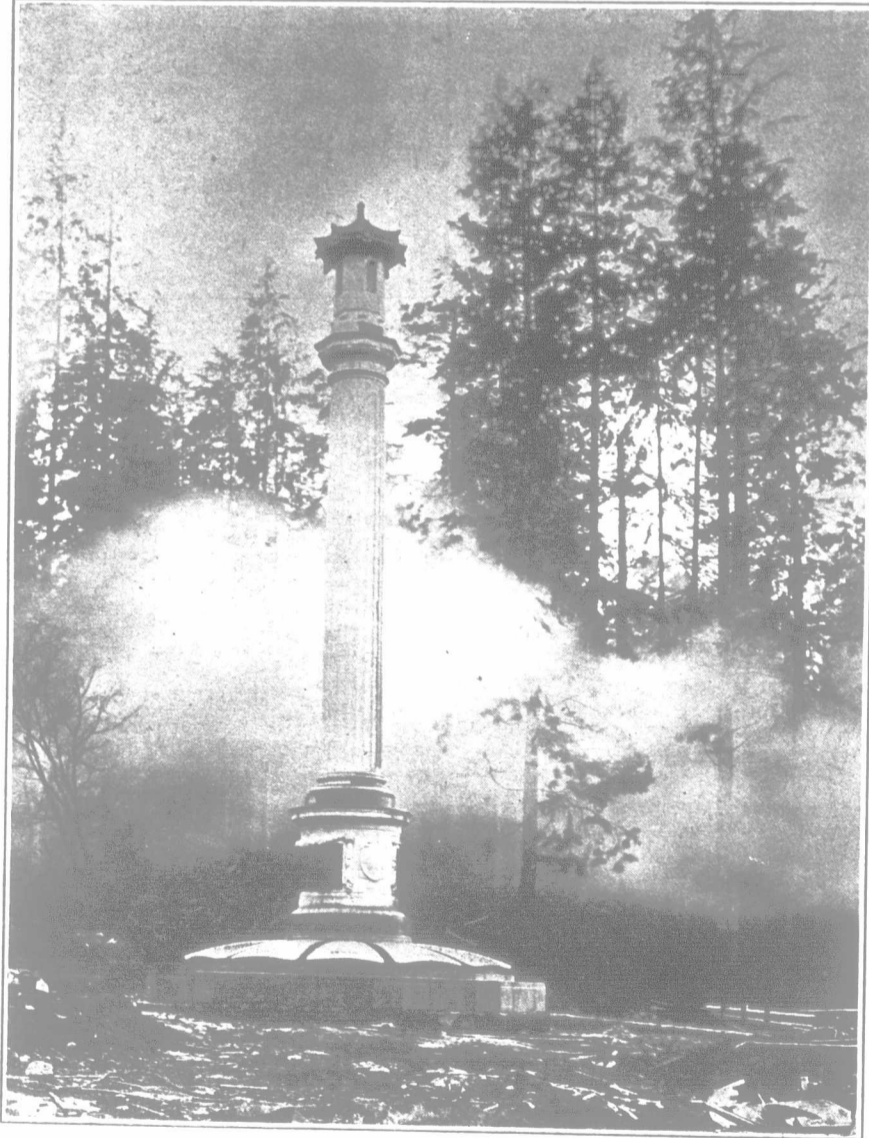
At best the birds have a hard time to live at all. Considering the joy of them, and the usefulness of them—that they are our unpaid helpers, guarding us against starvation, lessening our work and expense of spraying, which, were it not for them would be intolerable, is it not "up to us" to protect and encourage them?

**Attracting the Birds.**

BIRDS come when there are plenty of trees about the home, where cats are few and shot-guns not at all. They soon recognize their friends—as Jack Miner has conspicuously proved at his home near Leamington, Ontario. They know when enemies are minus.

But there are definite ways of attracting them. One of these is to plant borders of barberry, Juneberry, elderberry, sumac, mulberry and wild cherry trees about the orchard, barnyard or anywhere else where the space can be spared. These trees and shrubs are beautiful in themselves, afford food for the birds, and help to distract their attention from the fruit-garden,—for they prefer wild fruit. Also sunflowers, hemp and millet furnish food much relished by both summer and winter birds. The "Japanese" barberry, by the way, does not bring "rust" to the wheat as it is claimed the common variety may do.

Many people make a practice, especially in the winter, of systematically feeding the birds, and usually a feeding-platform is made—absolutely inaccessible to cats—and in full view of the windows,



**The Japanese War Memorial**

in the famous Stanley Park at Vancouver, B. C., which was unveiled at an imposing ceremony recently on the anniversary of the Battle of Vimy Ridge. At the base of the column, which can be seen from incoming liners on the Pacific, are inscribed the names of fifty-four Japanese members of the Canadian Expeditionary Force who gave their lives in the war. At the top of the column is a light which will be kept constantly burning as a symbol of undying appreciation of the sacrifices of the men who died in the cause of the Allies.

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so that the birds may be seen at their repast. The platform may consist of a slab of wood covered with bark, the bark upmost. Into its crevices melted suet mixed with seed is poured, and the feathered visitors rejoice, many kinds of them visiting the free-lunch counter during the day. In summer a bird-bath and drinking place is sure to prove attractive and is easily made. Upon the top of a post a stand for the bath is arranged, projecting outward in such a way that the cat cannot get up. The vessel itself may be made of cement or galvanized tin, or anything one chooses, but it should be shallow and provided with a border and "islands" upon which the birds can stand when drinking. The "islands" may be stones whose tops just project above the water, which should be frequently renewed. Also the vessel should be kept very clean.

It is quite the fashion nowadays, and one that meets with the full approval of the birds, to put up bird-boxes about the lawn. These may be fastened to trees or posts, and should look as much like a natural bit of log or tree as possible. Fancy bird-houses with peaks and gables and paint are no good. The birds are not attracted to them nearly so much as to the natural houses that cheat them into thinking they have discovered a nice hole in a tree. Bark makes a good cover for the bird-house, or bits of branches and twigs may be nailed on log-cabin fashion. The roof should shed the rain, and the bottom should be easily removable to permit of thorough cleaning when the birds have gone. A very important point is to have the hole big enough to permit the ingress of the bird yet keep out invaders. The hole to a wren-house, for instance, should be about the size of a quarter of a dollar. Houses with somewhat larger doorways will quickly be appropriated by larger birds. Of course protection against cats must be given. Frequently this is done by fixing a circle of tin, painted brown or green, about the tree or post at a little distance below the bird-house. Pussy can get so far, but no further. During the nesting season the birds will appreciate nesting material hung about on branches or fences—bits of string and old yarn, shreds of raffia, tufts of horse-hair, etc.

**School Work for the Birds.**

It is easy to interest boys and girls in the birds, and in many schools manual training work on bird-boxes is taken up as spring draws near with its promise of bringing the little migrants back from the south. In many places in Ontario this work is especially encouraged by the Horticultural Societies, which are now recognizing the advisability of lining up bird-encouragement and bird-protection as a part of horticultural work. Occasionally prizes for bird-houses are given to the boys at fall fairs.

In the United States "Arbor Day" and "Bird Day" are now usually celebrated together in the schools. In some New York State schools May 5th, "Audubon Day" has been chosen as a perpetual reminder of the birth of Audubon, the great American bird-lover and bird-student, and a practical exhibition, with essays and talks on birds, their use, care and habits, is a feature of the day.

Since birds are the most important check we have on fruit and crop-destroying insects, all this effort to stimulate interest in and appreciation of birds is very valuable, even from a commercial standpoint. It is valuable also from the esthetic and moral standpoint. Children and men and women who love birds are better than if they did not love them. There is opened to them a field of interest unknown to those who "never see" birds.—And the whole movement tends towards greater joy in life. What would spring be without the carolling of the little feathered songsters? What interest and beauty would not the woods and fields lose were there no longer any birds?

**Your Health.**

"MEDICUS"  
**Carbohydrates—Gasoline for the Human Machine.**

THE carbohydrates include foods containing sugar, starch and cellulose. They are universally distributed in the vegetable kingdom, being found in vegetables, fruits, grain, roots, leaves,

seeds, flowers, etc. The sugars, of which there are a number of different kinds e.g., cane sugar, milk sugar, malt sugar, fruit sugar, dextrose or glucose, etc., are among the more important of the carbohydrates.

Cane sugar, so-called because it is obtained from sugar cane, is identical, from a chemical standpoint, with the beet sugar made in Wallaceburg and Chatham from the sugar beet. As patriotic Canadians, we should use beet sugar rather than cane sugar which comes chiefly from Cuba.



**Mustapha Kemal Pasha**

Leader of the Turkish Nationalists, who has set up an independent Turkish Government at Angora. He claims that the Sultan is under the thumb of Great Britain, and that the Allies violated the armistice when they took possession of Turkish territory before the Treaty had been signed. The Allies claim that said territories were not Turkish but Arab. His forces are now marching on the Dardanelles.

Milk sugar is of special importance to the bottle-fed baby. It has been proven that this sugar is the most common cause of diarrhoea associated with green stools. So, in a case of diarrhoea in the baby, or when you notice green napkins even though there is no diarrhoea, reduce the amount of sugar the baby is getting. On the other hand, if the baby is constipated, give it more sugar and less fat. I recall a little mother who used ordinary brown sugar in place of purgatives, giving about 1/2 teaspoonful 2 to 4 times a day until the bowels become regular. Milk sugar is an especially valuable food in fevers. We feed fevers nowadays and milk sugar can be given in large amounts and it will not sour in the stomach. It is not nearly so sweet as the ordinary cane sugar or granulated sugar, but it has the same food value. It is often used to sweeten the lemonade and is used even

in cooking, in this way several ounces daily may be given.

Maltose, malt sugar, or a combination of maltose and dextrin (dextrin-maltose) is the best sugar to give the bottle-fed baby. It does not irritate the stomach and intestines and therefore is not so liable to cause a diarrhoea. Usually 1 to 1 1/2 ounces is given in 24 hours, the amount depending entirely on the condition of the bowels. If the napkins are green and loose, you are giving too much; if the baby is constipated, you can increase the amount. You can buy the dextrin-maltose at the drug store (Mead's dextrin-maltose) or you can prepare it yourself. The old-fashioned flour ball is a handy way of making it. Take a Windsor salt sack or make a cotton sack about the size of the lower half of your arm, fill it with flour and drop it into a kettle of boiling water. Boil from 2 to 4 hours, scrape off the outer crust and place the core in the oven till thoroughly dried. Then grate into a powder and place in a dry sealer.

Dextrose or glucose is the sugar that the body can burn up. Practically all the starch and sugar of the food in the process of digestion are changed to dextrose and circulate in the blood as such. This is very important when you want to give nourishment to your patient and perhaps the patient has no appetite or is vomiting. Dextrose can be dissolved in water and injected directly into the blood, of course, this is done by the doctor. The practical nurse can give it as a nutrient enema. To do this, you need a fountain syringe or a bulb-syringe. First give a soap suds enema (castile soap to make fairly good suds in soft water) and this will cleanse the bowel. Then 1/2 hour later, inject slowly the nutrient enema. Place your patient on her left side with the hips elevated (a pillow or two will do). To a cup of warm water add 1/2 teaspoonful of salt and a tablespoonful of ordinary corn syrup (which is largely dextrose or glucose). Inject slowly, taking about 10 minutes, and keep the water as near the body temperature as possible.

Glucose is not harmful. Its only sin is lack of sweetness, being about 1/2 as sweet as cane sugar. Practically all the candies, chocolates, marshmallows are made from glucose or corn syrup. And candies don't hurt kiddies, that is if you don't give them too much at any one time to interfere with their appetite for other foods. Neither am I convinced that candies favor decay of the teeth.

The chief function of the carbohydrates is to furnish heat and energy. It is the same with the coal in the furnace. It is all burned up into carbonic acid gas and water, which we inhale through our lungs. So the growing child, who takes a large amount of carbohydrates, is just filled up with heat and energy. He is hot, you know that, because you have had him for a bedfellow on a cold night. The mother knows he is hot because she is unable to keep him covered at night, and why should she try? He is loaded down with quilts and comforters, just as many as she puts over herself and then a few more! Then she tucks him in and

expects him not to kick and rebel. He is some kicker too, but don't blame him for it. He is too hot, and if he gets cold that doesn't mean of necessity he will get a cold. (Would you like to be told how you catch a cold?)

Carbohydrates not only furnish heat but also energy. Again the large carbohydrate diet of the growing child makes him restless—he is just bubbling over with energy. The mother says he is always into mischief, always doing something and why shouldn't he? He is like a steam engine with the safety valve screwed down tight. He will explode if you don't give him something to do. So mothers organize games, and teach your boy to play the game." By this, I mean train him to be "grand, square and upright"—no, I am not talking about pianos, I mean his character; his ideals—the things that make life worth living. As Wellington has said "Waterloo was won on the play grounds of Eton," so your boy's life-battles will be fought and won at the games which you make available for him. One reason that accounted in the past for the failure of any co-operative movement among farmers was this: the boys of a generation ago did not play games; life was too short, it was too much like a waste of time and energy and money, was scarce. They never knew what team work meant. They were unwilling to chase the balls all the time; they wanted to be the captain the pitcher or the batter, and if they didn't get what they wanted, there was a great temptation to pout and sulk. When they grew to manhood, the game was again played. The line fence—but why say more? Bad friends for a generation or two, and what did it amount to after all? So, once again mothers, if you want your boys to be worthy of you, encourage manly games, and you attend them, too, when you can. Take as much pleasure in an honest defeat as in an honest victory. The thing is not in beating the other fellow but in "playing the game."

Tell Dad to buy some balls, bats, gloves and a mask when he goes to town, and you mother, go along and buy a tennis racquet and net. Then you and dad will renew your youth by just showing those youngsters that you both are still in the game. Then too, you will find the car in the barn more often at night. You simply will not be able to pry the children away from home—there's too much fun. You can start your community spirit now, and your home and your farm can be the center of it all.

If you want your boy to be a "sissy", never dirty his clothes, never fight or get mad, never do anything unless he is told, never want to learn to swim or skate or play ball, do not allow him to eat any 1, sugar, on his porridge or in his cake. 2 starch, potatoes, (at \$6 a bag and they are cheap at that, compared to many other foods) bread or rice. 3, fruit, apples, etc. 4, vegetables, etc. But if he does eat any of these things, expect him to be a real boy.

**Sodium Iodide for Goiter.**

"Juanita," Simcoe Co., Ont.  
Goiter.—I have had goiter for about two years. Am 16 years old. How much sodium iodide will I need to take?

Ans.—You can purchase the sodium iodide at any reputable drug store. If you cannot get sodium iodide, potassium iodide will do just as well. Buy 1/2 of an ounce, and put it in a four-ounce bottle and fill with water. Take a teaspoonful in water once a day after dinner. Take a bottle of this medicine twice a year, every 6 months. It is not poisonous. You could take the whole bottleful and the only ill effect would be nausea and vomiting. Take a tape measure and see how large your neck is; record it. Do that again in 6 months and let us know the result.

An old Scotch lady was noticed by her minister to fall asleep every time he preached, whereas, when young men from St. Andrew's University acted as substitutes, she remained awake and was most attentive.

The minister one day demanded an explanation of her conduct. She replied:

"Weel, meenister, I ken the word of God is safe in your hands; but when the young fellows from St. Andrew's come along it takes me all my time to watch them."—Houston "Chronicle."



**The Orient Teaching the Occident.**

A Japanese in England teaching English boys to make the lacquer ware for which Japan and China have long been famous.

FOUNDED 1886



confessed, with shame, that they have paid sacrifice for or the adornment of wealth is a matter for real that the wings and bodies of birds are no longer in millinery—partly because of many women has rebelled against the dead bodies of song-birds, partly because they have been made in some such desecration. But a year ago there was no such beautiful bird as the cruelty of woman's vanity; the bodies of humming-birds seen on hats, and great made a business of milking birds for the mill-

of revolution has come as not gone far enough. Men are frequently seen adorned with tufts of feathers. Could those women in church if they realized the plumes of the egret grow only in the nesting when they die to adorn a whole nestful of little birds?

of fact this country on about 10 per cent. that was here once upon even leaving millinery—the number is con- ing. As the forests de- cultivation of fields are robbed of their places. Many nestfuls of young birds of the ies, are sacrificed by in the hayfields. Cats nies take their toll. It some time ago that ay up construction gangs ay route in Northern shooting and cooking n there are the endless e migrating season—the bers dashed to death d buildings and shore e birds are becoming ery high, but many still

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**Protecting the Birds.**

when there are plenty out the home, where cats d shot-guns not at all. gnize their friends—as conspicuously proved at Leamington, Ontario. enemies are minus.

definite ways of at- One of these is to plant rry, Juneberry, elder- llberry and wild cherry orchard, barnyard or here the space can be rees and shrubs are selves, afford food d help to distract their e fruit-garden,—for fruit. Also sunflowers, t furnish food much summer and winter "nese" barberry, by the- ing "rust" to the wheat the common variety

ake a practice, especially systematically feeding ally a feeding-platform ly inaccessible to cats view of the windows,

**The Children's Poem.**

**Bird Songs.**

HELEN M. RICHARDSON.

The robin sings: "Cheer up! cheer up!"  
 The bluebird: "Tru-al-ly!"  
 The meadowlark: "Spring o' the year!"  
 Goldfinch: "Per-chic-o-ree!"  
 The crow sends forth his: "Caw! caw! caw!"  
 Redwing his: "O-ka-lee!"  
 And we all know the blithesome song  
 Of merry chickadee.

And then who has not heard bobwhite  
 His name call o'er and o'er,  
 From fence rail or an old stone wall  
 Where he has perched before?  
 "Chewink! chewink!" ground robin says,  
 "Teacher!" the oven bird;  
 And I suppose there're many notes  
 That I have never heard.

**The Fashions.**

**How to Order Patterns.**

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Address Fashion Department, The Farmer's Advocate and Home Magazine, London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

**POSITIVELY NO PATTERNS WILL BE SUPPLIED EXCEPT THOSE ILLUSTRATED.**

When ordering, please use this form:—  
 Send the following pattern to:

Name.....  
 Post Office.....  
 County.....  
 Province.....  
 Number of Pattern.....  
 Age (child or misses' pattern).....  
 Measurement—Waist..... Bust.....  
 Date of issue in which pattern appeared.....

3234. A New Play Apron.  
 Cut in 5 sizes: 1, 2, 3, 4 and 5 years.  
 A 4-year size will require 1½ yard of 36-inch material. Price 15 cents.

3247. A Charming Gown.  
 Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 4¾ yards of 36-inch material for the dress, and 1¾ yards for the jumper or over-blouse. The width of the skirt at lower edge is 1¾ yard. Price 15 cents.

3223. Girl's Dress.  
 Cut in 4 sizes: 4, 6, 8 and 10 years. A 6-year size will require 2 yards of 27-inch material for the guimpe, and 2½ yards for the overdress. Price 15 cents.

3219. Lounging Robe.  
 Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42 and extra large, 44-46 inches bust measure. A medium size will require 7¾ yards of 36-inch material. The width of the skirt at its lower edge is 2 yards. Price 15 cents.

2871. A Simple Dress.  
 Cut in 4 sizes: 2, 4, 6 and 8 years. Size 4 requires 2½ yards of 36-inch material. Price, 15 cents.

3221. Misses Dress.  
 Cut in 3 sizes: 16, 18 and 20 years. For an 18-year-size, 4¾ yards of 38-inch material will be required. Width of skirt at lower edge is about 1¾ yard. Price 15 cents.

2893. Girl's Dress.  
 Cut in 3 sizes: 12, 14 and 16 years. Size 14 requires 4½ yards of 36-inch material. Price, 15 cents.

3225. Ladies' Apron.  
 Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; extra large, 44-46 inches bust measure. A medium size will require 4 yards of 36-inch material. Price 15 cents.

3230. Ladies' Dress.  
 Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 5½ yards of 36-inch material. The width of the skirt at lower edge is 1¾ yard. Price, 15 cents.



3238. Girl's Dress.  
 Cut in 4 sizes: 4, 6, 8 and 10 years. A 6-year size will require 3¾ yards of 27-inch material. Price, 15 cents.

2991. Ladies' House Dress.  
 Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5¾ yards of 36-inch material. Width at lower edge, is about 2¼ yards. Price, 15 cents.

2905. Ladies' Corset Cover.  
 Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium requires 1½ yard of 36-inch material. Price, 15 cents.

3231-3218. A Charming Costume.  
 Waist, 3231 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 3218 cut in 7 sizes: 22, 24, 26, 28, 30, 32, and 34 inches waist measure. For the entire costume 7¾ yards of 36-inch material will be required for a medium size. The width of the skirt at lower edge is about 1¾ yard. TWO separate patters 15 cents FOR EACH pattern.

3246. A Dainty Dress.  
 Cut in 5 sizes: 4, 6, 8, 10 and 12 years. A 10-year size will require 3¾ yards of 27-inch material, and 1¾ yard for the jumper or over-blouse. Price 15 cents.

3224. Ladies' Apron.  
 Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium requires 1½ yards of 36-inch material. Price 15 cents.

Christ will take the trouble to read the "Quiet Hour." Those who are real Christians are living by faith every moment. With their gaze fixed on Christ's perfect life they cannot help feeling repentant, because they are unlike the Great Example set them. When they set out to obey their Captain's orders the very first step is baptism (S. Matt. 28:19). The next step (if we may judge by Acts 19:5, 6) seems to have been the "laying on of hands." As for the doctrines of the resurrection of the dead and of eternal judgment, they are never forgotten by those who are living with the life after death always in view.

If I have said little about these things it is not because they are unimportant in my estimation, but because they are so tremendously important that I take it for granted every sincere Christian has, deep down in his life, the six-fold foundation spoken of in our text. Our "first principles" (according to the Epistle to the Hebrews) are repentance, faith, baptism, laying on of hands, and the certainty of resurrection and eternal judgment. The writer of the Epistle says: "Let us cease to speak of the first principles of Christ, and press on unto perfection."

When a foundation is laid it remains there to uphold the building. It is of the greatest importance, but the objective of a builder is not reached as soon as the foundation is laid. Those who rest all their hopes on Christ, turning from their own poor works in deep penitence and putting all their faith in Him, cannot be satisfied as if they had "already attained, either were already perfect," as St. Paul puts it. The Great Objective is as far beyond our attainment as the sun is out of our reach in the sky. And yet we can never rest satisfied short of the ideal our Lord has held up in the words: "Be ye therefore perfect, even as your Father which is in heaven is perfect."

If the Pharisee had really been as good as he thought himself to be, his way of sitting down in self-satisfaction would at once have proclaimed him a failure. Until we are perfect, as our Father is perfect, we must press toward the mark.

It is related of a man who was president of a great Rail Works in the U. S. that when a visitor asked the secret of his business he answered: "We always try to beat our last batch of rails. That's all the secrets we have, and we don't care who knows it."

A Christian, who keep his eyes on the beauty of the Master's life, can never grow self-satisfied. If he measures himself by other men—especially if he chooses the most degraded person he can find—he may think that he is as good as his neighbors. Perhaps better than the average. The tree that looks only at the little bushes on the ground may feel very high up. But, if it looks up at the sun, its attainments don't seem worth boasting about.

Why do we struggle after perfection? Is it because we expect to be paid well for goodness when this early life is over? Some people talk as if our only object in trying to be holy were for the sake of the eternal reward. What do you think of a man who is only honest because he thinks that is the best policy? A man who is honest when it is not good policy is really trustworthy.

Our Lord tells His disciples to return blessing for cursing, love for hate, prayers for persecutions. The reason He gives for such behaviour is "that ye may be the children of your Father which is in heaven: for He maketh His sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust." He goes on to explain that if we only love those who love us we have no right to call ourselves children of the God of Love. "What do ye more than others?" He asks. "Be ye therefore perfect, even as your Father which is in heaven is perfect. Our objective towers high above us. Shall we—like the Pharisee—choose one more easily reached? There would be no lasting peace in such a compromise.

It is our business to "press on unto perfection, no matter what our past record has been. Coningsby Dawson tells of an Englishman who hurried from Mexico to offer his services to England during the War. He was consumptive, but was eager to do his bit. "I could last six months," was his eager assertion, "it would be something. Heaps of chaps don't last as long."

In Christ's army there is room for every

**Hope's Quiet Hour.**

**Our Objective.**

Be ye therefore perfect, even as your Father which is in heaven is perfect.—S. Matt. 5:48.

Wherefore let us cease to speak of the first principles of Christ, and press on unto perfection, not laying again a foundation of repentance from dead works, and of faith toward God, of the teaching of baptisms, and laying on of hands, and of resurrection of the dead, and of eternal judgment.—Heb. 6:1, 2, (R. V.)

One of our readers has found fault with me for "preaching sermons" when I have never been ordained. I have no desire to "preach" and our weekly talks are not intended to be sermons. My friend has also told me that he can't find in my writings any mention of "faith" or "repentance" or "baptism" or the "laying on of hands."

I thought that I was speaking each week to real Christians—it is hardly likely that those who care nothing for

FOUNDED 1891

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very first step is baptism  
8:19). The next step, (l  
e by Acts 19:5, 6) seems to  
be "laying on of hands,"  
doctrines of the resurrection  
and of eternal judgment,  
er forgotten by those who  
h the life after death—

aid little about these things  
ause they are unimportant  
ation, but because they are  
sly important that I take  
ed every sincere Christian  
wn in his life, the six-fold  
oken of in our text. Our  
ples" (according to the  
e Hebrews) are repentance,  
n, laying on of hands, and  
of resurrection and eternal  
The writer of the Epistle  
cease to speak of the first  
Christ, and press on unto

oundation is laid it remains  
old the building. It is of  
importance, but the objective  
not reached as soon as the  
laid. Those who rest all  
Christ, turning from their  
ks in deep penitence and  
their faith in Him, cannot  
as if they had "already  
er were already perfect,"  
ts it. The Great Objective  
nd our attainment as the  
our reach in the sky. And  
ver rest satisfied short of  
ord has held up in the  
ve therefore perfect, even  
her which is in heaven is

ee had really been as good  
himself to be, his way of  
in self-satisfaction would  
proclaimed him a failure.  
perfect, as our Father is  
st press toward the mark.  
of a man who was president  
Works in the U. S. that  
asked the secret of his  
swered: "We always try  
st batch of rails. That's  
we have, and we don't  
s it."

who keep his eyes on the  
Master's life, can never  
ed. If he measures him-  
n—especially if he chooses  
led person he can find—he  
is as good as his neigh-  
better than the average.  
looks only at the little  
ground may feel very  
if it looks up at the sun,  
don't seem worth boasting

struggle after perfection?  
e expect to be paid well  
en this earthly life is over?  
lk as if our only object  
holy were for the sake of  
ard. What do you think  
s only honest because he  
e best policy? A man who  
it is not good policy is  
thy.

s His disciples to return  
ng, love for hate, prayers  
The reason He gives  
our is "that ye may be  
your Father which is in  
maketh His sun to rise  
on the good, and sendeth  
st and on the unjust."  
plain that if we only love  
us we have no right to  
hildren of the God of  
o ye more than others?"  
e therefore perfect, even  
ich is in heaven is perfect.  
towers high above us.  
e Pharisee—choose one  
hed? There would be  
in such a compromise.  
ness to "press on unto  
matter what our past  
n. Coningsby Dawson  
hman who hurried from  
his services to England  
He was consumptive,  
do his bit. "I could  
was his eager assertion,  
something. Heaps of  
s long."

there is room for every



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penitent soul. He gladly welcomes each  
prodigal, who turns in loathing from  
past sins and longs for purity and soul-  
healing. The thief, who—by his own  
confession deserved to be crucified, asked  
only to be remembered by the King.  
But the promise of satisfying comradeship  
was instantly given. The opportu-  
nity for earthly service seemed to be over,  
yet that dying recruit was accepted and  
welcomed by the Commander-in-Chief.  
Perhaps the opportunity was not over,  
after all. The penitent thief, who turned  
to Christ in the eleventh hour, has  
helped many despairing souls to trust  
the Saviour in death, even though they  
cared nothing for him in days of health.

We think of the wasted years here,  
and then we try to picture the joy of that  
penitent soul in Paradise. He had faith  
to recognize and courage to acknowledge  
the King, who was insulted by the crowd  
in His apparent helplessness. Satan  
dare not claim that victim as his own,  
when the King Himself walks with him  
as a familiar friend.

There was a joyous welcome for the  
penitent thief. Shall we become dis-  
couraged though our objective is so far  
out of reach? He knows we love Him  
and are trying to be like Him. "He will  
forgive if we only believe,"—if we honestly  
confess our sins and press toward the  
mark, trusting in Him for the strength  
we need.

In this age of "great deeds" we must  
not grow discouraged if there is little  
chance in our lives for anything more  
exciting than the trivial round and the  
common task. A dying woman said  
despairingly: "I haven't done anything,  
not anything at all. Only cared about  
my home, looked after it, and tried to  
make my family comfortable and happy."  
How surprised many such home-makers  
will be when the King says to them:  
"Inasmuch as ye have done it unto one  
of the least of these My brethren, ye  
have done it unto Me."

We are far from our objective, yet  
we still press toward the mark, looking  
unto Jesus.

Are you feeling discouraged? Why, the  
King Himself is your Comrade. He is  
close beside you.

He cares about your progress, and He  
says: "All power is given unto Me in  
heaven and in earth."

We are weak and sinful but we are  
of great value in the sight of God. So  
Browning says:

"All I could never be,  
All men ignored in me,  
This, I was worth to God."

His eyes are on us, and our eyes are on  
Him. We are helpless alone.

"But I need, now as then,  
Thee, God, who moudest men."

Without Him we can do nothing but  
with Him our power cannot be measured.  
St. Paul showed his faith when he said:  
"I can do all things through Christ which  
strengtheneth me."

This is the order of our Chief: "Be  
ye therefore perfect." Shall we be faith-  
less and discouraged? "Man has forever,"  
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I wish to thank the friends who have  
sent papers for the shut-in. Such publica-  
tions as "Onward," "The King's Own,"  
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more annoyance. He is the thorn in the  
flesh that can be physically felt. He has

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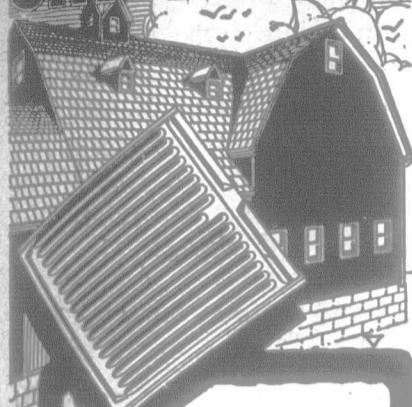
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also come to be looked upon, somehow, as the hall-mark of poor housekeeping.—But he is not brought up in horse-manure or other dirt as is the house-fly, and he does not go, as does the house-fly, straight from a pile of filth that adheres to hairy legs to our food supplies, over which to crawl and preen with great content.

Yes, straight from the uncovered manure heap or privy vault the house-fly may come, or—even worse—straight from the carelessly deposited sputum of the consumptive or excreta of the typhoid patient. He neither knows nor cares that dirt and disease germs cling to his legs, and great is his satisfaction if he can find a juicy roast of meat or sugary pie over which to make an itinerary, finding a free-lunch counter at every step. If the pantry is barred and sealed to his aerial way he is still quite philosophic—he is contented with the next best thing; and that, perhaps, is the baby's eyes as he lies sleeping in the cradle, or little Mary's molasses-covered "piece" which she has laid down for a moment but intends to resume eating as soon as she has transacted some very important operation of play.

Thus it is that the house-fly becomes one of the most active agents in carrying and distributing disease—in causing epidemics. Even were that not so war to the death should be waged upon him for his filthiness. Always he is filthy, and often he may be a positive danger signal.

**Where Flies Come From.**

It is not necessary to state, perhaps, that the eggs of the fly are laid preferably in horse-dung; failing that, in any other damp and dirty material that can be found. The dirt in the cracks of a piggery will do for a hatching-bed, a bit of decaying vegetable matter in a cellar, a pile of rotting straw, an old mattress thrown on a dump,—anything at all that is muggy, and smelly, and "horrid." Within a few days the eggs hatch into tiny, white wriggling maggots. In a few days more the maggots become still and rigid, each in a hard little pupa-case of its own; but in a surprisingly short time the changes in the pupa form are completed, the end of the pupa-case is opened and the full-grown fly emerges all ready for action.

The first eggs are laid by the few big buzzing females that have escaped the winter, snugly hibernating in some crack or hole. But the new crop of females hasten to lay more eggs—on the dung-pile, of course, if the manure hasn't been hauled to the field or properly covered up; otherwise in the first conveniently dirty spot. Again and again during the summer the process is repeated, and so the flies multiply with amazing rapidity until, by "preserving-time,"—but you know how they are at preserving-time. Incidentally this happens to be typhoid-time, *par excellence*, also you can deduct the inference for yourself.

**How to Fight Flies.**

Swatting the flies helps a little to rid the house of the pest. So does fly-poison, although it is a disagreeable method, and dangerous if there are children about who may drink the sweetened water. Better is sticky fly paper. If the flies can get into the pantry place some tanglefoot there, near to the food that has the most odor but which should be screened by a wire-netting cover. Put some more near the window in the kitchen or elsewhere; a few particles of cheese distributed over the paper will help to bait the flies. Another recommendation is to darken a room, put a few drops of carbolic acid on a hot shovel, and swing the screen door open as the flies "flee" to it. (We have not tried this personally).

Screen doors and windows help to keep flies out. Often a room may be cleared of any that have entered by drawing down the window-shades leaving but one bright—but not too bright—opening; brights are attracted by light, but seem to be repelled by very bright sunshine. In a room in which smells are conspicuous by their absence—wide open, unscreened windows may often be depended upon to let flies escape, and the room will be fairly clear of them until the "weather" outside begins to be cold in autumn, when the screens will have to be requisitioned.

In short, in fighting the pest indoors it should always be remembered that the fly has but one ambition in life—to head towards the strongest smell that is pleasant to him. He loves the smell of meat. He loves the smell of cheese.

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And he loves the smell of most of the sweet things that are agreeable to human palates. There are more smells in the kitchen than out of doors, hence he makes for the kitchen. There are more smells in the pantry, perhaps, than in the kitchen, hence he makes for the pantry. The use of screen doors and windows and screen covers for food is to keep him out.

Flies never come, by the way, because they see something that looks eatable. Their eyesight is very bad. They are chiefly "nose" so far as sensations go.

The very best way to avoid flies, however, is to attack the trouble at the source,—the best way to be rid of anything undesirable, is it not? Since flies breed in manure and filth, see that there is no filth. If the manure cannot be hauled to the fields make an effort to have it covered up or closed in, in some way that will be effective without giving trouble when it is time to haul it out. The cleaner the stables the fewer the flies of any kind. Clean up every corner in which vegetable or other matter is decaying. Clean the cellar very thoroughly. If you have a compost heap (and nothing is better than compost for the garden) keep it covered with a big inverted box, or use any other device that suggests itself. Remember that the fly, like every other living creature, "tends to multiply up to the limit of its food supply," and that the staple food of flies of all kinds is horse manure and damp dirt; the maggots have no other food. Selected samples of stable manure are reported as assaying 2,000,000 individual fly-maggots to the ton. So—clean up! It is as necessary for the men to do early spring house-cleaning about the stables as it is for the women to house-clean the house—perhaps far more so.

Keep the garbage pail covered (to keep flies from feeding on it) and keep it clean, so that eggs will find no place to hatch out in the crevices around the bottom. Extra clean people keep two swill buckets, so that one may always be clean and dry and ready for use.

By observing all of the above precautions the fly plague about any place should be greatly lessened. The fly can be put down. An observer who has spent much time in England notes that to-day there are practically no flies there. Perhaps this insect does not love England's cool summers as well as our warm ones, yet this same observer states that 50 years ago flies were a nuisance there. Now England is kept clean; flies starve.

**Painting House.**

For W. H. T., York Co., Ont.

The color of paint used for a verandah on a red brick house must depend somewhat on the color of the brick. Some "red" brick is very light in color, others are in varying shades of red to the very deep color sometimes seen in pressed brick. With the very dark red or brownish shades of brick a certain shade of rich brown paint looks very well, but perhaps the safest color to venture upon is a very dark olive or "bottle" green. Do not use any other color for "pointing it up." Paint the trimmings and posts the same inside and out. The inside of the railing may also be of the same color, or if you prefer it may be the same color as the floor. Occasionally a light "stone grey" paint is used with red brick; it looks very well.

**Identification of Wild Flower.**

For J. A. Y.

The little wild flower you sent was almost too dry to identify very well, but it appears to be "Twin-leaf" (*Jeffersonia diphylla*). The description is as follows: Flowers, white, solitary, growing on a naked scape. Calyx of 4 sepals that fall early. Corolla 1 inch broad, of 8 petals. Stamens 8. Pistil, one; stigma 2-lobbed. Leaves grow on long stalks from the base, and are parted into 2 rounded leaflets which have given it the name of twin-leaf. The plant grows in rich woods, may be found, as you say, "growing among the blood-root." It flowers during April and May.

**Wool Bats. Ar h Supports.**

Dear Junia,—I see by the last "Advocate" A. M. wishes to know where to get the wool bats. Did she try the drygoods stores? That is where I always went for them. If they have not got them in stock they should be able to get them

**Watson's UNDERWEAR**

Those who appreciate style, fit and finish in their underwear, invariably ask for Watson's. The Spring Needle Ribbed stitch gives our garments added softness, greater strength, and longer life. Made for men, women and children in all styles, sizes and fabrics.

The Watson Manufacturing Company, Limited  
Brantford, Ontario

Canadians eat tons daily of

**McCormick's  
Jersey Cream Sodas**

Sold fresh everywhere. In sealed packages.

Factory at LONDON, Canada.

Branches at Montreal, Ottawa, Hamilton, Kingston,  
Winnipeg, Calgary, Port Arthur, St. John, N.B.

Yes sir!  
I said  
**Snowflake**  
because I want  
**FULL STRENGTH  
Ammonia**

MAY 20, 1921

**POULTRY AND EGGS**

Continued advertisement under this heading. Each insertion. Each figure for two weeks counted. Cash order for any advertisement will find place for less than 60 cents.

**BEAUTIFUL WHITE**—large, brown eggs. Hastings, Schomberg.

**BARRED ROCKS**—Ting \$1.50. Guelph, Ont.

**BARRED ROCKS**—extra good layers. \$3.00 for 30. Mrs. ...

**BARRED ROCKS**—\$1.75 per fifteen, barred hens and Brussels, Ont.

**BARRED ROCKS**—thirty, \$3.75; From well-bred stock direct from the ... G. Kingville, Ont.

**EGGS FOR HATCHING**—LAV Barred Rocks. Wm. J. Hills, Wm. ...

**EGGS OFF MY CO**—Strong bone, year-round layers, vite, Ont.

**HATCHING EGGS**—LAV Rose Comb stock. Fifteen each; ten dollars per R. J. Cornwall, Ont.

**PARTRIDGE ROCKS**—Hatching eggs. Markham, Ont.

**PUGH'S PEARL**—Island Reds—why not now? After May 15th \$5.00 per dozen. R. R. 3, Claremont.

**ROSE-COMB ROCKS**—good winter layers. fifteen. Alex. McI...

**TRAP-NESTED ROCKS**—Our penning Contest. Hat four-fifty per thing. Johnston, Draw...

**WHITE WYANDOTT**—strains my special per thirty. Frank...

**SUPERIOR ROCK**—From 5 Best in ...

Pen No. 1.—The imported in the (Kingston, Ont.), sired by Parks' dam—hen No. 71 winter, 200 brown year. Price, \$5.00. Pen No. 2.—P imported in the e ets are supreme. Pen No. 3.—T of Rileys, imported they have won t Price, \$4.00. Pen No. 4.—P strain, imported color, with quality. Pen No. 5.—T Guelph; a hardy winter layers. Pr 15 per setting. price. Pullets of Express prepaid. A. H. CROZIER

**Eggs Wanted**—Top prices paid titles of heavy liv speciality is poultry ern Ontario for ... C. A. ... 78 King St.,

Advertisements heading, such as Situations Wanted TERMS—Four Each initial coun two words. Nam Cash must alwa advertisement ins

**HIGH-BRED CO**—ERS, with ear Males \$5, femal Ont.

**PURE-BRED S**—for sale, can b Irwin, Ripley, Ont.

**WANTED—MA**—doing all kind after pure-bred s bogs if necessary expected. Every Box 98, Farmer's

MAY 20, 1920

**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.

**BEAUTIFUL WHITE ROCKS, BRED-TO-LAY**—large, brown eggs; two dollars fifteen eggs. S. Hastings, Schomberg.

**BARRED ROCKS—LAYING STRAIN—SETTING \$1.50.** Mrs. Berry, 52 Queen Street, Guelph, Ont.

**BARRED ROCKS, MAMMOTH SIZE, AND** extra good laying strain. Eggs—\$2 for 15; \$3.50 for 30. Mrs. W. B. Annesser, Tilbury, Ont.

**BARRED ROCKS, O. A. C. STRAIN—EGGS** \$1.75 per fifteen, \$9 per hundred. Large, well-bred hens and grand layers. A. A. Lamont, Brimley, Ont.

**BARRED ROCK EGGS—FIFTEEN, \$2.00;** thirty, \$3.75; fifty, \$5.50; \$10.00 hundred. From well-bred and grand laying hens. Order direct from this advertisement. W. Bennett, Box 43, Kingsville, Ont.

**EGGS FOR HATCHING, FROM BRED-TO-LAY** Barred Rocks; two dollars per fifteen. Wm. J. Hills, Wheatley, Ont.

**EGGS OFF MY GUELPH 1919 CHAMPIONS**—Strong bone, fancy barring; exceptional all-year-round layers, \$3 per 15. John Fenn, Plattsville, Ont.

**HATCHING EGGS—BROWN'S BRED-TO-LAY** Rose Comb Rhode Island Reds, good stock. Fifteen eggs, two dollars; thirty, three dollars; ten dollars per hundred. Robt. J. Brown, R. 2, Cornwall, Ont.

**PARTRIDGE ROCKS, BUFF LEGHORNS.** Hatching eggs \$1.50 per setting. R. H. Crosby, Markham, Ont.

**PUGH'S PEERLESS SINGLE-COMB RHODE** Island Reds—the kind that you eventually buy—why not now? Eggs from grand utility stock. After May 15th \$1.50 per setting of 15 eggs; exhibition stock \$5 per setting. Fred. M. Pugh, R.R. 3, Claremont, Ont.

**ROSE-COMB RHODE ISLAND RED FROM** good winter laying strain. Two dollars for fifteen. Alex. McKinney, Erin, Ont.

**TRAP-NESTED BARRED PLYMOUTH** Rocks—Our pen is in second place Ottawa Laying Contest. Hatching eggs, two-fifty per fifteen, four-fifty per thirty. Mating list free. W. J. Johnston, Drawer 246, Meaford, Ont.

**WHITE WYANDOTTES—HEAVY LAYING** strains my speciality. Eggs \$3 per fifteen, \$5 per thirty. Frank Morrison, Jordan, Ont.

**SUPERIOR BARRED PLYMOUTH ROCK EGGS FOR SALE**  
From 5 Best Bred-to-Lay Families in both Countries.

Pen No. 1.—Thompson's Imperial Ringlet hens imported in the eggs, headed by Mr. Coldham's (Kingston, Ont.), Pedigreed Ringlet Cockerels, sired by Parks' prize bird, U.S.A., first dam—hen No. 71 laid 70 eggs in 72 days in mid-winter, 200 brown eggs of standard weight in one year. Price, \$5.00.

Pen No. 2.—Parks' Superior Ringlet strain, imported in the eggs. Of all bred-to-lays, Ringlets are supreme. Price \$5.00.

Pen No. 3.—The large, dark bred-to-lay strain of Rileys, imported in the eggs. As show birds, they have won the highest awards in U.S.A. Price, \$4.00.

Pen No. 4.—Thompson's large bred-to-lay strain, imported in the eggs, medium light in color, with quality and utility. Price, \$3.00.

Pen No. 5.—The O.A.C. bred-to-lay strain of Guelph; a hardy handsome fowl, extra good winter layers. Price \$2.00.

15 per setting. Infertile eggs replaced at half price. Pullets or cockerel bred eggs as desired. Express prepaid.

A. H. CROZIER, Box 16, Meadowvale, Ont.

**Eggs Wanted—Live Hens Wanted**  
Top prices paid for eggs. We require large quantities of heavy live hens at very top prices. Our specialty is poultry. Get the best market in Western Ontario for your poultry by selling to—

C. A. MANN & CO.  
78 King St., London, Ont.



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.

**HIGH-BRED COLLIE PUPS—BORN HEELERS**, with ears erect; dark sable and white. Males \$5, females \$4. J. E. Johnston, Whitby, Ont.

**PURE-BRED SCOTCH COLLIE PUPPIES** for sale, can be Registered. Apply to W. W. Irwin, Ripley, Ont.

**WANTED—MARRIED MAN CAPABLE OF** doing all kinds of farm work and of looking after pure-bred Shorthorn cattle and Yorkshire hogs if necessary. State experience and wages expected. Every convenience on farm. Apply Box 98, Farmer's Advocate, London, Ont.

from the woolen mills. No doubt they may be higher priced now than when I got my last supply; about four years ago they were one dollar a pound then. The low-grade wool would not be nearly so expensive and would do just as well. It could be bought from any one who raises sheep. Then by preparing it at home the cost would be much less.

According to Junia's letter I should have used my head and remembered that times have changed in the last few years. However, I hope A. M. will be able to have all the nice warm wool comforters she wishes. I have the wool and covering; if I only had the strength I might have a comforter too.

Will Junia kindly tell us about her shoes with the arch supports in them. Were they made to order or can the arch be changed without spoiling the shape of the shoe? What would the price be likely to be now? Where could you get them?

ANOTHER FARMER'S WIFE.  
Elgin Co., Ont.

The shoes I referred to are "Dr. Selby's Arch-Support Shoes." They are not made to order, but can be got at any good shoe store. If one cannot get these shoes conveniently one can usually get Dr. Scholl's arch supports, which can be slipped into any shoe. They make the shoes heavy, but relieve the strain on the foot. They can be got at any good shoe store.

**Painting Ceilings.**

EDITOR "THE FARMER'S ADVOCATE":

Allow me to pass on to the readers of your paper a few valuable points on painting ceilings.

How frequently do we hear farm women complaining about the water stains, spots and so forth on the ceilings of their rooms, and that they have used white wash several times with no difference on them. If you are one of those in that class try the following method: Go over the ceiling once, giving it a good coat of "sizing glue" which can be bought at any general store. Allow it to become perfectly dry before beginning to paint, which takes from six to ten hours, according to the temperature of the room. You are now ready to paint. Get a can of "flat wall paint," any color you wish, and give it two coats and you will find every stain has disappeared. A little more about the color. For myself I have always used white, pale or sky blue, as they are very hard to be distinguished from whitewash when finished. The "sizing glue" fills all crevices, making a smooth surface for painting, so do not attempt to paint without first using it. On some ceilings I have seen the old whitewash beginning to scale off. If this happens to be the case the ceiling had better be washed before applying the glue, as this tends to harden the old whitewash and prevents further trouble.

Hoping many readers will find this beneficial.

I remain as ever,  
Northumberland Co., Ont. J. L. R.

**The Fireless Cooker.**

**N**OW that the fuel supply of the world is a real problem, the fireless cooker should become very fashionable. It is certainly a great saver of wood and coal. Another advantage is that by its use the kitchen is kept cooler in summer.

A writer in *American Cookery* describes it as "the greatest labor-saving device yet invented."

"Not only does it enable one to prepare a meal with but few steps," he continues, "but one can have it ready, tempting and hot, without further effort after once putting it into the containers. Foods require no watching, stirring, turning or basting while in the process of cooking in a fireless."

"Also there is a saving of 50 per cent. fuel consumption; very little evaporation takes place; flavor is cooked into the food; it does not shrink, nor dry food out, therefore nothing is wasted."

"The seamless aluminum compartments are best, as they absorb no odors or tastes and are easily cleaned. After once using the fireless the owner wonders how she ever did without it."

"Not only baking, roasting, boiling, steaming and stewing are accomplished (by the modern cookers) but desserts are frozen without motion successfully."

**You Need What We Can Provide**

You want to improve your stock, and increase your herds, but perhaps you lack the necessary capital.

It is our business to make advances to responsible, progressive farmers.

Consult the manager.

**THE DOMINION BANK**

**The Road to Independence**

Trouble comes to all of us at one time or another.

The man with a snug bank account, is fortified against the "slings and arrows of outrageous fortune".

It is the duty of every man to lay aside something for the inevitable rainy day.

Open a Savings Account today—and take your first step along the road to Independence.

**THE MERCHANTS BANK**

Head Office: Montreal OF CANADA Established 1864.

With its 138 Branches in Ontario, 44 Branches in Quebec, 1 Branch in New Brunswick, 2 Branches in Nova Scotia, 36 Branches in Manitoba, 46 Branches in Saskatchewan, 86 Branches in Alberta, and 12 Branches in British Columbia, serves rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

**Enjoy Better Baking—**

Use

**EGG-O Baking Powder**

Egg-O Baking Powder Co., Limited, Hamilton, Canada

**Use Power in the House as well as in the Barn**

Runs by Motor or Engine

**YOU** know how much farm work is saved by electric motors and gasoline engines. Why not adopt the same idea in the house? Backaches from washing are out-of-date—successful housekeepers everywhere insist on washing machines, and the best idea of all is the power washer, because it does all the work itself and needs no attention whatever.

**Maxwell Power Bench Washer**

—has proved itself a wonderful friend to others. Let it help you. It will even do the wringing! It handles the biggest or smallest wash.

heaviest or daintiest clothes with no tearing or wearing. Pays for itself over and over! Made in three sizes. Write for particulars.

**MAXWELLS LIMITED, Dept. W - St. Marys, Ontario 40**



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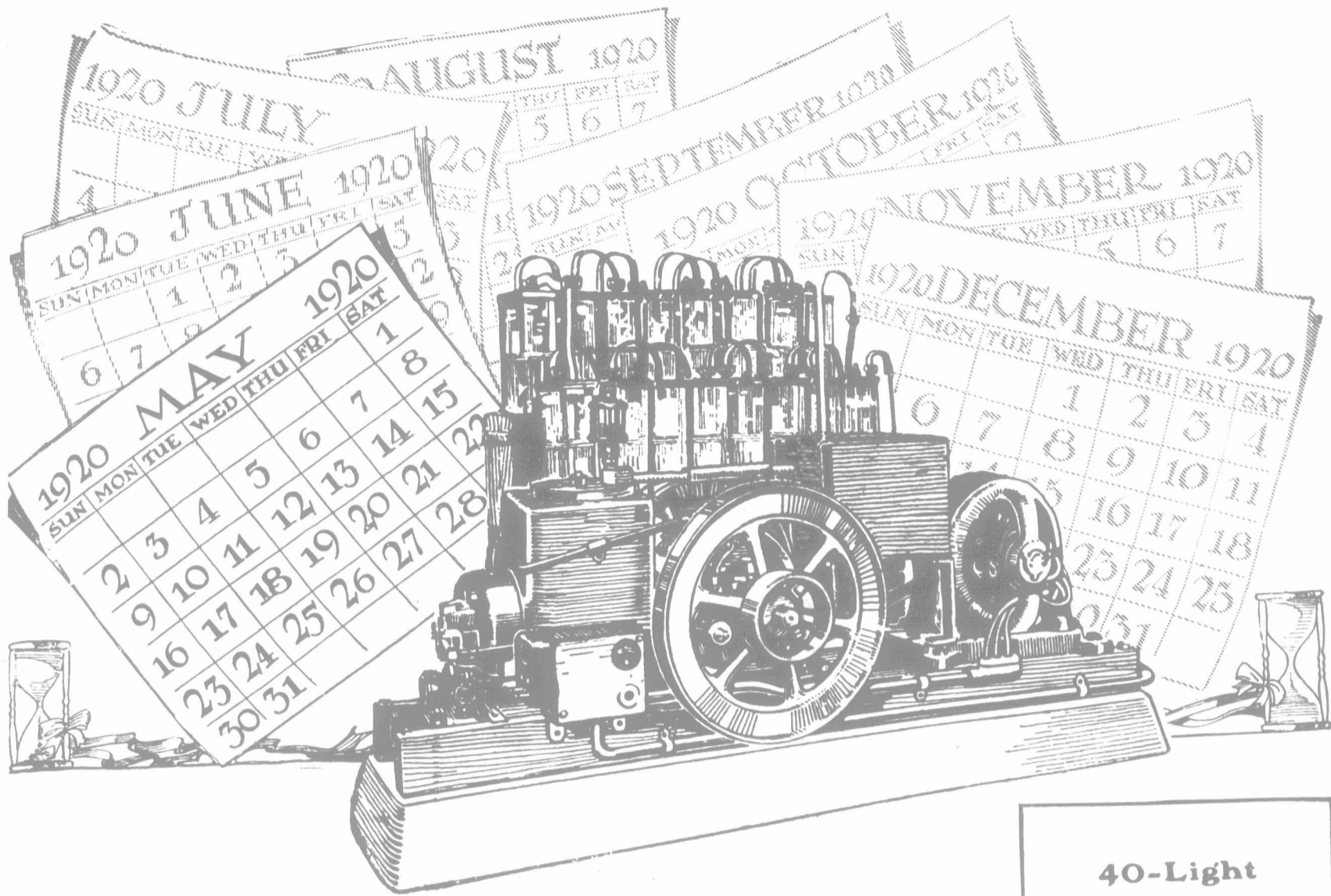
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# May is the best month to install your "F" Plant

*We advise you to have your 40-Light Plant installed this month and avoid the disadvantages of waiting till Fall.*

OUR factories are working at full capacity to supply the ever-increasing demand, and even though you might get prompt delivery of your plant later on, it is unlikely that you could have it installed when you want it, as the autumn months are always the busiest for electricians.

This summer you will need all the help you can get. Farm help is scarce, but with the "F" Plant installed you can always depend on its reliable help to do odd chores such as running the separator, churn, root cutter, and pumping water for the stock and the house.

Every hour of your time can

then be used to advantage out doors while the sun shines, and you will be thankful for your foresight in having the "F" Plant always on the job.

When the dark mornings and long evenings of October, November and December come around, you will appreciate to the full the great advantages of power on the farm and bright, safe, electric light in your house and farm buildings.

The new forty page catalogue just off the press will give you complete information regarding this great farm improvement. Send coupon to our nearest office today for a copy of this book.



Made in Toronto, Canada, and guaranteed by

## The Canadian Fairbanks-Morse Co. Limited

- Halifax
- St. John
- Quebec
- Montreal
- Ottawa
- Toronto
- Hamilton
- St. Catharines
- Windsor
- Winnipeg
- Regina
- Saskatoon
- Calgary
- Vancouver
- Victoria

40-Light Plant

\$495

F. O. B. Toronto

### Agents Wanted

Thousands of farmers are considering the advantages of installing the "F" Plant this year.

Get the agency in your District now.

Write to our nearest office for particulars.

Use this Coupon

The Canadian Fairbanks-Morse Co. Limited  
Kindly send full information re 40-Light Plant and Water System.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
70 F.A.

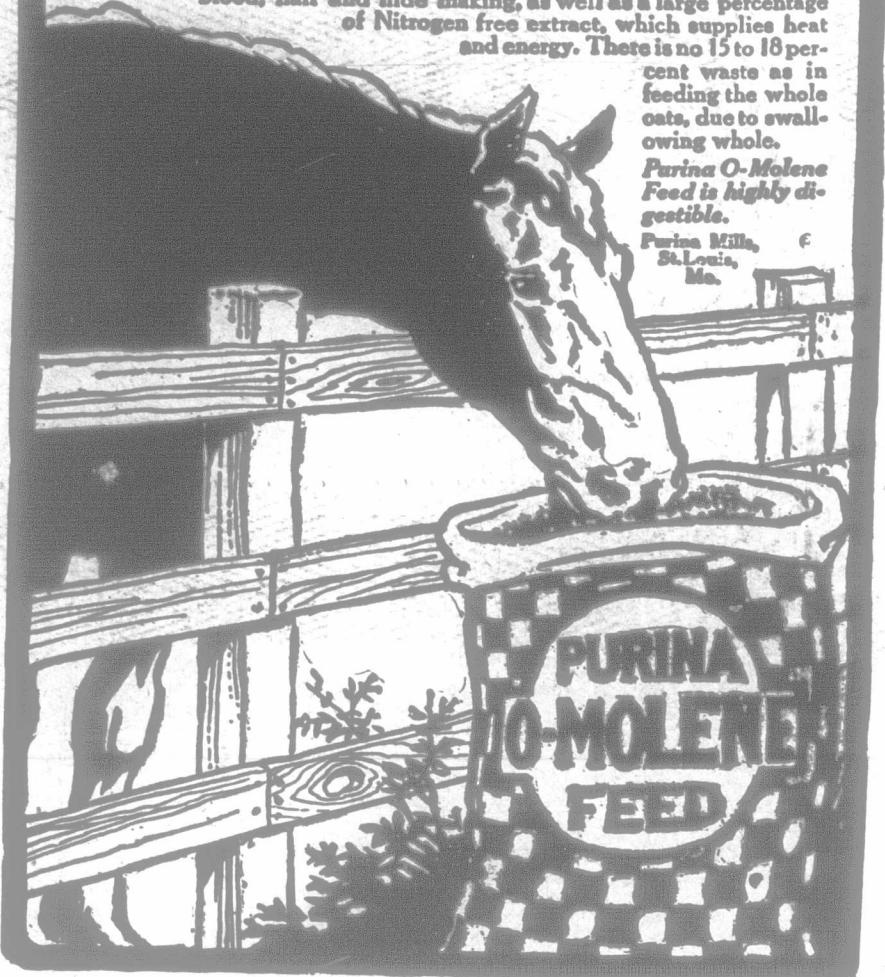
## HORSE SENSE in horse feeding.

It is shrewd common sense to feed a horse a *balanced* feed, which will develop every part of its body. Analysis of *Purina O-Molene Feed* shows that it contains in proper proportion *all* the elements for muscle, blood, hair and hide making, as well as a large percentage of Nitrogen free extract, which supplies heat and energy. There is no 15 to 18 per-

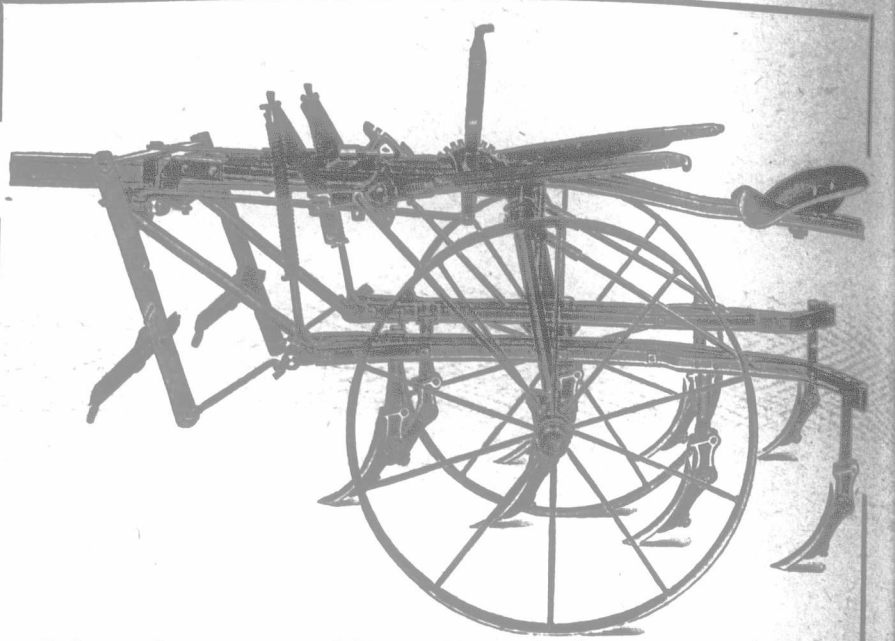
cent waste as in feeding the whole oats, due to swallowing whole.

*Purina O-Molene Feed is highly digestible.*

Purina Mills,  
St. Louis,  
Mo.



The Chisholm Milling Company, Limited, Toronto  
"There's a Purina Feed for every need."



### John Deere "JB" Level-Lift Cultivator ONE OR TWO-ROW

These cultivators are especially designed for mixed land, rolling and hilly.

Parallel cultivation is certain because the shovels remain evenly spaced, face square with the work and cut out all soil between the crop rows. A slight pressure on the foot levers, by either foot, guides frame and rigs and directs machine in the desired direction. Axle telescopes in the frame allowing a tread of 24 inches or 44 inches as desired. By means of levers, rigs can be regulated to any height, or adjusted for hilly ground. Trash can be shaken out and the gangs can be adjusted for any distance between rows.

### John Deere One Horse Steel Cultivators

It is not necessary to follow a John Deere Steel Cultivator with a hoe. They are especially adapted for cultivating any crop planted in rows far enough apart to permit a horse to pass. All sizes from 5 to 14 teeth—shovel and straight-tooth types. They are made of the best of steel, and can be equipped with every attachment.

Ask the John Deere dealer to demonstrate these implements. Write for valuable booklet—Free, "The John Deere Method of Cultivation."

The JOHN  DEERE MANUFACTURING CO., Ltd.  
WELLAND :: ONTARIO

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

and it is expected that the way will be eventually paved to admit Germany into the League of Nations. During its sessions the San Reno Conference dispatched two notes to Germany and two to the United States. One of the latter explained why the Allies are not prepared to follow Pres. Wilson's suggestions regarding Turkey, and the other asks the United States to take the mandate for Armenia. One to Germany states that as soon as the German forces in the Rhur are reduced as required the French troops will be withdrawn from the Frankfurt area, and the other expresses the Allies' determination to enforce the Treaty of Versailles in regard to reduction of the German army. The demands of payment from Germany have been modified to an annual amount of \$690,000,000. The Supreme Council has decided that the Allies will occupy the Gallipoli and that the control of the Dardanelles will be taken from Turkey. At time of going to press Kemal's forces are marching toward the Dardanelles.

### Gossip.

Under date of May 10th, A. G. Farrow, Oakville, Ont., writes to "Farmer's Advocate" as follows: "I wish to announce that about the middle of June (date given later) that I propose holding a sale of my entire breeding herd of Shorthorn females. These will include 20 cows in calf to 'Pride of Escama,' Some of these cows will have calves at foot. I will also sell 8 granddaughters of Right Sort (imp.), and about half a dozen other promising well-bred heifers. "Because of the fact that Pride of Escama is a young sire, I would like to elaborate to some extent my reasons why I think that the admirers of Shorthorns in this country would make valuable addition to their herd by buying females bred to this valuable sire.

"Pride of Escama is by the noted R. H. ... and out of the imported ... cow Novelty. As a result of this cross a prominent ... time ... sire. Last year I took to Toronto

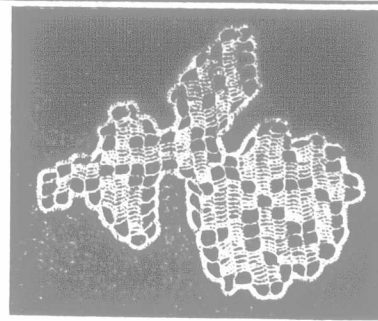
### How to Crochet

"Filet Crochet," by Lila McEvoy Robson  
The Kindergarten Method  
With University Results.

Learn to make your own collars, blouse trimmings, lunch cloths, doilies, and a hundred other things. The method teaches you to copy any design, and suggests how you can invent designs of your own. Send for booklet to

T. E. EATON CO., TORONTO  
Price 25 cents

If further particulars are desired, write to MRS. T. E. ROBSON, 23 Becher St., London, Ont.



Exhibition the only three calves I had on the farm sired by him that were over two months old, showed them in classes of some nineteen to twenty-four entries, and these three calves won 8th, 7th and 1st positions in their respective classes. I think, therefore, as these classes were probably the strongest which have been shown in recent years, that it is sufficient reason to enable me to recommend to any breeder cows in calf to a sire with such a record. His get, some dozen or more heifers, are the only things in the herd which I am retaining."

### Aberdeen-Angus Sale June 2nd.

Elsewhere in these columns appears the advertisement of the Ontario Aberdeen-Angus Association Sale, to be held under the auspices of the Canadian Aberdeen Association at the Union Stock Yards, Toronto, Ont., on Wednesday, June 2. From the interest that is now being shown by Canadian breeders throughout both Eastern and Western Canada, it would appear that this sale has every prospect of establishing a new record in the way of club sales for the breed in Canada, and a resume of the pedigrees of each of the fifty lots listed, furnish further proof that such will be the case. The sale is in charge of the veteran breeder Mr. Bowman, of Elm Park Farm, Guelph, Ont., and in his selection as possible manager has ever been more fortunate in getting the breeders to consign the very best animals than in any other sale. Space did not permit detail mention of all the good things

selling, but a line or two regarding each of the various consignments will be quite in order and be of interest to every Angus breeder who is a reader of these columns. G. C. Channon, of Oakwood, Ont., with fifteen selling is the largest contributor to the sale, and of these six are daughters of his good breeding herd sire, Kinnard Lad. The oldest of these daughters is the five-year-old cow, Kintro Pride, a sweet, low, thick cow that has been a prominent winner at Toronto, Ottawa and London each year since her year-old form. The remaining daughters are all one and two-year-old heifers, nearly all of which are safely settled in service to Mr. Channon's present herd sire. Others in the offering include a four-year-old cow by Elm Park Pat, which has probably more prize ribbons to his credit than any other one Canadian-bred bull. The more noticeable families represented in Mr. Channon's offering are Rose of Advie, Witch of Ender, Pride of Aberdeens, Lucy of Portleithen, Heather Blooms, etc. Lt.-Col. McEwen, of London, Ont., with seven head selling, contributes the second largest number. An eight-year-old cow by young LeRoy and a seven-year-old American-bred cow by Prince Albert Ito (imp.) are the only two mature things listed in this lot, while the remaining numbers are made up of one and two-year-old heifers representing such well-known tribes as Queen Mother's, Jenny's, Betty's, Pride of Aberdeen, etc. Larkin Farm, of Owen Sound, Ont., contributes six of the best things in their herd, including one bull and five females. The female offering is headed by the imported Pride of Aberdeen cow, Queen's Roberts, a big,

thick, well-proportioned cow bred by Wilson of Inchgowrie, Scotland, and got by the great breeding sire Prince Bravo (imp.). Four of the remaining numbers are 1918 heifers sired by Ernesto (imp.), all of which are safely bred to the great young show bull, A seven-year-old cow, also by Prince Bravo (imp.), and a year-old bull completes the offering, which is in Mr. Larkin's own words, "the strongest allotment ever consigned by him to a public sale. Lowe & Heiben, of Elora, Ont., also have six head listed in which is included a choice four-year-old Pride of Aberdeen cow with a March heifer calf at foot and three choice heifers, all of which have been out at the season's past shows. Mr. Bowman consigns an equal number with the last two mentioned breeders, and brings in the second imported cow in the sale. This is Emiline of Balgavies, which sells with her year-old bull calf, a youngster that has all the ear marks of a coming sire. This cow belongs to the Erica family and is one of only two of this tribe in the sale. She was bred by Lawson of Balgavies, Forfarshire, Scotland, and has produced the first-prize two-year-old heifer at Toronto, 1918, and also the winning two-year-old heifer of the Western Fair Circuit in 1918. Four others in Mr. Bowman's lot are heifers just past the year, two of which are by the noted breeding sire, Elm Park Rare Goods. The dams of these heifers in nearly every case, have been included in Mr. Bowman's show herd, and no offering in the sale will be found more deserving of appreciation. J. W. Burt & Son, of Hillsburg, Ont., have two choice heifers sired by Pioneer of Larkin Farms, and each have sufficient style and conformation which should, along with their breeding, land them somewhere near the top price on sale day. C. K. Jarvis, of Milton, Ont., contributes three head, all of which are Pride of Aberdeen females, and several entries more from the herds of A. McEwing, Blyth, and J. D. Maitland, of Elora, complete the offering. For further information see the advertisement elsewhere in these columns or write the Secretary, James Bowman, Guelph, Ont., who will be pleased to forward the catalogue of sale by return mail.

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*Barrett* **MONEY SAVERS**  
for FARM and HOME

THESE Barrett Products will save money for you! If any of your roofs have gone to pieces during the winter, new roofs of Everlastic "Rubber" Roofing will enable you to forget about them for many winters to come, or you can renew your old felt and "rubber" roofs with a coat of the remarkable Everlastic Liquid Roofing Cement.

Barrett Products will save money for you if you'll give them a chance. Your dealer carries them.

**Everlastic "Rubber" Roofing**

The biggest value in roll-roofing on the Canadian market. Made of high grade waterproofing materials with an unsurpassed reputation for service. Is low in cost, easy to lay, staunch and durable.



More than a million rolls of Everlastic "Rubber" Roofing were sold last year throughout the world.

Made in three weights, light (1 ply); medium (2 ply); heavy (3 ply). Rolls contain 108 square feet. Nails and cement with each roll.



**Everlastic Liquid Roofing Cement**

Unequalled for re-surfacing worn-out felt and "Rubber" roofs. Has the consistency of thick molasses; is easy to apply and dries quickly into a hard, elastic, wonderfully durable coat. Proof against moisture, acids, alkalis and fumes. Has same base as Barrett Specification Pitch, which is famous for its waterproofing qualities.

Comes ready for use in packages ranging from 1 pint tins to 40 gallon Barrels. Try out a can today.

*If your general store or hardware dealer can't supply you with Barrett Products, write us and we will.*

ST. JOHN, N. B.      **The Barrett Company**      MONTREAL  
HALIFAX, N. S.      LIMITED      TORONTO  
SYDNEY, N. S.      VANCOUVER

**"KNOCKERS"**

No doubt you have met men to whom this term would be quite appropriate.

**SYDNEY BASIC SLAG FERTILIZER**

has its "knockers." Upon investigation it generally develops that the "knocker" has some interest in the sale of other goods. Remember the old adage, "to locate the tree with the best fruit, find the one that has the most sticks thrown at it." If SYDNEY BASIC SLAG was "no good," as some would have you believe, then it would have "knocked" itself off the market long ago. Instead, the demand is increasing by leaps and bounds. We claim that SYDNEY BASIC SLAG is the best value in Fertilizers obtainable by Ontario farmers, and hundreds of prominent users will bear us out in this.

Could you handle a carload in your district if you were thoroughly satisfied it would be a good thing for the community? We want to hear from reliable farmers who have the confidence of their neighbors. If you will write us at once we will be glad to PAY ALL YOUR TRAVELLING EXPENSES to go and view fields of wheat now growing, where SYDNEY BASIC SLAG was applied last Fall. You can talk with the growers, see for yourself, and if then you are not thoroughly satisfied that it would be a boon to your community not the slightest obligation need rest on you. You will be the sole judge—no strong-arm methods will be put forth to persuade you to buy. It takes time to arrange these matters, so be sure and write at once.

Our interesting and instructive literature is yours for the asking. Let us have your name and address.

**THE CROSS FERTILIZER COMPANY, Limited**  
SYDNEY, - - - NOVA SCOTIA

Address all enquiries to our General Sales Agent  
**A. L. SMITH, - - - 220 Alfred Street, - - - KINGSTON, ONT.**  
(Please mention this paper when writing)

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You value highly and appreciate **The Farmer's Advocate and Home Magazine**. Send us the names of some New Subscribers, with \$1.50 for each, and we will give you **SIX MONTHS**

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*Oil Cook Stoves*

**For Every Cooking Purpose**

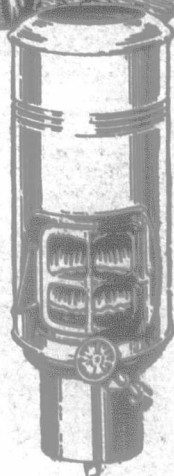
—for boiling, roasting, frying, grilling, toasting and baking the "New Perfection Oil Cook Stove" and "Oven" are the best helps for the good cook.

The New Perfection Oil Cook Stove gives you cool kitchen-comfort in summer, and cooking satisfaction the year round. No annoyance from smoke or odor—no ashes, litter or dirt. It burns cheap, easy-to-get coal oil.

The "Long Blue New Perfection" chimney turns every drop of fuel into useful heat. The New Perfection Brass Burner is as long lasting as it is efficient. Every part of the New Perfection Oil Cook Stove is well-made and well finished.

"Made in Canada" there is no high exchange rate to figure in the cost, so when you buy a "New Perfection" you get the best stove at the best price.

Sold by good dealers everywhere. Ask for a demonstration of the "Long Blue Chimney" or write for free New Perfection booklet.



*The "Long Blue Chimney" with the solid brass burner, that gives the steady intense white-tipped flame.*

Made in Canada

**THE PERFECTION STOVE COMPANY**



HOME OFFICE AND FACTORY

SARNIA - - - ONTARIO

**Greatest Tire Offer Ever Made!**

While other tire dealers advanced their prices 20% on March 1st, we still offer the greatest tire bargains ever known in Canada. These tires will give you more mileage per dollar than any other tire on the market, regardless of price.

We will ship genuine new tires on approval to any address east of Fort William.

All you need do is send in your order by mail or wire. The tires will reach you express paid C.O.D. If you are satisfied—buy them—if not, ship them back at our expense.

You will never get tires elsewhere at these prices. Look at them:

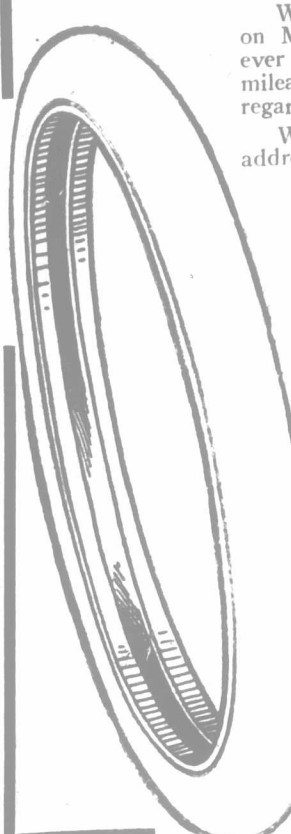
Size	Plain Tread	Non-Skid Tread
30x3 1/2	\$13.50	\$16.50
32x3 1/2	17.00	20.00
31x4	18.00	20.00
33x4 1/2	25.00	33.00
34x4 1/2	28.00	33.00
35x4 1/2		

Other sizes in proportionately low prices. When ordering state size and style—whether "Clincher" or "Straight Wall," plain or non-skid.

**Tubes Extraordinary!**  
30x3 1/2—fully guaranteed—\$2.25.

**Security Tire Sales Co.**

516 Yonge Street, Toronto



**THE BEST LINIMENT**

OR PAIN KILLER FOR THE HUMAN BODY

**Gombault's  
Caustic Balsam**

IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Eruptions, Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. **CAUSTIC BALSAM** has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for **Sore Throat Chest Cold Backache Neuralgia Sprains Strains Lumbago Diphtheria Sore Lungs Rheumatism and all Stiff Joints**

**REMOVED THE SORENESS—STRENGTHENS MUSCLES**  
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."  
OTTO A. BEYER.  
Price \$1.75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B. **THE LAWRENCE-WILLIAMS COMPANY, Toronto, Can.**

**Fistula and Poll Evil**

Any person, however inexperienced, can readily cure either disease with **Fleming's Fistula and Poll Evil Cure**—even bad old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in Fleming's Vest-Pocket Veterinary Adviser. Write us for a free copy. Ninety-six pages, covering more than a hundred veterinary subjects. Durable bound, indexed and illustrated.  
**75 FLEMING BROS., Chemists, Church Street, Toronto, Ont.**

**SELDOM SEE**

a big knee like this, but your horse may have a bunch or bruise on his ankle, hock, stifle, knee or throat.

**ABSORBINE**

TRADE MARK REG. U.S. PAT. OFF.  
will clean it off without laying up the horse. No blister, no hair gone. Concentrated—only a few drops required at an application. \$2.50 per bottle delivered. Describe your case for special instructions, and Book 8 R free. **ABSORBINE, JR.**, the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; allays Pain and Inflammation. Price \$1.25 a bottle at druggists or delivered. Liberal trial bottle postpaid for 10c.  
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**HEAVES CURED**

For a quarter of a century Capital Heaves Remedy has been saving horses and money for Farmers, Traders & Stockmen. It never fails to do the work, as proved by this letter.

New Town, N.B.  
"My mare that I have been treating is like a new horse, she has improved so much. Please send me four more treatments; my neighbors want to try it."  
**F. M. CAMPBELL**

**WRITE FOR FREE TRIAL**  
We will send a full week's treatment for 5c, to cover postage and packing.  
**VETERINARY SUPPLY HOUSE**  
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**Messrs. A. J. Hickman & Co.**

Halse Grange, Brackley, England  
Exporters of all Breeds of Pedigree Live Stock

Send for an illustrated catalogue and see what we can do for you. Whether you want show or breeding stock, buy direct from England and save money.

**Chester Whites**

Our sixth importation has just arrived. One litter forwarded in quarantine sired by Champion bear Ohio state Fair—and a sow in pig to "Volunteer" Champion of Nebraska. Also ten litters sired by 1st and 2nd prize aged and champion boars of C. N. E. Unrelated pairs as a baby herd. Illustrated catalogue.

**JOHN G. ANNESSER, Tilbury, Ont.**

**Soft or Pie-Bald Wheat.**

(Experimental Farms Note.)

It is well known that, when grown on certain soils and especially in certain seasons, wheat instead of being dark and translucent, is pale or spotted with patches of light color. If this condition is very marked the wheat is called "soft", and if it is less evident the term "pie-bald" is often used. In Kansas and some other States the phrase "yellow berry" is employed to designate the same condition. There is considerable misapprehension in regard to softness in wheat. Some varieties, such as Prelude for instance, are extra hard in their nature and very seldom produce soft kernels, while others, such as White Russian, are essentially softer. But most of the popular sorts, though usually hard in character, become soft under special conditions of soil and climate. Even the extra hard wheats of the Durum class, such as Wild Goose, sometimes show softness.

Soft kernels of wheat contain a lower proportion of gluten and a higher proportion of starch. The interior of a hard kernel is horny and translucent, while the interior of a soft kernel is whitish and opaque. As bran also is translucent, the soft kernels are paler than the hard ones. The bran itself, however, does not change color when the wheat becomes soft and the term "yellow berry" is quite misleading. A soft sample of a so-called red wheat (which is really reddish-brown, rather than red, in color) is not yellowish but pale reddish-brown. The popular idea that Red Fife wheat turns into White Fife when it becomes soft is entirely erroneous: the difference between these two varieties lies only in the color of the bran. White Fife is just as hard a wheat as Red Fife though of a different color; yellowish rather than reddish.

Softness is the outcome of peculiar soil conditions especially in regard to soil structure and the quantity of moisture present. Land from which trees have recently been cleared is particularly liable to produce soft wheat. It is also well established that in countries where the summer is rather long and where the temperatures are moderate the wheat is usually softer than in districts where the summer is short and where great extremes of temperature occur. A full explanation of the causes of softness has not yet been arrived at.

It is generally believed that soft wheat is inferior in quality to hard wheat for bread making; this is usually true, provided the samples compared belong to the same variety. However, some soft varieties are superior to some hard ones. For milling purposes hard wheat is preferred as it is easier to handle and it usually gives better satisfaction to bakers who desire to make extremely light bread. For pastry and cake, flour from soft wheat is better. Hard wheat being more in demand usually brings a higher price than soft wheat. As a rule, therefore, farmers whose wheat is soft suffer a financial loss on that account. Such wheat, however, (if of a usually hard variety) is perfectly good for seed purposes, because the softness is not inherited.

Not very much is yet known as to the best way to overcome the tendency of any soil to produce soft wheat. To a certain extent this is doubtless beyond control, but it appears probable that cultivation and especially the plowing under of sod will, in time, tend to bring about such a condition of soil as will produce harder wheat. This could be expected particularly if the land under tillage were formerly covered with trees.—C. E. Saunders, Dominion Cerealist.

The jurors filed into the jury box, and after all the twelve seats were filled there still remained one juror standing outside.

"If the Court please," said the clerk, "they have made a mistake and sent us thirteen jurors instead of twelve. What do you want to do with this extra one?"

"What is your name?" asked the judge of the extra man.

"Joseph A. Braines," he replied.

"Mr. Clerk," said the judge, "take this man back to the jury room, informers, and tell them we don't need him, as we already have how twelve men without Braines."—"Fit Bits."

**Dairymen replied  
"Amen!"**

**Gentlemen:—Your Suction-feed Separator is a wonderful machine. It skims clean at any speed, is easy to clean, runs smoothly, oils itself without mussiness, and delivers cream of even density at all speeds. It never gets out of balance as the disc-bowls do.**

**I cheerfully recommend the Sharples Suction-feed to anyone wanting the best cream separator on earth.**

Yours very truly,  
**(Signed) L. C. SWEET**  
Alden, Minn.

**MR. Sweet's letter covered Sharples Suction-feed advantages so definitely from the actual user's viewpoint, that a copy was sent to several thousand other users of the Sharples Suction-feed Separator. Each user was asked to comment on the letter. The response was unanimous:—"We say the same."**

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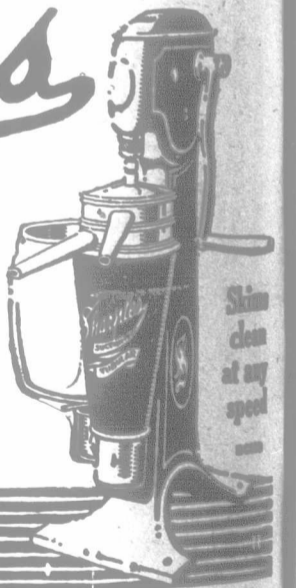
It is costing you more to be without the Sharples Suction-feed than it would to buy one. Write for catalogue, addressing nearest office. Dept. 78.

**Sharples**

**SUCTION-FEED CREAM SEPARATOR**

THE SHARPLES SEPARATOR CO.  
Montreal, Que. Toronto, Ont. Regina, Sask.

Distributors:  
Lounsbury Co. Canadian Farm Products  
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"There are no substitutes for dairy foods."



America's  
Pioneer  
Dog  
Remedies

**BOOK ON  
DOG DISEASES,  
And How to Feed**

Mailed free to any address by the Author,

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**BOOST YOUR TOWN**  
By Organizing a Band.

We will gladly supply you free of charge with full information as to the formation of a good band.

Complete Outfits Suggested for Bands.

**THE WILLIAMS & SONS CO. LIMITED**  
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MAY 20, 1920

## Percherons and Belgians THE POPULAR BREEDS

We have in our stables a select lot of Percheron and Belgian stallions and mares, running in age from 4 to 7 years. Our stallions weigh from 1,900 to 2,200 lbs., and mares from 1,600 to 1,850 lbs.

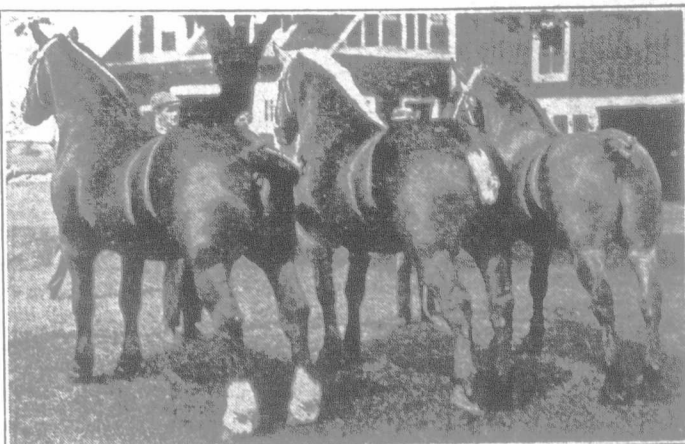
Use good breeding stock now and be ready to meet the demand which is sure to exist. All horses have been Government inspected, and we guarantee them to be satisfactory, sure breeders; if they are not, you do not have to keep them.

We will sell on time to responsible parties. Look up our winnings at the Western Fair, Guelph Winter Fair and Ottawa Winter Fair. These will give you some idea as to the class of horses we are offering.

Inspection Welcomed. Correspondence Solicited.

**G. R. CROUCH,** Vice-President La Fayette Stock Farm Company of Canada, Limited, LONDON, CANADA  
The Company is composed of J. Crouch, President; G. R. Crouch, Vice-President and Treasurer; R. G. Ivey, Secretary; Directors, Wm. Bernard and Jas. McCartney.

A GROUP OF PERCHERON GELDINGS



## A "Neponset" Roof or—?

THE roof, exposed as it is to nature's various moods, should receive the greatest consideration—a little extra thought spent on the roof more than pays in years to come.

### NEPONSET PAROID

plays an important role in "roofing Canada." Thousands of roofs throughout the Dominion are covered with this long-lasting material.

Any person who has used Neponset Paroid will tell you that it is the premier roofing material in Canada. It combines durability with hard wear; is not affected by weather; and compared with the cost of wood and metal shingles, or slate, it is by far the most economical roof you can lay.

The base of Neponset Paroid is a high-grade rag felt, thoroughly impregnated with asphalt, making it positively water-proof and fire-resisting.

Easy to lay—With every roll of Neponset Paroid is supplied sufficient nails and cement with full directions.

There is a Neponset dealer in your district. Write us for his name and a copy of our illustrated booklet "Roofing Canada."



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**BIRD & SON LIMITED**  
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"Canadian money, Canadian made, should be spent in Canada for Canadian trade." 227

## NEPONSET ROOFS

## Canada's Premier Draft Horse

The Clydesdale is the premier draft horse of Canada. It is first in quality, first in size, first in action and correct movement, and first in soundness. Breed your mares to a good Clydesdale stallion and raise the type of draft horse that commands the top price in the market. The Clydesdale type of draft horse is more in demand than all others for heavy teaming in cities and towns. The supply to-day is below the demand. Good well-matched pairs sell at from \$700 to \$1,000; and prices are on the up-grade. Breeding has fallen off during the past couple of years. Breed all suitable mares to a good Clydesdale this season, and be in line for the higher prices that are sure to come in a few year's time. Pin your faith to the Clydesdale, and record every pure-bred animal.

Send for free booklet.  
**CLYDESDALE HORSE ASSOCIATION OF CANADA**  
181 Simcoe Street, Toronto.  
J. W. WHEATON, Secretary

## The O-K Canadian Two-Row Sprayer

Strong recommendations reach us for our Two-Row Sprayer which operates to save time and labor and crops. It throws two fine streams of mist to every part of the plant and is as simple to operate as a wheelbarrow.

We have bought the manufacturing rights of the Aymer Barrel Sprayer, which, added to our line, makes it more complete. If interested write for more particulars. Valuable spraying calendar suitable for Canadian conditions supplied with each sprayer. Write for literature.



### Strong Testimony for O-K-Spra

That the O-K-Spra stands up and justifies every claim we make for it is clearly shown by unsolicited evidence. Every letter is favorable, and sometimes glowing in its praise. Here's a sample:

Gentlemen:—Enclosed you will find express order for which send to my address, Paris, Ont., one of your O-K-Spras with curved lance, non-clog nozzle. We have used the one we secured from you some weeks ago and find it is very satisfactory and have decided to send one to our summer home in Muskoka, for use in our garden there. Yours truly,  
—John Penman, Paris, Ont.

**CANADIAN POTATO MACHINERY COMPANY**  
54 STONE ROAD, GALT, ONTARIO  
Makers of the O-K Canadian Four-Row Sprayers and the famous O-K Potato Planters and Diggers.

## It Pays to Buy the Best

It never pays to buy an inferior article. That is particularly true of fencing. The cost of erecting a good fence is not more; it lasts longer, looks better, gives years of satisfaction. Sarnia Farmers Friend Fencing is made of highest quality, open hearth, full gauge, heavily galvanized steel wire. We positively assert that no better grade of fence wire can be bought than what we use. We have the best powerful looms for weaving fencing, modern equipment for handling, experienced men for operating—in fact, everything is done to produce quality at the greatest economy of production. You get bright, new fencing when you buy the Sarnia, fresh from the loom, shipped direct from factory to user. Thousands of satisfied farmer customers testify to the superior quality of Sarnia Fencing. No middle profits. All explained in our literature, price list and order blanks. They are yours for the asking. Address nearest office.

**SARNIA FENCE COMPANY, Ltd.**  
SARNIA, ONTARIO  
WINNIPEG, MANITOBA



## IMPERIAL HARNNESS

IMPERIAL BRAND HARNNESS is guaranteed free from all defects in workmanship and materials. You are certain of satisfaction when you buy a set of harness made by Trees & Company.

No. 640, Team Harness, is especially designed for farm work such as ploughing, seeding and general hauling. Exceptionally good value at a very low price. Blind Bridles with side check; lines one inch; high top hames; traces, steel chain, leather covered; pads with hook and terrets; backstrap with trace carriers riveted on top. White metal or japanned mounts, less collars. **\$57.00**  
Price .....

Sold by the Harness Trade throughout the Dominion. If your dealer will not get Imperial Harness for you, write direct to us for Catalogue and prices.

**SAMUEL TREES & CO., LIMITED.** Established 1866.  
Manufacturers of Harness and Dealers in Automobile Accessories.  
42 WELLINGTON ST. EAST, TORONTO

# Canada's World's Champion

"MAY ECHO SYLVIA," the holder of six world's champion milk and butter records, also smashed all previous "price records" for a cow's progeny. Her six months' old bull calf sold at auction in Milwaukee, Wis., June 7, 1919, for \$106,000—twice the previous high record price.

The owner of this wonderful cow, Arthur C. Hardy, of Avondale Farms, Brockville, Ont., feeds and endorses SCHUMACHER FEED. If you want to get the best results possible from your herd—if you want to increase your milk profits, you can do it by feeding

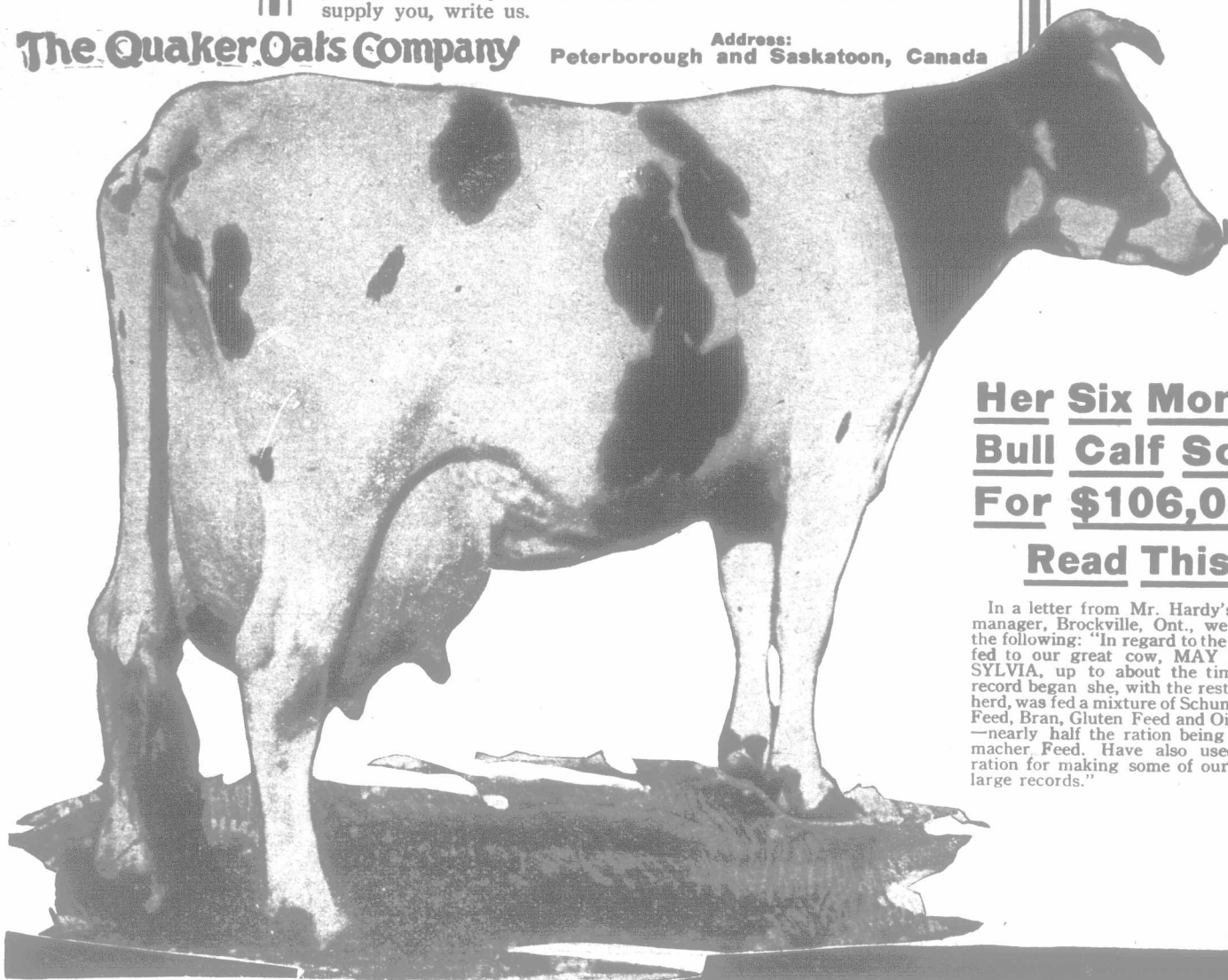
## SCHUMACHER FEED

as the carbohydrate or maintenance part of your ration in connection with any good high protein concentrates you prefer.

SCHUMACHER FEED is a uniform, scientific mixture composed principally of a mixture of specially selected by-products of Corn, Oats, Wheat, Barley and Linseed Meal correctly balanced, finely ground and kiln dried.

For almost half a century SCHUMACHER FEED has been giving the most satisfactory results as the maintenance or condition-sustaining part of a dairy ration, as well as a complete feed for dry cows, young stock, horses and hogs. The fact that it has had a very important part in the making of the records of 36 World's Champion cows is proof that it is actually giving dairymen the results desired—also that it is the profitable and result-producing feed for you to feed to your cows. Ask your dealer for SCHUMACHER FEED. If he can't supply you, write us.

The Quaker Oats Company Address: Peterborough and Saskatoon, Canada



**Her Six Month  
Bull Calf Sold  
For \$106,000**

### Read This

In a letter from Mr. Hardy's farm manager, Brockville, Ont., we quote the following: "In regard to the ration fed to our great cow, MAY ECHO SYLVIA, up to about the time her record began she, with the rest of the herd, was fed a mixture of Schumacher Feed, Bran, Gluten Feed and Oil Meal—nearly half the ration being Schumacher Feed. Have also used this ration for making some of our other large records."

### Good Manners as an Investment.

EDITOR "THE FARMER'S ADVOCATE":

We all like the person who is natural in his manner and free from affectation. Good manners come of refined home life. A man lifts his hat and the grace of movement shows that generations of culture, refinement and grace are back of it; another lifts his hat and shows to you that he only lately began the habit. Good manners are an inheritance. We become like those with whom we associate. To learn good manners we must frequent the society of the well bred. It has been said that, "the best passport to society a young man can have, next to a clean character, is the possession of fine manners."

Consideration for others is the basis of all true courtesy. It is ill-bred to block the sidewalk or speak in a loud, boisterous manner. Scraping the feet and slouching along the walk is boorish and indicates the person is not used to wearing boots. Talking or whispering while one is at the piano or speaking is a breach of good manners. Hissing, hooting, whistling, clapping and stamping the feet are only done by boors, and are altogether out of place at an entertainment, neither do well-bred people eat candy, peanuts or chew gum at any public place.

Girls should never forget to thank the man audibly who offers her his seat in a public conveyance. Be quick to say, "I thank you," to the person who picks up any article you may have dropped and restores it to you.

Boys should not stand with their hands in their pockets. That boy is never ready if anything turns up. Keep your coat buttoned. Do not gather in groups on the street or in other public places and stare and make remarks at passersby.

A polite boy is always polite to his mother, and if he walks with her will carry her parcels. If he meets her he takes off his hat to her. Always remove your hat as soon as you go into the school building, church, theatre, home or any other building. Do not put it on again till you are leaving.

Do not pass in front of another unless absolutely necessary. And say "Excuse me, please," when you must. Always say "Thank you" when receiving a favor.

Be kind to the unfortunate, never tease or torment a foolish child, and never laugh at another's deformity. Never mention a person's deformity. Try to have him forget it. Do not be curious. Never peer through windows and doors where meetings are being held, and never look over another's shoulder to see what he is reading or writing. Learn to open and close doors noiselessly. Move your chair quietly, and do not tilt back in it when seated. Always knock at the door of a private room, and do not enter till invited to do so.

Address your teacher by his own name, never teacher. Say, "Good morning, Mr. Black," and always remember that a bald "yes" or "no" to persons older than yourself is discourteous. Make it softer by the addition of some other word or words; as, "no, mother," "yes, Mrs. Brown."

It is a nice practice to say "good morning," to the members of your family as you see them, and also to bid them "good-night." When you ask for anything at table, say "if you please," or "Father, I should like some more butter, if you please." These little courtesies are beautiful and help to make home the happy place.

Always rise when an elderly person enters the room and remain standing till the older person is seated. Never interrupt when people are speaking.

"Good manners are the art of making those people easy with whom we converse." Last summer George F. Conroy, a young Erie conductor was bequeathed \$15,000 by J. J. Adams, a wealthy shoe manufacturer of New Jersey, "just as a mark of appreciation for his kindly treatment of me and other passengers when he had no personal interest in us beyond his official duties," said the will. When Conroy was spoken to he said, "They all look alike to me, and I only treat them as I would like to be treated. I do try to make each passenger feel that I represent the company; that the company has a personal interest in his comfort and safety, and that its service does not end with the sale of a ticket. I want them to feel they are getting more than they have paid for." F. M. CHRISTIANSON, Welland Co., Ont.

**ABERDEEN ANGUS**—The Beef Breed Supreme  
SEE THE  
**SUNNY ACRES CONSIGNMENT**  
AT TORONTO, JUNE 2nd

A car-load of rich-looking beefy Doddies that have good breeding combined with good individuality. Good typey animals, every one.

Just one bull in the lot but he is of the real herd-header sort.  
The females of breeding age are in calf to the present stock bulls Idolmere 5th—18145—276339, and Rosebud's Leroy—17043—, a pair of great bulls each of which carry a wonderful combination of good breeding and good individuality, both 1st prize winners at Toronto. Idolmere 5th is full brother to the historic Idolmere 199904, Grand Champion Aberdeen-Angus Bull at the 1919 International, Chicago.

G. C. CHANNON, : Oakwood, Ontario  
SUNNY ACRES FARM

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

Alonzo Mathews  
Manager

H. Fraleigh  
Proprietor

**ALLOWAY LODGE  
STOCK FARM**

Angus, Southdowns, Collies

Choice bred heifers. Bulls 8 to 15 months.  
Southdown ewes in lamb.

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

The Glengore Herd of  
**Aberdeen - Angus**

Have a few choice Angus Bulls for quick sale that would make most desirable herd headers. Write for particulars.

GEO. DAVIS & SONS

Erin, Ont. R. R. No. 1

**LARKIN FARMS, QUEENSTON, ONT.**

ABERDEEN - ANGUS CATTLE, SHROPSHIRE and  
SOUTHDOWN SHEEP

CORRESPONDENCE and INSPECTION INVITED  
(Mention Farmer's Advocate)

**Sunnyside Herefords**—If you are not in the market for Herefords at present, maybe you will be later. Write us at any time for anything in Herefords.  
MRS. M. H. O'NEIL & SONS  
Denfield - R.R. No. 4, - Ontario

**Balmedie Aberdeen-Angus**

Nine extra good young bulls for sale. Also females all ages. Show-ring quality.  
THOS. B. BROADFOOT, FERGUS, ONT.

# Canadian Aberdeen-Angus Association Sale

## FIFTY HEAD OF ONTARIO'S BEST

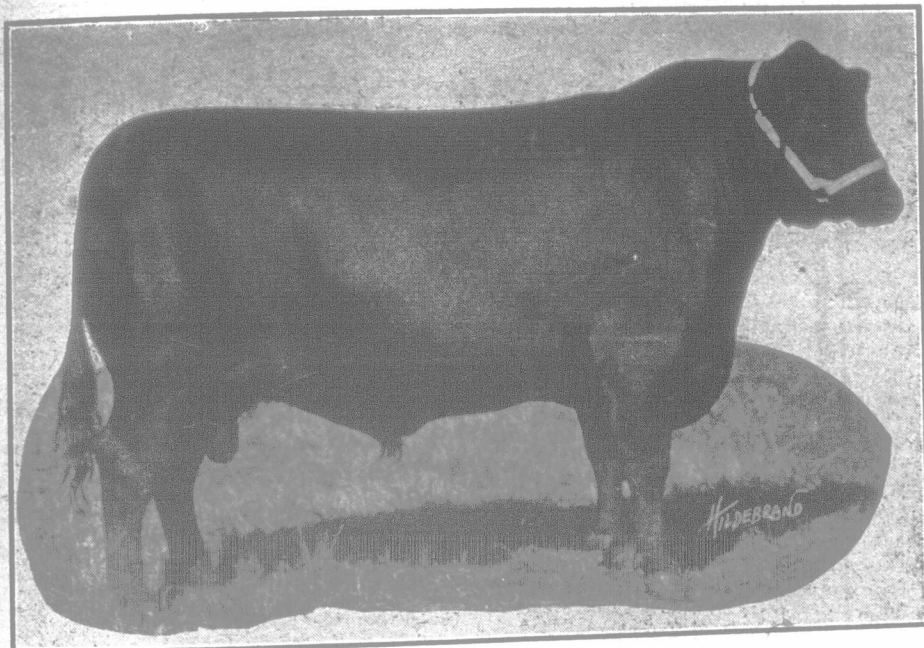
**Forty-five Females**

**Five Young Bulls**

Positively the strongest aggregation of breeding cattle ever assembled in one sale ring in Canada.  
Come and see them sold at the UNION STOCK YARDS,

### Toronto, Ont., Wednesday, June 2nd, 1920

#### THE CONSIGNORS:



*Espoir-Marshall, Junior Champion, Chicago, 1919. Exhibited by H. Fraleigh, Forest, Ont.*

- |                   |   |           |
|-------------------|---|-----------|
| J. D. LARKIN      | - | Queenston |
| LOWE & HEIBEIN    | - | Elora     |
| JAMES BOWMAN      | - | Guelph    |
| G. C. CHANNON     | - | Oakwood   |
| H. FRALEIGH       | - | Forest    |
| COL. R. McEWEN    | - | London    |
| J. D. MAITLAND    | - | Elora     |
| C. K. JARVIS      | - | Milton    |
| J. W. BURT & SONS | - | Hillsburg |
| C. McDOUGALL      | - | Guelph    |
| A. M. McEWING     | - | Blyth     |

### Get Your Foundation Material at This Sale

Angus cattle lead all other breeds in carcass competitions, and this offering leads all other sale competitions of the breed. The entries include many of the past season's winners, and the breeding in every instance is of the best. Its an all-round choice offering, in which are included 50 cattle that will all appeal strongly to those who are buyers of the best. If you're in this class—be there.

**EVERY ONTARIO BREEDER IS EXPECTED TO BE PRESENT. COME—AND DO NOT SEND YOUR REGRETS**

### Aberdeen-Angus Facts:

In breed competitions open to the world the Aberdeen-Angus stands supreme.

**The Carcass is the Final Test.**—At the World's Greatest Show at Chicago, competing with all breeds, the Aberdeen-Angus have won the Grand Champion Carcass Prize, 16 out of 17 contests.

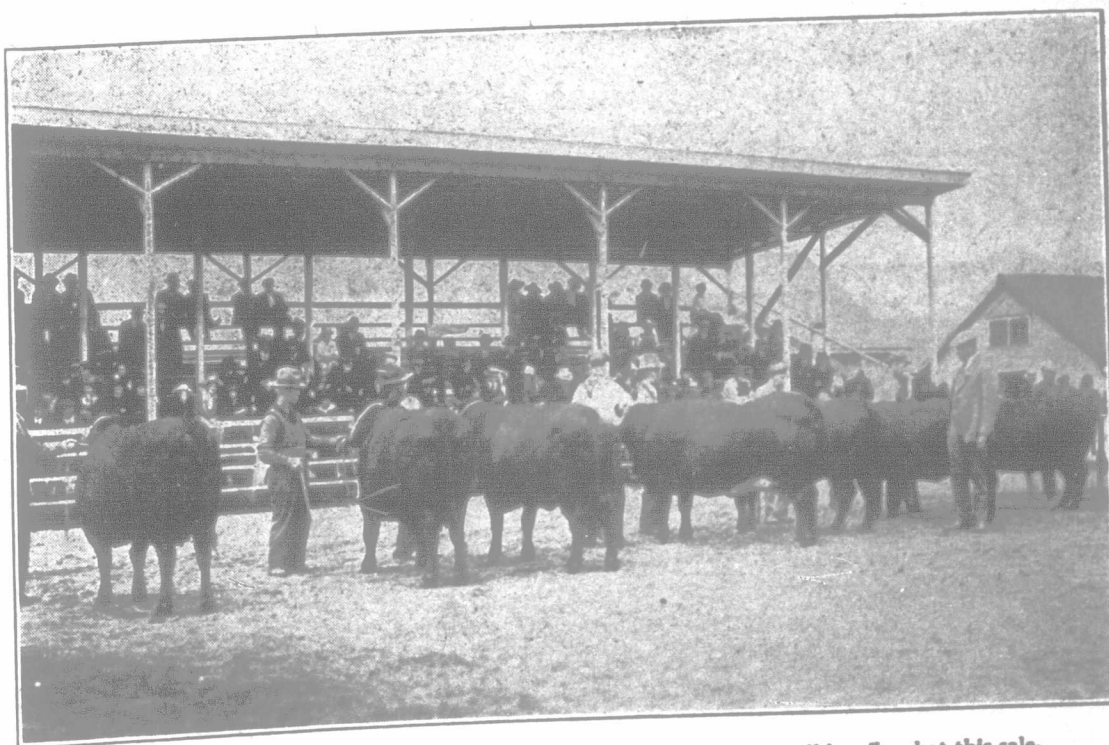
**They Stand Up to It Alive, Too.**—Winning 11 Grand Championships in single steers out of 17 contests.

**In Car Lots Also They are There with the Goods.**—Thirteen times out of 17 contests winning Grand Champion.

Come to this sale and get into the beef game and be a winner.

*Watch these columns for further particulars.*

All requests for information and catalogues should be addressed to:



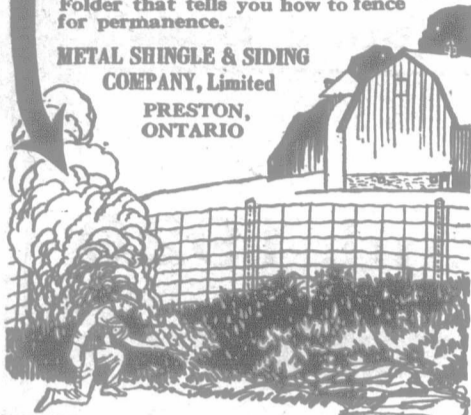
*A Line-up of Angus females at Toronto, 1919. Relations of these cows will be offered at this sale.*

**James Bowman,** Secretary Ontario Aberdeen-Angus Association, **Guelph, Ont.**

## Burn the Stubble

The weeds that serve as a "back-stop" for all the trash that blows across the fields, should be removed by burning the fence lines. When your fence is strung on **PRESTON STEEL POSTS** this may be done without the slightest danger of fire. Before you waste another dollar on replacing rotten wood posts, investigate the Preston Post. Write for Folder that tells you how to fence for permanence.

METAL SHINGLE & SIDING COMPANY, Limited  
PRESTON, ONTARIO



## Tudhope-Anderson

### WIDE Steel Wheels TIRE are Made in Canada

Ordinary steel wheels—the imported kind—are often made with spokes cast in the hub. If you break a spoke you lose the whole wheel.

Tudhope-Anderson Steel Wheels have removable spokes easily replaced at low cost and in quick time. Write us today for order-blanks and full particulars about wide tire Steel Wheels for work about the farm. Made in sizes 20" to 60" diameter. Hubs to fit any skein or bearing. Tire widths, 3" to 10".

We also manufacture Low Down Wide Tire Steel Wheel Trucks.

Tudhope-Anderson Co., Limited  
Orillia, Ontario  
Cut out this advertisement and mail to us 47

## English Dual Purpose Shorthorns

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

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

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

## SHORTHORNS

Present offering: Six young bulls, Reds and Roans, also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

CHAS. GRAHAM - Port Perry, Ontario

### Mardella Dual-Purpose Shorthorns

8 choice young bulls; 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butter-fat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or phone.

THOMAS GRAHAM, Port Perry, R.R.3, Ont.

Dual-Purpose Shorthorns—Herd sire, Darlington Major = 1279 = (imp.); dam Lady Maude = 104585 = (imp.). For sale, 6 bulls, ages 6 to 13 months. R. H. & W. S. SCOTT, Box 231, Tillsonburg, Ont.

### R.O.P. Shorthorns

At Evergreen Hill Farm. One yearling bull by St. Clare = 84378 = also a few yearling heifers.

S. W. JACKSON, - Woodstock, Ont.

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

W. A. DOUGLAS, Caledonia, - Ontario

## Questions and Answers. Miscellaneous.

### Cleaning Hats.

1. What is the substance for cleaning Panama hats?  
2. What would you recommend for whitening a concrete house?

Ans.—1. There are commercial preparations which can be purchased at the drug store, but the cleaning can be done very satisfactorily by washing in castile soap and using a medium stiff brush, then rinse in soft water to which has been added a little glycerine, to prevent the straw from hardening. Afterwards, bleach in the hot sun.

2. A cement wash with a little lime added might be applied, but this will not give it a real white finish, it would be a sort of greyish color.

### Color in Shorthorns.

1. What is the difference, if any, in the breeding of a gray and a red Shorthorn?

2. At what age should a heifer freshen?  
E. R.

Ans.—1. There are the three colors in Shorthorns—red, white and roan. Crossing a red sire on a white cow, or vice versa, may throw a gray or roan-colored calf, or you may get the roan from breeding two reds, or two whites, for the simple reason that this color is characteristic of the breed. Some breeders favor the dark red, while others will pay a premium for a good roan.

2. It depends upon the growthiness of the heifer. A heifer may be bred to freshen at around thirty to thirty-three months of age.

### Running a Water Wheel.

There is a spring about 500 yards from our house, which would be about 100 feet higher than house. Now I would like to know what size pipe I would have to use to get water enough to run a small water wheel, to run a dynamo for electric lights. There is a good flow of water, but if there was not enough I could build a small reservoir. A. A.

Ans.—Without a knowledge of the amount of water the spring will supply continuously, it is impossible to answer this question definitely. The two chief factors which determine the amount of power—any particular water supply will provide are,—quantity of water per minute and the fall or head, but by knowing the amount of power required we can figure backwards and find the amount of water necessary. To operate dynamo for electric lighting on the farm the power available to run the dynamo should be at least 2 H. P., but this would require about a 4 H. P. water wheel to allow for loss in transmission, etc., between the water wheel and dynamo. With a 100-ft. head an 18-inch water wheel generating 4.21 H. P. of energy would require 27.8 cu. ft. or 173.7 gallons of water per minute. The size of pipe required would be about 3 or 4 inches in diameter. Therefore, if the spring in question will supply continuously about 175 gallons per minute, it will generate the required amount of power.

R. R. G.

## Gossip.

The sale of Aberdeen-Angus cattle to be held at the exhibition grounds Toronto, on June 2nd, is creating a great deal of interest among Doodie breeders. The catalogues are now almost ready for distribution and persons who expect to attend this sale should write at once to James Bowman of Guelph for a catalogue and other information. This offering of fifty head of choice Aberdeen-Angus cattle includes animals from all of the best herds in Ontario, and thus affords the man who is ready to found a herd of Doodies an excellent opportunity of obtaining the best kind of cattle for his foundation stock. Many of the females are bred to such champion bulls as Espoir Marshall, Grand Champion, Toronto, and junior champion, Chicago, 1919; Idolmere 5th, a full brother of the great Idolmere grand champion at Chicago 1919; Benedictine Monk (Imp.) and Young Leroy grand champion at four leading fairs in 1918, and winner of 81 first prizes. Some of the best families are represented, including Trojan, Erica's, Pride's, Witch of Endors and Kyngs. June 2nd will see history made in Aberdeen-Angus circles in Ontario.

## Blatchford's Calf Meal

(The Original Calf Meal)

Established  
Leicester  
England  
120 Years  
ago



Easy to  
Feed.  
Calves  
Relish  
It.

### THOROUGHLY STEAM COOKED

Blatchford's Calf Meal is the most widely used Milk-Substitute. More Calves are RAISED on it each year than all other Calf Meals combined.

INSIST ON BLATCHFORD'S  
THE NEXT BEST THING TO WHOLE MILK

Blatchford Calf Meal Company of Canada Limited  
Dept. C 18 61-77 Pelham Ave., Toronto  
If your local dealer cannot supply you write us. 24-30

## Burnbrae Shorthorns

Eighty-three years without change, we have been breeding Scotch Shorthorns. The foundations of many of the best herds in America were laid from our farms.

I am in a position to furnish you with the best in either sex that can be found. High-class young bulls for the breeder and the farmer. Cows and heifers of the finest breeding to start you right, and you cannot afford to start wrong. Every animal that I have sold in two years has been satisfactory, the most of them sold by letter. I can satisfy you with the best in what you want at a price that will give you a chance, and I will pay the freight or express to your station. Augusta Sultan = 93092 = one of the greatest living sires at the head of my herd. Write and if possible come and see, it is worth while. Post Office, Telegraph, Telephone and Station is Stouffville, Ont. 30 miles from Toronto.

ROBERT MILLER :: Stouffville, Ont.

## SPRUCE GLEN SHORTHORNS

We have a few choice, well bred, thick, deep level, mellow young bulls of breeding age for sale; also heifers in calf to a right good sire. Write for particulars.

JAMES McPHERSON & SONS Dundalk, Ontario

Imported Scotch Shorthorns For Sale—Three imported bulls, one yearling one two-year-old and our three-year-old herd sire; also a choice two-year-old Orange Blossom of our own breeding, and three well-bred bull calves about a year old. Would consider exchanging an imported bull for Scotch females.

R. M. MITCHELL, R.R. No. 1, Freeman, Ont.

20 Bulls—SPRUCE LAWN—100 Females—Clydesdales, Shorthorns, Yorkshires. Herd headed by Earl of Northbrook, by Ascott Challenger, bred by L. De Rothchild. Special bargains in farmer's bulls. Cows and heifers in calf, yearling and heifer calves. Yorkshires either sex. J. L. and T. W. McCAMUS, Cavan, C.P.R.; Millbrook, G.T.R. and P.O., Ont.

Cedar Dale Farm—The Home of Lakeview Johanna LeStrange, the \$15,000 sire—He is the son of the 38.00-lb. cow, Lakeview LeStrange, and is our chief sire in service. We are offering a few females bred to him, and also have a few bull calves sired by him at right prices. Other older bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker.

A. J. TAMBLYN, Cedar Dale Holsteins, (C.N.R. station one mile), Orono, Ont.

Shorthorn Herd Sires Selling Quick—I have several young bulls left that must go out quick. All are of serviceable age—three are by Gainford King, a grandson of Gainford Marquis (imp.), and two others are Nonpareils. One of these is got by the same sire that sired the \$3,100 junior champion heifer, sold in the Dryden-Miller sale. Write quick if you want them.

GEO. E. MORDEN, Oakville, Ontario

### Newcastle Herd of Shorthorns and Tamworths for Sale

3 nice bulls, 11 to 13 months old, and several yearling heifers and cows with calves at foot, both sexes, all splendid milking strain. Several Tamworth sows due to farrow in May, June, July. Young stock, both sexes, at weaning up to six months old. All from prize-winning stock.

A. A. COLWILL, - (Long-Distance Phone) - R. R. No. 2, Newcastle

## Grand River Dual-Purpose Shorthorns

Herd headed by Prince Lavender 104449—dam gave 16,596 lbs. milk as 4-year-old. Present offering: Five good young bulls. Some good bull calves coming on—dams now running in R. O. P. A few females to spare.

HUGH A. SCOTT :: CALEDONIA, ONTARIO

## Reyburn Milking Shorthorns

ANNUAL INTERNATIONAL SALE  
JUNE 9th, 1920, AT EUCLID, MINNESOTA, U.S.A.

Sixty head of choice milking Shorthorn cows and heifers, and five outstanding bulls—Address all correspondence to Palmer Farm, Euclid, Minn.

R. R. WHEATON :: :: A. E. PALMER

MILKING SHORTHORNS Young stock from R.O.P. cows by imported sires.

BERKSHIRE PIGS Chocily bred sows and boars, all ages. Can supply pairs not akin.

J. B. PEARSON, Manager - Credit Grange Farm - Meadowvale, Ont.

### DUAL-PURPOSE SHORTHORNS

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Bulls from 1 to 6 months old for sale, also a cow or two. Inspection of herd solicited.

WELWOOD FARM - Farmer's Advocate - LONDON, ONT.

### HILLVIEW DUAL-PURPOSE SHORTHORNS

I have in my herd seven officially tested cows, some with R.O.P. record of 7,900 lbs. as a two-year-old and 11,500 lbs. in 4-year class. Herd headed by Kitchener 104086 a heavy, thick grandson of Dairyland 8088. Four young bulls for sale. Government test tells what their dams have done at the past, and if you are interested, come and see the individuals.

D. Z. Gibson, Caledonia, Ont.

"Give Me a Quart of Oil"

This Careless Request May Bring Costly Penalties

If you buy lubricating oil for your automobile by saying to your dealer "Give me a quart of oil" you invite trouble.

You cannot be sure of securing oil of the correct quality and the correct body for your automobile, truck or tractor by this method.

One of the surest ways to invite friction-drag and motor trouble is to say "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Invites Loss of Power

You can get full compression—complete power—only by using oil whose body suits your motor.

Correct body is seldom secured by saying "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Invites Scored Cylinder Walls

Oil of low lubricating quality invites scoring. Often the oil's body is too light. Then the cylinder walls will have no protecting film. Scratching results.

Too often the blame can be traced to "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Invites Wear of Bearings

Bearing lubrication is far from simple. Bearings differ widely in type and size. Oiling systems also differ. Adjustments vary. The quality and body of the oil must suit these conditions though. For every oil that suits your motor bearing, you will find many that will cause undue friction.

An almost sure sign for bearing trouble is "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Invites Wear of Wrist-Pins

Wrist-Pin lubrication is difficult and little understood. It demands oil which will spread readily, yet maintain the proper film between the pins and bushings.

Quick damage will come if the oil fails to meet these conditions. To encourage wrist-pin troubles prematurely, it is only necessary to say, "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Invites Carbon Deposit

The quality and the body of the oil must be considered to eliminate this trouble. Suppose the body is too light for the piston clearance. The oil then works too freely into

the combustion chambers. In burning, excess carbon accumulates unless the oil's ash is light and is naturally expelled. An easy road to carbon trouble is, "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Invites Noise

Noise is often the sign of worn parts—resulting from friction.

Premature old age of a new car is generally due to excessive friction—resulting from incorrect oil. A way to invite premature noise is an off-hand request "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Increases Maintenance Cost

A larger quantity of low quality oil is necessary to maintain a film. Oil of incorrect body does not completely protect moving parts. Excessive friction-drag results. Fewer miles are obtained from each gallon of gasoline. Fuel and repair bills mount up.

This common waste is a frequent result of "Give me a quart of oil."

"GIVE ME A QUART OF OIL" Reduces Second-Hand Value

The selling price of a used car is fixed by (1) the condition of the motor, (2) the condition of the chassis, (3) the condition of the body. The motor, being the vital part of the car, is most important.

Premature wear of your motor reduces this used car's value. Owners who wish to sell their cars, pay a high price for their carelessness when they say "Give me a quart of oil."

HOW TO SECURE THE CORRECT OIL FOR YOUR CAR

Look at the Chart of Recommendations on the right. Opposite the name of your car you will find the correct grade of Gargoyle Mobiloils for it.

Ask for that oil and get it.

This Chart was prepared after a careful analysis of the motor of each make and model of car listed by a company whose authority on scientific lubrication, for every class of machinery, is recognized throughout the world.

If your car is not listed on this short chart, write us for a copy of the booklet "Correct Lubrication," which contains a Chart of Recommendations for all the searchful makes of cars.



Gargoyle Mobiloils are sold in 1 and 4-gallon cans, and in wood half-barrels and barrels. It is safest to purchase in original packages.

IMPERIAL OIL LIMITED

Manufacturers and Marketers of Imperial Polarine Motor Oils and Greases Marketers of Gargoyle Mobiloils in Canada BRANCHES THROUGHOUT CANADA

Correct Automobile Lubrication

In the chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, A means Gargoyle Mobiloil "A," Arc means Gargoyle Mobiloil Arctic, etc. The recommendations cover all models of both pleasure and commercial vehicles, unless otherwise noted.

Table with columns for Automobiles and Lubrication grades (A, Arc, etc.) for various models like Allen, Auburn, Buick, Cadillac, Chevrolet, etc.

EASY FRICTIONLESS OPERATION



MORE Service MORE Cream

Your cream separator operates at high speed. Thorough efficient lubrication is essential to its long life and constant service.

IMPERIAL Standard Hand Separator Oil

is the choice of a great majority of Canadian dairymen. It is a pure mineral oil made specially for the lubrication of cream separators. It thoroughly lubricates the close fitting bearings and assures "easy frictionless operation."

Imperial Standard Hand Separator Oil is sold by dealers everywhere in lithographed sealed cans—pints, quarts, half-gallons, gallons and four gallons. "MADE IN CANADA"

IMPERIAL OIL LIMITED POWER-HEAT-LIGHT LUBRICATION BRANCHES IN ALL CITIES

Cream Wanted

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

ONTARIO CREAMERIES Limited LONDON ONTARIO

SHORTHORNS-CLYDESDALES

Just one bull left, 9 months old; sire, Lochiel (imp.); dam on the R.O.P. Pure Scotch. Stallion colt, sired by Baron's Stamp. Fillies rising 2, 3, 4 and 5-year-old. Come, see, and be satisfied. Brooklin G.T.R. and C.N.R. Myrtle C.P.R. WM. D. DYER, COLUMBUS, ONTARIO

Scotch Shorthorn Bulls and Females—I have a nice offering of Scotch-bred females and one or two young bulls still on hand. The pedigrees are choice, the individuality is good—and the prices are right. If you want one Shorthorn female or a carload, come to Markdale. THOS. MERCER, Markdale, Ont.

Cedar Dale Scotch Shorthorns—Pleasing Cattle and Pleasing Pedigrees—Senior Sire, Excellent by Gainford Matchless, the \$12,000 son of Gainford Marquis (imp.). I have a number of choice bred heifers, and must sell a few to make room. Also have a couple of Scotch-bred bulls. Prices right at all times. FRED. J. CURRY, Markdale, Ont.

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.

Shorthorn Bulls at Maple Hall—These five young bulls, from 5 to 18 months, are some of the best animals we ever raised—a roan Crimson Flower (16 mos.), from bull calf (5 mos.); an extra good Duchess of Gloster (15 mos.); a show bull; also a red great milking family and a right good bull; a red Butterfly (10 mos.), a show bull; also a Shepherd Rosemary (8 mos.). It will pay anyone looking for Shorthorn bulls to see these animals. Clarendon C.P.R. Greenburn C.N.R. D. BIRRELL & SON, Clarendon, Ont. Pickering G.T.R.

Pear Lawn Shorthorns, Hackneys and Yorkshires—One imported in dam Miss Ramsden bull, 14 months; one Secret bull, 12 months, imp. sire and dam; one Golden Rose bull, 6 months, imp. sire and dam; one Flattery, 12 months, imp. sire. A few young cows with calves at foot. One imported Hack-bull, a Flattery, 12 months, imp. sire. A few young cows with calves at foot. One registered Clyde mare; also Yorkshires at weaning time. HERBERT J. MILLER, Keene P.O., Ont. Stations—Keene G.T.R., Indian River C.P.R. Peterborough County.

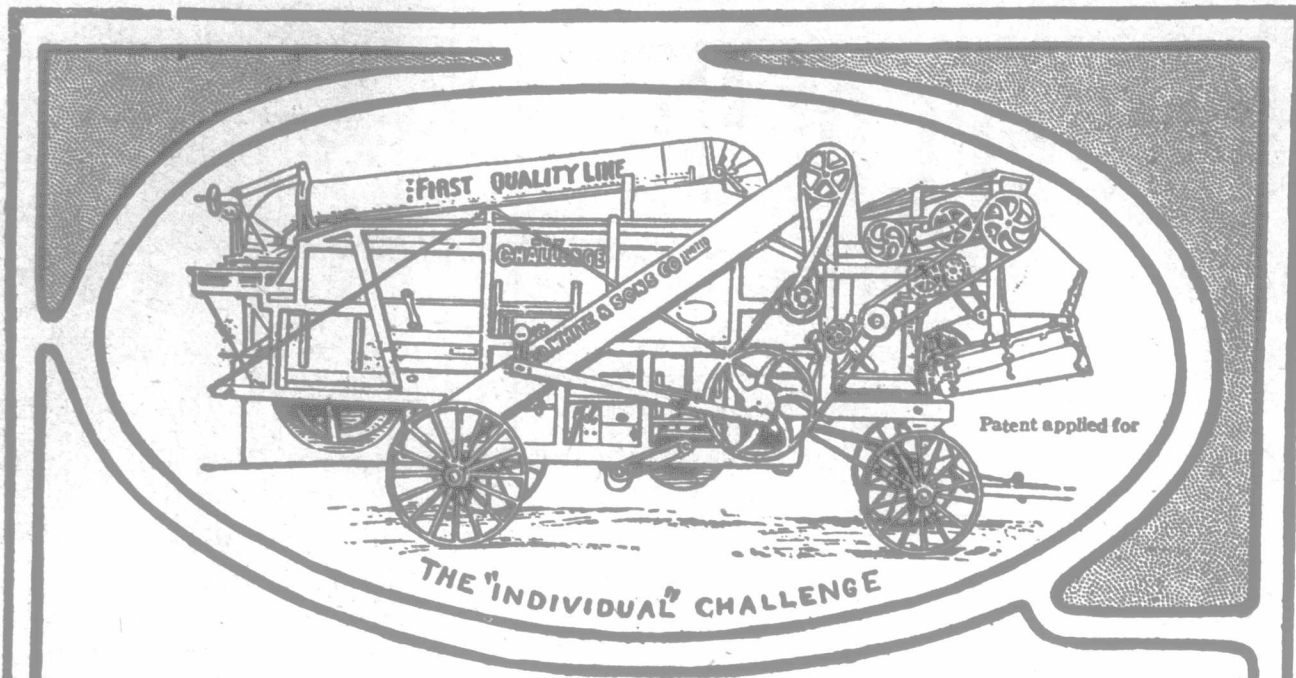
PUSLINCH PLAINS SHORTHORNS Five bulls for sale by Burnbrae Sultan -80325-. A. G. AULD, - - - R. R. 2, - - - GUELPH, ONT.

Spring Valley Shorthorns—Herd headed by Sea Gem's Pride 96365. We have a number of good bulls for sale, including the Champion Ivanhoe 122760, and his full brother also, an extra well bred Rosewood, and others. Write for particulars. KYLE BROS., Drumbo, Ont. Telephone and telegraph by Ayr.

BLAIRGOWRIE SHORTHORNS 3 Imported bulls. 10 Imported females in calf or calf by side. 2 Scotch bred bulls. 5 Scotch bred cows with calves by side. JNO. MILLER - - - (Myrtle C.P.R. and G.T.R.) - - - ASHBURN, ONT.

Glengow Shorthorns and Clydesdales—Recently advertised bulls have all been sold. Have eight nice 2-year-old heifers by Prince Sultan -100339-, and all bred to a Golden Drop Bull; also several others somewhat younger. A real good yearling stallion, and mares all ages, in foal, will be priced right. WM. SMITH, Columbus, Ont. Stations: Oshawa, C.N.R.; Myrtle, C.P.R.; Brooklin, G.T.R.

FOUNDED 1866... If Meal... Easy to Feed... Calves Relish It... COOKED Milk-Substitute... Canada Limited... thorns... Shorthorns... ONTARIO, ONTARIO... thorns... LE... U.S.A... five outstanding bulls... A. E. PALMER... O.P. cows by imported... Meadowvale, Ont... RNS... pounds of milk in a year... LONDON, ONT... RTHORNS... 7,900 lbs. as a two-year-old... Gibson, Caledonia, Ont.



## You, the Owner of a Gas Tractor

Do you realize that you are paying for the use of somebody else's tractor to do your threshing every year while your own is standing idle? You can pay for a thresher of your own in a year or two with the money you save in threshing bills and the money you make by threshing for the neighbors. After that you will be making a clear profit. More than that, you can do your threshing when you are ready and when the grain is ready. You know how much you lose sometimes by letting the grain stand in the stook. Buy an Individual White No. 3 Challenge Thresher and save all this waste.

This machine is made to be run by gas tractors, an 8-16 or a 10-20 tractor will run it with power to spare. This is largely due to the fact that there is not a crank shaft in the whole machine and undue friction is done away with. It is a light, compact machine with a 20-inch cylinder and a 36-inch body, but has a big capacity.

The deck is in three sections, each section working up and down in conjunction with a set of bumpers which toss the straw clear to the top and increase its velocity as it travels through the machine. This provides perfect separation.

This machine is of entirely new construction and has been tried out for three consecutive years in the hardest possible manner. Like all White machines it is built with great over-strength in every part and is a valuable addition to "The First Quality Line."

Write for descriptive catalogue and full information.

**The George White & Sons Co., Limited**

Moose Jaw, Sask.

LONDON, ONT.

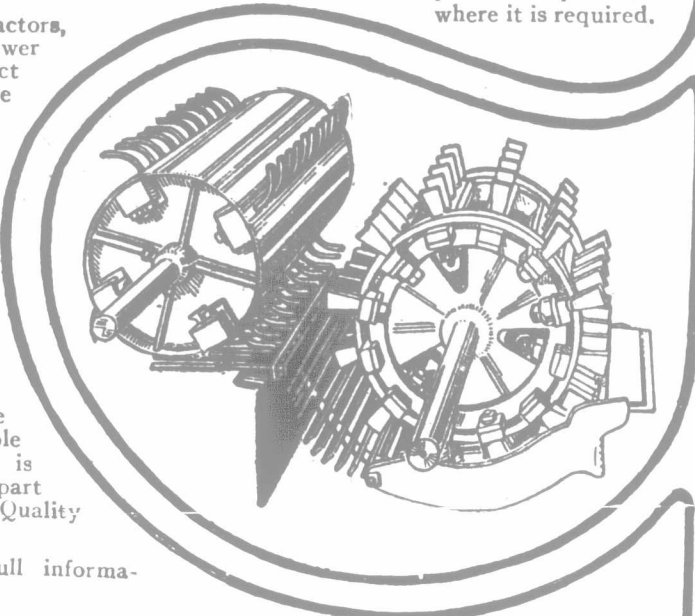
Brandon, Man.

"THE FIRST QUALITY LINE"

Makers of Steam, Gas and Kerosene Tractors, and Threshing Machinery.

### The Grate Arrangement under Cylinder

has many advantages which will appeal to both threshers and farmers. The grate comes up behind the cylinder almost to the centre. It is arranged with a check plate that stops and delivers all grain going through the grate direct to the grain deck. Standing out from the grate are longitudinal fingers through which the teeth of the drum cylinder work. This provides separation where it is required.



## Questions and Answers. Miscellaneous.

### Income Tax.

Is a married man who farms upon a small scale, and has less than \$1,000 gross income from all sources, liable for prosecution and penalties provided by the Act?

Ans.—The way the Act has been interpreted to us, only those whose gross income equals the amount taxable are required to fill in the income tax return.

### Income Tax.

Three brothers are working a farm together and the gross total income from all sources amounted to \$820.88 each. There are deductions from the income amounting to over \$1,200. Are we supposed to furnish a return for the income tax.

Ans.—We understand that when the gross income does not come within the taxable amount, it is not necessary to fill out the form.

### Protecting Springs.

We have piped several small springs to one tank, as a head for our water-works. There is no shade except for a couple of pine trees on one side. Would planting willows be advantageous?

Ans.—The willows would no doubt absorb considerable water themselves, but they will also tend to shade the spring and conserve moisture. It might be a good plan to plant a few around the spring, or the water tank.

### Tinting Walls.

I have several papered rooms which I wish to tint with alabastine or some other tinting material. Can I apply the tinting heavy enough to cover the pattern on the paper. What color would suit the walls, when the ceiling is green with a white border?

Ans.—It will be necessary to remove the wall paper and paste manilla paper, light colored, over the wall. Then apply the alabastine or muresco. A greyish wall might look all right. It would be advisable to see a color scheme at the hardware where you purchase the tinting material.

### Miscellaneous.

1. What is the cause of hens becoming bald?
2. Would old wheat be good feed for hens?
3. Could a Panama hat be satisfactorily dyed at home?
4. Would wall-board be as satisfactory as plaster for a new house?

Ans.—1. We have known of hens losing the feathers from the top of their heads by reaching through wire, and also because of other hens picking them. There may be some other trouble which is causing the loss of feathers.

2. Unless the wheat is musty, it should be all right for the hens.

3. You might find difficulty in keeping the hat in proper shape during the dyeing process.

4. The wall-board is being used by some contractors. Some claim it is preferable to the ordinary plaster, while others prefer the old method.

### Orchard Problems.

1. What is the usual rent per acre for orchard land in Ontario County?
2. What is the cause of the ends of branches of apple trees dying?
3. Is it advisable to leave a sod strip between the trees in bearing apple orchard?

Ans.—1. We have been unable to get definite information regarding the rent. It varies a good deal according to the location of the orchard, the kind of soil, age and the variety of trees, and also the condition in which the trees are kept.

2. It may be due to winter-killing, or to a blight. A person cannot state definitely without examining the branches.

3. It is generally advisable to keep a growing orchard cultivated, but once it starts bearing the cultivation need not be continued if the soil is in good condition. Owing to the danger of breaking limbs and barking the trunks by close cultivation, some orchardists find it advisable to leave a sod strip and keep the open space between the trees cultivated.

## Maple Shade SHORTHORNS

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

W. A. DRYDEN

Brooklin - - Ontario

## SCOTCH-TOPPED SHORTHORNS

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

HENRY FISCHER,

Bell 'Phone R. No. 2, Mitchell, Ont.

Scotch Shorthorns—Herd headed by Master Gainford Marquis = 123226 =, by Also Oxford Down ewes.

GEO. D. FLETCHER, Erin, R.R. 1, Ont.

## 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

A NEW IMPORTATION OF

## 40 SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT

FREEMAN, ONTARIO

Burlington Int. G.T.R., only half mile from farm.

## Braeburn Scotch Shorthorns

150 Head

100 Breeding Females

Herd Headed by Nero of Cluny (Imp.)

I have at present twelve young bulls that are now nearing serviceable age. The majority are sired by my present imported herd sire, and we guarantee them as good individually as the get of any other one sire in Canada. They are nearly all roans, and are priced to sell. Can also spare some breeding cows in calf to Nero of Cluny (Imp.).

Brantford 7 miles. Oakland 1 mile. L.E.N. Electric R.R. Cars every hour.

CHARLES MCINTYRE, Scotland, Ontario

## WALNUT GROVE SCOTCH SHORTHORNS

We are offering choice young males and females from the best Scotch families and sired by Gainford Eclipse and Trout Creek Wonder Ind. If wanting something real good, write, or come and see us

DUNCAN BROWN & SONS, Sheddun, Ont., P.M., M.C.R.

MAY 20, 192

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a year. He  
Write us

# IMPORTANT HOLSTEIN DISPERSAL

## The Sunnybrook Farms' Quality Herd

BRINGING FORWARD

### SIXTY HEAD OF CANADA'S BEST

SELLING AT THE SUNNYBROOK STABLES

### North Toronto, Ont., Wednesday, June 9th, 1920

Owing to our close proximity to Toronto, we find ourselves this spring unable to get efficient help to carry on and conduct a herd of dairy cattle—at least, "carry on" satisfactorily to us. Therefore, we have decided that our entire "QUALITY HERD" of high-producing Holsteins will go to Canadian breeders (at their own valuation) on the afternoon of Wednesday, June 9th, regardless of price.

With the herd will go an ironclad guarantee as regards the health of the animals, sure breeders, etc.

Further than this, we feel that all Canadian Holstein breeders have for the past decade looked up to Sunnybrook as

an institution that stood for honest and four-square dealings at all times. This has been our aim in the past, and in dispersing this herd, and a business which we have so painstakingly built up, we do so with a great deal of regret.

As individuals, we believe, that the offering will meet with your appreciation on sale day, and as for the breeding of each of the sixty lots listed, a glance through the catalogue is all that will be necessary to see that the families are of the best.

Further particulars regarding this offering will be given in these columns in the issues of May 27th and June 3rd.

MAKE YOUR REQUESTS FOR CATALOGUES EARLY, AND  
PLAN NOW TO ATTEND THIS GREAT SALE. Address:

**MAJOR JOSEPH KILGOUR, Sunnybrook Farms, North Toronto, Ont.**

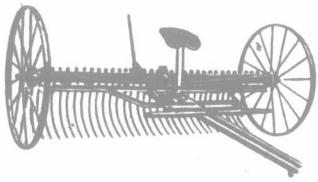
Auctioneers: KELLY-HAEGER

Farm 20 minutes from Toronto.

In the Box: S. T. WOOD

### Tudhope-Anderson Rakes and Mowers

In Tudhope-Anderson Mowers and Rakes you will find features that have proven their superiority to anything else in the field. Every worth-while modern appliance has been adopted. For instance, in our Mowers we have succeeded in combining light draft, strength of construction



and absence of side-pull together with wide swath. The vertical lift mower can be supplied as desired. Our self-dump rake operates with one or two horses, and wheels have removable hubs, giving you the opportunity of renewing the bearing at will. Our Catalogue is a mine of helpful details. Write for it to-day.

**Tudhope-Anderson Co., Limited, Orillia, Ontario**

Eastern Distributing Houses: London, Ont.; Smiths Falls, Ont.; J. Clark & Son, Ltd., Fredericton, N.B.; Lounsbury Co., Ltd., New Castle, N.B.

### Hamilton House Holstein Herd Sires

Our highest record bull for sale at present is a 4 months' calf from Lulu Darkness, 30.33 lbs., and sired by a son of Lulu Keyes, 36.56 lbs. His two nearest dams, therefore, average 33.44 lbs., and both have over 100 lbs. of milk per day. We have several older bulls by the same sire, and from two and three-year-old heifers with records up to 27.24 lbs. All are priced to sell.

**D. B. TRACY, Hamilton House, Cobourg, Ontario**

### Hospital for the Insane, Hamilton, Ont.

#### HOLSTEIN BULLS, ONLY, FOR SALE

Senior sire is from one of the best sons of King Segis Alcartra Spofford. Junior is grandson of the noted May Echo Sylvia, by Champion Echo Sylvia Pontiac.

Write to the Superintendent for prices, etc.

#### HOLSTEIN BULLS FROM 30-lb. DAMS

If you want 30-lb. bulls—good individuals—and priced right—you should see my present offering. I also have lower priced bulls and am offering females bred to Ormsby Jane Burke. Correspondence solicited. R. M. HOLTBY, Manchester G.T.R.; Myrtle C.P.R.; PORT PERRY, ONT.

10—SOLD—10

#### SPECIAL OFFERING

Holstein bull born January 1919. We have sold 10 bulls; have 1 yet. Write us about him. The price, breeding and individuality will please the most critical. His 6 nearest dams are each tested for a year. He is a choice bull and priced low for quick sale. Also Yorkshire boars and sows fit to wean. Write us R. HONEY & SONS, DARTFORD, ONTARIO.

### HOLSTEIN HERD AVERAGES 18,812 LBS. MILK

A herd of 18 pure-bred Holsteins last year averaged 18,812 lbs. milk and 638.57 lbs. fat. Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 18 cows produce as much milk as 63 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in HOLSTEIN CATTLE send for booklets—valuable information they contain much

**HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA**  
W. A. CLEMONS, Secretary, ST. GEORGE, ONT.

### Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje), and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. Their youngsters should not remain long. Write to-day.

**RAYMONDALE FARM, Vaudreuil, Que. D. RAYMOND, Owner, Queen's Hotel, Montreal**

### PIONEER FARM HOLSTEINS

My present sales list includes only bull calves born after Jan. 1st, 1919. These are priced right. **WALBURN RIVERS & SONS, R.R. No. 2, Ingersoll, Ontario**

**For Sale—Paul Rauwerd**—Dam, Lulu Pauline, 23 lbs. butter in 7 days. Sire, Hill-Crest Rauwerd Vale, out of a 22,000-lb. four-year old. Price \$300.00 if taken before his dam makes another record.

**W. FRED FALLIS, R. R. 3, Millbrook, Ont.**

### Evergreen Stock Farm Registered Holsteins

Our motto: Choice individuals—the profitable producing kind. Nothing for sale now, but get in line early for your next herd sire.

**A. E. HULET, Oxford Co., G.T.R., NORWICH, ONTARIO**

**Two Young Holstein Herd Sires**—I have only two young bulls of serviceable age left—both are sired by Lyons Hengerveld Champion, whose dam is the 25.83-lb. junior 3-year-old daughter of Baroness Madoline, 34.45 lbs. Both calves are 12-month youngsters, one from a full sister of a 29.95-lb. cow and the other is from an untested daughter of Baron Colantha Fayne. They are priced to sell.

**T. W. McQUEEN (Oxford Co.) Tillsonburg, Ont.**

**High-Testing Holsteins**—Present offering: Three young bulls, 10 months old; all splendid individuals, out of high-producing dams, backed by noted blood and big records. Our herd sire, Ormsby Jane Hengerveld King (by Ormsby Jane King), has been used on this herd for several seasons, and his get, both heifers and bulls, are exceptionally promising individuals. It will pay you to inspect these youngsters before buying.

**L. C. SNOWDEN, R.R. 3, Bowmanville, Ont.**

**Cloverlea Dairy Farms**—Herd headed by King Pontiac Rauwerd who combines the blood of Canada's greatest sires and dams. His offspring are a choice lot. We have stock for sale, both male and female, 75 head to choose from. Consult us before buying elsewhere. Could book a few more cows for service to "King."

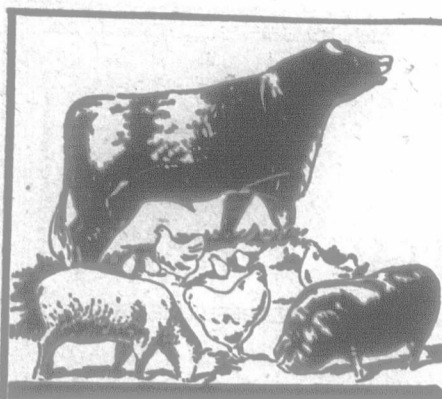
**GRIESBACH BROS., L.-D. phone Collingwood, Ont.**

**Summer Hill Holsteins**—We have the best bunch of Holstein bulls ever offered at our farm. Their dams have records up to over 34 lbs. of butter in 7 days. All are sired by a bull with a 34-lb. dam. One is a full brother to the Grand Champion bull at Toronto this year.

**D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.**

**"Premier" Holstein Bulls Ready for Service**—I have several young bulls from dams with 110 lbs. of milk in one day—over 3,090 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.

**H. H. BAILEY, Oak Park Farm, Paris, Ont.**



**Kreso Dip No. 1**

(STANDARDIZED)

**Parasiticide. Disinfectant.**  
**USE IT ON ALL LIVESTOCK**

To Kill Lice, Mites, Fleas,  
and Sheep Ticks.  
To Help Heal Cuts, Scratches and  
Common Skin Troubles.

**USE IT IN ALL BUILDINGS**

To Kill Disease Germs and Thus  
Prevent Contagious Animal Diseases.

**EASY TO USE. EFFICIENT. ECONOMICAL.**

**FREE BOOKLETS.**

We will send you a booklet on the  
treatment of mange, eczema or pitch  
mange, arthritis, sore mouth, etc.

We will send you a booklet on how  
to build a hog wallow, which will keep  
hogs clean and healthy.

We will send you a booklet on how  
to keep your hogs free from insect para-  
sites and disease.

Write for them to

Animal Industry Department of  
**PARKE, DAVIS & CO.**  
WALKERVILLE, ONT.

**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.  
Hornung, District Passenger Agent,  
Toronto.

**The Most Important Holstein  
Event For June**

**THE  
Archibald Dispersal**

**THIRTY-FIVE HEAD**

Twenty-five fresh cows. The best  
in individuality and the  
best in breeding.

**You Should Be Present**

**SEAFORTH, ONTARIO**

**Thursday, May 27th, 1920**

For Catalogues address

**JOHN R. ARCHIBALD**

Seaforth, Ontario

**Pure-bred Jersey Bull**

11 months old for sale, a new, thrifty, full, dark  
bull. Will sell clean.

**F. H. LAIRD, DRESDEN, ONT.**

When writing please mention Advocate

**Gossip.**

James McPherson & Sons, of Spruce  
Glen Farm, Dundalk, write that they  
have recently sold several Shorthorn herd  
sires through their advertisement in "The  
Farmer's Advocate." One goes to E.  
Richardson, of Grand Valley, and another  
one was purchased by J. Sharman, of  
Quebec. Although this bull had to be  
shipped a long distance, he arrived in  
good condition. Writing under date  
of May 3, Messrs. McPherson state  
that no seeding has been done, although  
a few have been plowing. Clover has  
wintered well in the district and there  
was no heaving of the plants this spring.  
Although feed was scarce, cattle have  
wintered fairly well.

Breeders who have been attending the  
Guelph Winter Fair will have become  
familiar with the quality of stock shown  
by J. W. Burt & Sons, of Hillsburg. This  
herd now contains around fifty-four head,  
headed by Pioneer of Larkin Farm, a  
deep, thick, sappy bull, of good lines and  
character. The breeding females are  
large, roomy cows and their progeny  
show good breeding. Messrs. Burt are  
consigning two head to the Aberdeen-  
Angus sale in Toronto, on June 2. One  
of these is a senior yearling heifer, Queen  
of Aberdeen, a typey, straight, thick  
heifer with an attractive appearance.  
The other entry is a senior yearling  
bull, Justice of Aberdeen. He won  
second prize at Guelph in 1919, and has  
developed wonderfully since then. He  
has great capacity and shows strong,  
masculine character. This bull would  
not look out of place, at the head of the  
most elite herd. These two animals  
are being offered to the highest bidder  
at this sale, and it gives breeders an  
opportunity of securing good animals  
at their own price.

**Holstein Sale at Seaforth.**

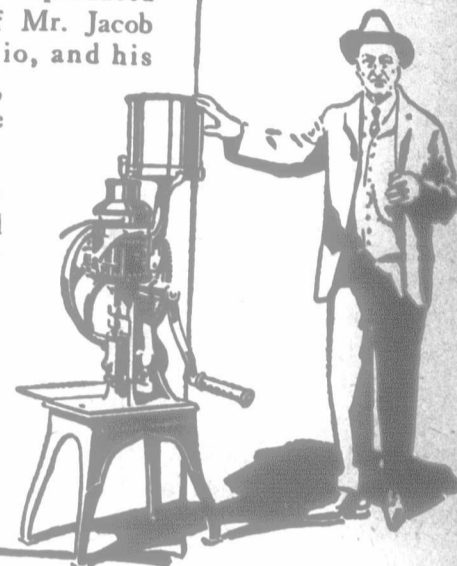
Elsewhere in this issue will be noticed  
the advertisement of the dispersion sale  
of Holsteins to be held at Seaforth on  
Thursday, May 27, by John R. Archi-  
bald. Mr. Archibald is selling his entire  
herd, the majority of which are young  
cows which will be selling either in full  
flow of milk or close to calving, and it is  
worthy of note that there is not one  
blemished cow among them. It might  
be well to add also that Mr. Archibald did  
his first official testing in the fall of 1919,  
so it is quite possible that every tested  
animal in the herd will increase its present  
record when afforded the opportunity.  
The highest record made by Mr. Archi-  
bald was made with the eight-year-old  
cow, Cherry Grove's Lula. She is got  
by the good breeding bull, Mutual  
Friend Paul De Kol, and her figures for  
seven-day butter production were 24.23  
lbs. She sells with a junior two-year-old  
daughter which has recently made 16.47  
lbs. of butter in seven days, and there is  
also her November calf, which is a heifer,  
sired by a 30-lb. bred bull. The 16.47-  
lb. daughter, too, has a heifer calf which  
is sired by Messrs. Arbogast's good sire,  
Dutchland Pontiac Colantha. Lillian  
De Kol Queen, a seven-year-old daughter  
of Sir Houwtje Pledge Butter Boy, with a  
23.20-lb. record, is the next highest  
record, her record being made in January  
along with the 20.10-lb. cow, Countess  
Calamity Korndyke, these being the  
first two cows ever officially tested on the  
farm. Another five-year-old cow worthy  
of mention, although still untested, is  
Jenny Hartog, by Canary Mercedes  
Pietertje Hartog, and dam, Jenny Boner-  
ges Ormsby 3rd, the latter being a  
daughter of Jenny Bonerges Ormsby 2nd,  
which has in five different lactation  
periods produced better than 30 lbs.  
of butter in seven days. Outstanding  
among the younger females listed is the  
two-year-old heifer, K. S. A. C. Evangeline  
De Kol. She is an exceptional type of  
an individual and is sired by King Segis  
Acartra Calamity, the 35-lb. bred son  
of King Segis Pontiac Alcartra, while  
her dam is a 31-lb. daughter of Witzde  
Roger Mechthilde. This heifer is due  
just at sale time to Dutchland Pontiac  
Colantha, whose six nearest dams aver-  
aged 600 lbs. of milk in seven days. The  
remaining pedigrees in the offering  
contain many more which are equally  
choice in breeding, and the individuality  
throughout will be appreciated on sale  
day. The sale will be held at the farm,  
which is only a few hundred yards from  
the G. T. R. station, and the cattle will  
be sold, if possible, between train times.

**DURABILITY OF THE  
DE LAVAL**

This illustration is reproduced  
from a photograph of Mr. Jacob  
Rimelspach, in Ohio, and his  
DeLaval Separator,  
which has been in use  
for over 25 years.

The machine was  
brought in on a local  
De Laval Service Day  
to be looked over by the  
service man.

There was nothing the  
matter with the separator,  
and after it was cleaned up  
and oiled Mr. Rimelspach  
took it home with the com-  
ment that it ought to be  
good for another 25 years.



The De Laval Separator gives the  
greatest value for the money, because it  
gives better and longer service. Mr.  
Rimelspach's experience is equaled by the  
records of a large number of De Laval  
machines.

Considering its greater durability alone,  
the De Laval is the most economical  
separator to buy; and with its cleaner  
skimming, easier running, greater capacity  
and unequalled service, the price of a  
"cheaper" machine is high in comparison.

If you don't know the De Laval  
agent in your community, write  
to the nearest De Laval office

**THE DE LAVAL COMPANY, Ltd.**

MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER

**100 Sophie Tormentor Jerseys 100**  
**At Auction, June 3, 1920**

Register of Merit Cows, Bred Heifers, Heifer Calves,  
Bulls Ready for Service and Bull Calves.

Descendants of the World's Champion Long-distance cow, Sophie 19th of Hood Farm; Hood Farm  
Pogis 9th, the champion sire, sire of 79 R.O.M. cows and 31 producing sons; Hood Farm Toronto,  
sire of 73 and 24 sons; Pogis 99th of Hood Farm, sire of 70 and 10 sons. The champion producing  
blood of the breed. Herd tested by U. S. Dept. of Agriculture Veterinarians. Shipment to Canada  
without quarantine. The catalogue tells the story—free on request to

**HOOD FARM, INC. :: :: LOWELL, MASS.**

**BRAMPTON JERSEYS**

THE LARGEST JERSEY HERD IN THE BRITISH EMPIRE

At Toronto Exhibition, 1919, we won twenty-five of twenty-seven first prizes. We now have for sale  
first-prize young bulls from R. O. P. dams, as well as females of all ages.

**B. H. BULL & SONS :: Brampton, Ontario**

**Laurentian Producing Jerseys**—The oldest bull we have at present is a year old youngster, sired  
by our herd sire, Broadview Bright Villa, No. 5630, and from Brampton Astoria, one of the best im-  
ported cows in the herd. We also have others younger of similar breeding, as well as a few bred  
heifers for sale. **FREDERICK C. TODD, Owner, 801 New Birk's Bldg., Montreal, P.Q.**  
Farm at Morin Heights - F. J. WATSON, Manager

**The Woodview Farm JERSEYS** **CANADA'S MOST BEAUTIFUL JERSEY HERD**  
Herd headed by Imported Champion Rower, winner of first prize with five  
of his daughters on the Island of Jersey, 1914, second in 1916, and again first in  
1917. We are now offering for sale some very choice bull calves, ready for  
service, sired by imported bulls and from Record of Performance imported prize-  
winning cows. Also some cows and heifers. Prices right. We work our show  
cows and show our work cows.

**Glenhurst Ayrshires** headed by Mansfield Mains Sir Douglas Hague  
No. 16163 Imp. have been noted for their depth and  
size, good teats and smoothness of conformation. If  
you are looking for a combination of size, type and production—plus high butterfat—write me or  
visit the farm. Males and females of all ages for sale.  
**JAMES BENNING, Summertown Sta., G.T. R. Williamstown, C.P.R. Bell Telephone 78-3 Cornwall**

**ALL BULLS OF SERVICEABLE AGE SOLD**

A few young bulls, sired by the Financial Raleigh King, son of the \$6,000.00 Financial Beauty King,  
for sale from R.O.P. dams.  
**JAS. BAGG AND SONS, (Woodbridge, C.P.R., Concord, G.T.R.) EDGELEY, ONT.**





## From Weaning Time to Market

Your profit on every litter of pigs depends upon the care given them and their feeding.

To shorten the time required for maturing means added profits for you.

Pigs fed liberally on Monarch Hog Feed develop bone and muscle quickly and add sound, firm flesh rapidly.

The ingredients of Monarch Hog Feed form an ideal combination containing the correct proportions of protein and fat to finish hogs in the shortest time.

This feed used along with the proper amount of roughage means better proportioned hogs. More lean and

less fat. Hogs that ship with the least amount of shrinkage. Hogs that bring the highest price.

Pigs eat Monarch Hog Feed with eagerness. It has a flavor that hogs relish. It is as easily digestible as it is palatable. It is as economical to feed as it is profitable in results.

Guaranteed Analysis — Protein 15%, Fat 4%.

Try a ton. If your dealer cannot supply you, write us.

### Monarch Dairy Feed

A milk producing feed. Protein 20%; Fat 4%.

### Sampson Feed

A general purpose feed. Protein 10%; Fat 4%.

The Campbell Flour Mills Co., Limited, affiliated with

Maple Leaf Milling Co., Limited, Toronto, Ont.

# Monarch Hog Feed



## Solve Your Feed Problem By Feeding Oil Cake Meal

More Milk and Better Milk

CAN BE FED WITH PERFECT SAFETY TO ALL LIVE STOCK

Reasonable prices. Immediate shipment.

MANUFACTURED AND FOR SALE BY

The Dominion Linseed Oil Company, Limited

BADEN, ONT. WINNIPEG, MAN. MONTREAL, QUE.

**LABELS**  
Live-stock Labels for cattle, sheep and hogs. Manufactured by the Ketchum Manufacturing Co., Ltd., Box 501 Ottawa, Ont. Write for samples and prices

**Shropshire Yearling Ewes**, bred to Bibby's 84 (imp.) ram and ewe lambs sired by him. Two Shorthorn bulls. Two Clydesdale stallions.  
W. H. PUGH, Myrtle Station, Ont.

**Oxford Down Sheep, Pioneer Flock** — We are offering this season a up-to-date lot of yearling and two-shear ewes, also Ram and Ewe Lambs.  
HENRY ARKELL, Office and Telegraph, 207 Sherman Ave. South, Hamilton, Ont. Shipping Station, Guelph and Corwin

**ELMHURST LARGE ENGLISH BERKSHIRES**  
From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.  
H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO  
Langford Station on Brantford and Hamilton Radial.

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"Takes the Wet out of Rain" The "Twenty-Two" Coat (Trade Mark)

THE coat that keeps out all the water all the time. This coat is specially adapted for farmers and teamsters, made from heavy material, finished with corduroy lined collar. Fastened at an angle with solid brass rust-proof clasps. You cannot get the legs of your pants wet with this coat. On every Fish Brand label appears the simple words "Satisfaction Guaranteed" which mean that we will make good any Fish Brand garment which for any reason fails to do its full duty. Ask your dealer.

TOWER CANADIAN LIMITED  
Toronto  
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Coast to Coast Service



The reflection of its excellence

**Windsor Cheese Salt**  
THE CANADIAN SALT CO., LIMITED

## YORKSHIRES

Pigs of different ages, both sexes, from large litters.

**WELDWOOD FARM**  
Farmer's Advocate, London, Ontario

## YORKSHIRES

At Westside Farm  
Small pigs of "Weldwood" breed ready to ship; write at once.

David A. Ashworth - Denfield, Ont.

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A choice lot of gilts bred for June and July farrow, Young boars from 60 pounds up.  
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Young sows, bred for May and June farrow, and boars for sale. Write or phone.  
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**Sunnyside** Chester Whites and Dorsets—In Chester Whites, both sexes, any age, bred from our champions. In Dorset ram and ewe lambs, by our Toronto and Ottawa champions, and out of Toronto, London and Guelph winners.  
W. E. Wright & Son, Glanworth, Ont.

**DUROC JERSEYS**  
My herd has won more firsts and championships in four years showing at Toronto than all other herds of Durocs combined. Write for prices.  
CULBERT MALOTT, R. R. 3, Wheatley, Ont.

**Prospect Hill** Berkshires—Young stock, either sex, for sale, from our imported sows and boars; also some from our show herd headed by our stock boar, Ringleader. Terms and prices right.  
JOHN WEIR & SON, R. R. 1, Paris, Ont.

**English Large Black Pigs**  
I have an exceptionally fine litter of this great breed of pigs for sale. Very hardy, thrifty and easy feeders. Order early.  
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Y HERD of first prize with five 1916, and again first in e bull calves, ready for rformance imported prize- nt. We work our show

Sir Douglas Hague for their depth and of conformation. If utterfat—write me or telephone 78-3 Cornwall

SOLD nancial Beauty King, EDGELEY, ONT.



## Which supper would you like best? Wheat bubbles or bread?

Millions of children now get Puffed Wheat in their milk dish. They get whole wheat, with every grain a tidbit. The grains are toasted bubbles, thin and flimsy, puffed to eight times normal size. The taste is like airy nut-meats.

Every food cell is exploded, so digestion is easy and complete. It is better liked and better for them than any other form of wheat.

### These grains are steam exploded

Prof. Anderson has found a way to puff wheat and rice. All are steam exploded, all shot from guns.

So these grains are at your service in this ideal form.

Serve both of them, and often. Not for breakfast only, but all day long.

Use in every bowl of milk. Use as nut meats on ice cream, as wafers in your soups. Crisp and douse with melted butter for hungry children after school.

Keep both kinds on hand. These are the best-cooked grain foods in existence and the most delightful.



Puffed to 8 times normal size



### Mix with strawberries

Puffed rice makes a delightful blend. The texture is flimsy, the taste like nuts.

It adds what crust adds to shortcake, tarts and pies. It adds as much as the sugar or the cream.

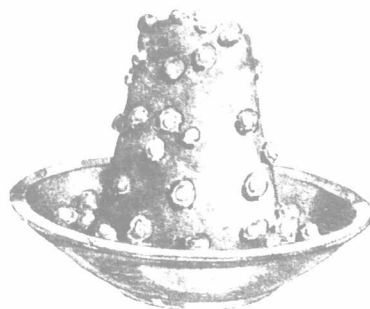
### Like nut meats on ice cream

These flimsy grains taste like nut meats puffed. Scatter them on ice cream. Use them also in home candy making.

## Puffed Wheat Puffed Rice

### Whole-Grain Bubbles

Puffed by steam explosion to eight times normal size.



## The Quaker Oats Company

Peterborough, Canada

Sole Makers

Saskatoon, Canada

3490

## Our School Department.

### Empire Day, Hurrah!

BY G. H. C.

'Tis Empire Day,  
'Tis Empire Day—  
Hurrah! Hurrah!  
Our Empire's sway,  
None can gainsay—  
Hurrah! Hurrah!

A colossal fact—the British Empire. There is no gainsaying the reality of our Empire. It is astride this old planet. It looms up in every part of the world. Its Flag, the Symbol of Empire, our Union Jack, is fanned by the winds of every clime, and is ceremoniously and reverently saluted by the many millions of people on the 24th of May, Empire Day, the wide world o'er. And at the present moment, after centuries of intrigue and struggle for the possession of Palestine by rival nations, the Cross is above the Crescent throughout the Holy Land, and over the ancient and sacred city of Jerusalem Our Flag waves triumphant.

Our Empire, after passing through the fiery furnace trial and the Gethsemane of agony and suffering of the Great War, emerged not weaker but stronger, not lessened in territory but considerably extended. The British Empire was great before the war; it is greater still to-day. It occupies more than one-quarter of the known surface of the earth, while more than one-quarter of the estimated population of the world lives under the protection of the Union Jack. It is recorded that summer and winter conditions are equally divided throughout our far-flung Empire, and also that daylight and darkness are as equally proportioned. Thus, during every hour of the twenty-four hours of each day of the year, the sun is shining on some part of Our Empire, and saluting with his beams of light—Our Flag!

Other empires have risen and fallen. Their glory is but a memory. They were great and magnificent. But it is an indisputable truth that of all the world's empires the greatest, mightiest, and grandest is the British Empire; and that, whether it be the Egyptian, Assyrian, Babylonian, Medo-Persian, Grecian, or Roman, they all pale into insignificance when compared with Our Empire. Carping critics, bemused with envy or ignorance, may rail and snarl, enemies may intrigue and seek to lessen or destroy, but the British Empire "carries on" as imperturbable as her Rock of Gibraltar, and the Flag of Empire waves undaunted around the world.

Our Empire is the wealthiest the world has ever known. Financiers attest that for many years before the Great War the foreign trade of the United States and even Germany was mostly financed by the bankers of Our Empire. It is recorded that when the war opened the people of the world owed the people of Great Britain \$20,000,000,000, a sum of \$4,000,000,000 in excess of all the gold and silver, coins and bullion, paper covered and uncovered in all the world. And though she had this huge sum loaned out, the Mother of the Empire still had a little in hand when she went forth to aid Belgium and France, for she spent \$38,000,000,000 on the war, of which \$7,325,000,000 was loaned to her allies. In addition, her factories clothed the British, French, Italian, Grecian, Serbian, and other armies, and largely equipped them with guns, rifles, shell and aeroplanes—even the Americans were uniformed from her mills. Truly stupendous! And so, from every part of the Land of the Maple Leaf, Canadians on Empire Day waft a special salutation across the wild waste of waters to Our Empire's sea-girt isles—Great Britain, the home of freedom and progress.

Not only in material wealth, but in every branch of science, in literature, in art, in inventive genius, and in all that makes for the enlightenment and uplift of humanity, Our Empire is beyond compare. A recent visitor to our shores from the Motherland, Sir Oliver Lodge, is acclaimed by all learned authorities as the greatest of living scientists, and is con-

ceded to be the greatest original thinker of modern times. Among his many brilliant discoveries was that of the "Coherer" and with this detector he devised the first practical wireless telegraph, sending signals over several hundred yards—all done long before Marconi took up the subject, and the Italian inventor undoubtedly built upon the earlier discoveries of Sir Oliver Lodge. Then in literature, where, outside of Our Empire, can be found another Shakespeare, and such a galaxy of great, profound, and brilliant writers upon every subject under the sun? In invention, to note only a few out of the immense long list—the steam engine, the railway, the telegraph, and the telephone were all invented by Britishers. And where can be found a nobler band of explorers, adventurers and missionaries?

Our Empire's defenders! The British Tommy and his comrades from all the self-governing company of nations and possessions. What pen can adequately describe the heroism, the endurance, the courage, the self-sacrifice displayed by the Empire's warriors? Their exploits in many a long and hard-fought conflict, against contending odds, is emblazoned on the highest pinnacle of fame. When shall their glory fade? "Not till the sun grows cold, and the books of the judgment day unfold." Then there is the Empire's matchless navy, the sailor boys who won for us the empire of the seas—the glorious, silent, ever carrying on navy. To-day the White Ensign is floating over the waters that lave every shore of the world, protecting the commerce of every trader of every clime, and assuring to all nations the freedom of the seas.

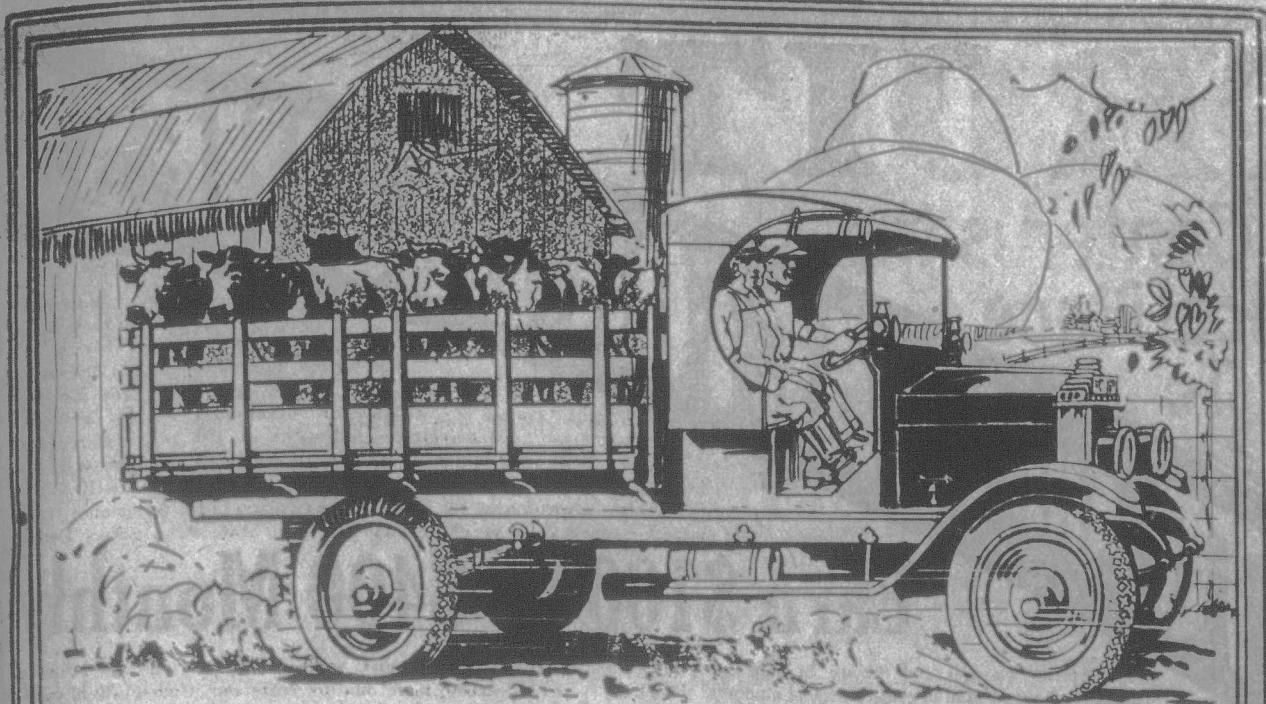
Is this only idle and vain boasting? No! thunders forth from the four quarters of the world. It is the truth. Empire Day is our day of remembrance, when we especially recall to mind some of the achievements that contributed to the building of such a monument of Anglo-Saxon courage and enterprise. On the 24th of May all the people of the Empire pause in their daily round of toil and gather inspiration from the past to help in the present and the future. And here, in our lovely and glorious Canada, in the budding May-time, the sons and daughters of the Land of the Maple Leaf will for a while look beyond their country of "magnificent distances" and in their hearts join with their partners in Empire—Australia, New Zealand, South Africa, India, and the numerous outposts of Empire scattered around the world—in celebrating Empire Day.

To Canadians the day will be a reminder that Canada has won a pre-eminent position among the Daughter Nations of the Motherland and that by the sacrifice of her treasure and the outpouring of her blood in defence of Home and Empire has attained to front rank among the nations. And the raising of the Union Jack, symbol everywhere throughout our fair Dominion of Canada on Empire Day, will link us anew with every part of our far-flung Empire, and deepen and intensify our purpose and resolve to be worthy of our mighty and magnificent heritage, and to be loyal and true to our beloved and glorious dead. They speak to us to-day in the wonderful words of that noble Canadian soldier, Lt.-Col. John McCrae:

To you, from falling hands we throw  
The torch. Be yours to lift it high!  
If ye break faith with us who die,  
We shall not sleep, though poppies grow  
In Flanders fields.

The school and grounds might be made far more attractive than they are if time were taken to have shade trees, flowers, shrubs, etc., planted. Flowers and good pictures should be in every school. The environment of the growing boy and girl influences character.

The call of the woods and streams is very strong at this time of year, and many lessons may be learned there if one is observant and is able to understand the things of nature.



## Farmers Rely on the National

**T**HE National makes money for the farmer who uses one. The National does work the way a farmer wants it done. A National Motor Truck on your farm will go farthest toward helping you reduce your haulage expense. The National is built in Canada to meet the Canadian conditions. It is staunch, powerful, easy to handle and absolutely dependable at all times.

The National is noted for its gas economy, freedom from repair bills and its ability to deliver peak loads according to schedule. Convince yourself that the National is the truck for you—that it is the finest motor truck investment you can make. Arrange for a demonstration; check it up for speed and gas consumption while going over any route you care to choose.

There is a National built to meet your particular requirements. There are four models: 1 ton, 1½ ton, 2 ton and 3½ ton trucks.

Write for name of nearest National Dealer

National Steel Car Corporation, Ltd.  
HAMILTON, CANADA

# NATIONAL MOTOR TRUCKS

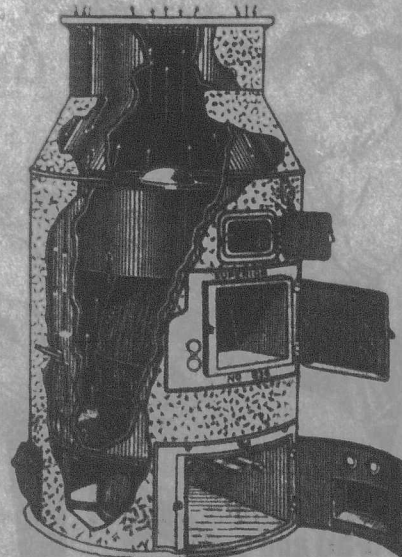
Write for Illustrated Catalogue and name of the nearest National Dealer

# RENNIE'S CALF MEAL

GIVES THE BEST RESULTS OBTAINABLE

Obtain from Your Dealer or write to  
**THE WILLIAM RENNIE COMPANY LIMITED**  
King and Market Streets, Toronto

## Pilot Superior Safety



THE PILOT SUPERIOR PIPELESS FURNACE is a safe heating system because no heated part can come in contact with the inflammable materials of the buildings where Pilot Superiors are installed. The point at which the outer casing touches the floor is insulated from the warm air passages of the furnace by the large return air chamber, which prevents the radiation of heat to the wood. This is a positive protection and the danger of fire from this cause, so common to other types of furnaces, is entirely overcome in the Pilot Superior construction. There are no heated pipes in the walls of Pilot Superior-heated buildings and consequent cause is entirely eliminated. A Pilot Superior Pipeless Furnace can be installed in six hours.

Manufactured by  
**The Hall Zryd Foundry Company, Limited**  
Hespeler, Ontario

### When they're in they're in

Eddy's "Silent Fives" strike right, and burn with a clear, bright, odorless flame.

### When they're out they're out

They have been chemically treated so that when blown out they're dead—lifeless: No after-glow — No danger of fire.

### EDDY'S Matches

"The finest matches in the world"

The E. B. Eddy Co., Limited  
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Makers of everlasting wash-tubs, pails, wash-boards, etc. C36

## Ontario Grown Clovers

GOVERNMENT STANDARD

	Per bus.
No. 1 Red Clover	\$44.00
No. 2 "	40.00
No. 3 "	38.00
No. 1 Alsike	42.00
No. 2 "	40.00
No. 3 "	39.00
No. 1 Alfalfa, Northern grown	37.00
White Blossom Sweet Clover 1st quality	24.00
" " 2nd "	22.00
Unhulled White Blossom Sweet Clover	16.00
Yellow Blossom Sweet Clover, Choice	22.00
No. 2 Timothy, No. 1 Purity	9.00
No. 2 Timothy	8.50

Per bus. of 60 lbs.

Timothy and Alsike Mixed ..... \$20.00  
Timothy and Red Clover Mixed ..... 20.00

On all orders of \$50.00 or over, we pay the freight east of Manitoba. Bags extra at 65c. each. Terms—Cash with order. Ask for samples if necessary.

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Seed Merchants  
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Please mention Advocate.

# DETROIT

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Factories, Garages and Service Stations everywhere are calling for Trained Men in ever-increasing numbers. Hundreds of our students are in business for themselves, making \$5,000 to \$10,000 and more yearly. There are thousands of valuable locations for Garages and Service Stations everywhere—the field is unlimited. No matter what you have done or what you are doing now, you can learn this

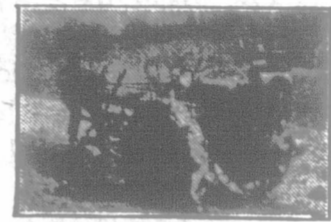
well-paid, pleasant work. Whether you are young or have reached more mature years, our Course will fit you to command the opportunities you desire. To the man with grit and the determination to get ahead, the future is without limit. Michigan State Auto School training will help you to success in any branch of the Auto, Truck and Tractor business.

### Auto Factories Endorse School

The thoroughness of our methods and the completeness of our equipment are well known in the Auto Industry. The biggest factories in the country heartily endorse our Course. In fact, many of the leading Auto Manufacturers assisted in outlining our Course, and they give our students the fullest co-operation possible. These factories are constantly calling on us for graduates, because they know the type of men we turn out. Everywhere in the Automobile Industry, M. S. A. S. graduates are given the preference, because ours is the Factory Endorsed School.

### Courses Thorough and Complete Tractor Course Included

Each student is taught Auto, Truck and Tractor construction in every detail. We train both the head and hand. There are over one hundred motors of all types in our block test department. Our Course in Auto Electrics is very thorough—graduates have no trouble locating any electrical trouble quickly and easily. Students get complete, thorough and practical knowledge of Motors, Starting, Lighting and Ignition Systems, Carburetion, Lubrication, Transmissions, Differentials, etc. As a part of the regular Course students are given complete and thorough training in the care, repair and operation of Farm Tractors.



Above you see one of our tractors being driven by one of our students. Below is a partial view of our electrical room.



Below is shown one of our class rooms, where students get the fundamental principles, which they later put into actual practice.



### Brazing, Welding, Tire Repairing

Brazing and Welding and Tire Repairing are taught in separate courses. Either of these Courses may be taken separately, but if taken with the regular Automobile Course make a valuable addition to the equipment of any student.

To men who want to sell Autos, Trucks and Tractors, this training gives an exceptional advantage, for they know just how to judge the value of old machines they are asked to take in trade on new machines. They know these machines as no average salesman can know them.



Not a One-Man School

This school is founded on the best, newest and most practical principles in the auto, truck and tractor business. Our Course is built with the closest and most liberal co-operation from Manufacturers, Garages, Service Stations and Owners. It is not one man's ideas, but the combined ideas of the biggest and most successful men in each field. A. G. ZELLER, President.

### Open all Year—Start Any Day

You don't need to waste a minute. Our school is open the year 'round. Three classes daily—morning, afternoon and evening. You can start same day you arrive. Instructions are interesting; the work fascinating. Instructors are thoroughly competent members Society of Automotive Engineers. When you arrive our Welfare Department will help you to find a good room and boarding accommodations and give any other assistance needed. If necessary, we aid you to get a job where you can earn money to help pay expenses.

### Get Our Catalogue

Send the coupon to-day for new Catalogue and copy of latest "Auto School News"—both absolutely FREE. They tell about Courses—show more than a hundred pictures of equipment—give letters from big Auto Factories and Graduates. M. S. A. S. Courses are as reasonable in price as they are thorough in their training. Those who have jumped on a train and come to Detroit to investigate our school, have found the Courses so satisfactory and so reasonably priced that they have remained to get the M. S. A. S. Training. Our Money-Back guarantee protects you. If you can't come now, get the catalogue. Resolve to learn the business in Detroit—The Heart of the Auto Industry. Use the coupon now.

### SEND THIS COUPON TODAY

MICHIGAN STATE AUTO SCHOOL 1845 Auto Bldg. 687-91 Woodward Ave. DETROIT, MICH., U.S.A. Gentlemen: Please send me, absolutely FREE, New Illustrated Catalogue, "Auto School News," and information as checked below. [ ] Auto and Tractor Course [ ] Tire Repairing Course [ ] Brazing and Welding Course (Mark each course you are interested in.) Or, better still, you can expect me about Name Street City State

### Detroit the Logical Place to Learn

There can be but one logical answer to the question of where to train. Detroit, with more than 180 Auto, Truck and Tractor and Accessory Factories is the very Heart of the Automobile Industry. Seventy-nine per cent. of all automobiles manufactured are made in Michigan—71% are made in Detroit alone. These facts give our students advantages impossible of realization elsewhere. Enthusiastic and almost unlimited co-operation is enjoyed with these big factories. Frequent opportunities are afforded our students to hear lectures and highly instructive talks given by the leading men in the Auto Industry, the value of which cannot be over-estimated.

### Detroit in Summer

In addition to being the heart of the Automobile Industry, Detroit in summer is the center of some of the finest pleasure spots in America: Detroit has 38 parks, the finest of which is Belle Isle—a wooded island in the Detroit River, said to be one of the most beautiful spots in America. Here you find boating, bathing, and a score of other amusements within a few minutes' boat or trolley ride of the heart of the city. Then there are daily boat trips up and down the Detroit River, through Lake St. Clair—across Lake Erie to Toledo, Cleveland, Buffalo and Niagara Falls; trips to Sugar Island and to Put-In-Bay, where you may explore the wonderful caves.

During the summer months many pleasant evenings may be spent enjoying the cooling breezes from the deck of a boat as it glides through the moonlit waters. Already the Michigan State Auto School has arranged for three of these boat trips for this summer. These are free to students and their friends.

At all times throughout the year, Detroit is the logical place to learn the Auto and Tractor business, but the summer attractions in and around Detroit make May, June, July, August and September ideal months in which to get this training, and at the same enjoy Detroit.

### Hupmobile

Hupp Motor Car Corporation Detroit, Michigan, U.S.A. Having had the pleasure of recently visiting and inspecting most carefully your school, permit me to state I was deeply impressed with the personnel of your organization, the equipment that you have and the methods you use to teach your students. Yours very truly, G. E. Galtbray, Jr. HUPP MOTOR CAR CORPORATION Manager Service Department

### MAXWELL MOTOR COMPANY

Suppliers of automobiles DETROIT, MICH. Mr. James Williams, 20 Lincoln St., Gloversville, N. Y. Dear Sir:—Your letter of February 26th, making inquiry regarding the Michigan State Auto School received. I wish to say that this is one of the best schools in the country, and would not hesitate to recommend it to anyone who is desirous of learning the automobile business. It is a recognized institution among the automobile factories of this city. We have a great many graduates from this school in our employ and every one has given entire satisfaction. Trusting this information will be of benefit to you, Very truly yours, MAXWELL MOTOR COMPANY, Inc. CHALMERS PLANT. H. H. Lee, Supervisor Welfare and Labor.

### Packard

MADE IN AMERICA DETROIT, MICH., U.S.A. The Michigan State Auto School enjoys a very enviable reputation and is probably one of the best of its kind in the United States. Have no hesitation in recommending it in every particular. Yours very truly, PACKARD MOTOR CAR COMPANY

### THE STUDEBAKER CORPORATION

OF AMERICA DETROIT, MICHIGAN, U.S.A. Answering your letter of January 13th, relative to the Michigan State Auto School at Detroit, it is our understanding that they conduct a very good school. In fact, we do not know of a better automobile school that we could recommend to you than the Michigan State. Yours very truly, THE STUDEBAKER CORPORATION OF AMERICA

### Money-Back Guarantee

We guarantee to qualify you for a position as chauffeur, repair man, demonstrator, auto electrician, garage man, automobile dealer or tractor mechanic and operator, paying from \$100 to \$400 monthly, or refund your money, provided you do your part and attend our classes.

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