

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE
AND HOME MAGAZINE

PERSEVERE
SUCCEED
FOUNDED

Dominion Ex. Farm
1st Dec. 31, 1915

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

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. LI.

LONDON, ONTARIO, APRIL 13, 1916.

No. 1229

FROST FENCE

Any Frost Dealer

Will Solve the Fence Problem for You

If you are not already a "FROST" customer, we hardly believe you are getting that full measure of value you would get as a Frost customer and it would be, therefore, to our mutual advantage to "get acquainted." Let us show you how and why "FROST FENCE" is better. All we ask is this opportunity of putting the matter up to you squarely and let you, as a fence expert, decide for yourself.

We Protect Buyers of Frost Fence

By a rigid inspection, not only of Frost Products after they are ready for shipment, but by carefully examining the material in the make-up of Frost Fence from the raw rod down through the different processes of drawing, galvanizing and weaving into finished fence.

Our many years' experience in the fence business enables us to determine the right quality of wire needed for fence wear and tear, and as we always manufacture our own material you can rest assured that Frost tight-lock fence is made only of this special wire.

FROST FENCE is always sold through reliable dealers, who keep a stock on hand so that you can see what you are buying.

We do not ship fence out one door, and tell you that you are getting it direct at the lowest price and then ship the same kind out another door to dealers who buy it at a price considerably below your direct price, which makes it possible for them to sell you at your direct price and still make a good profit for themselves.

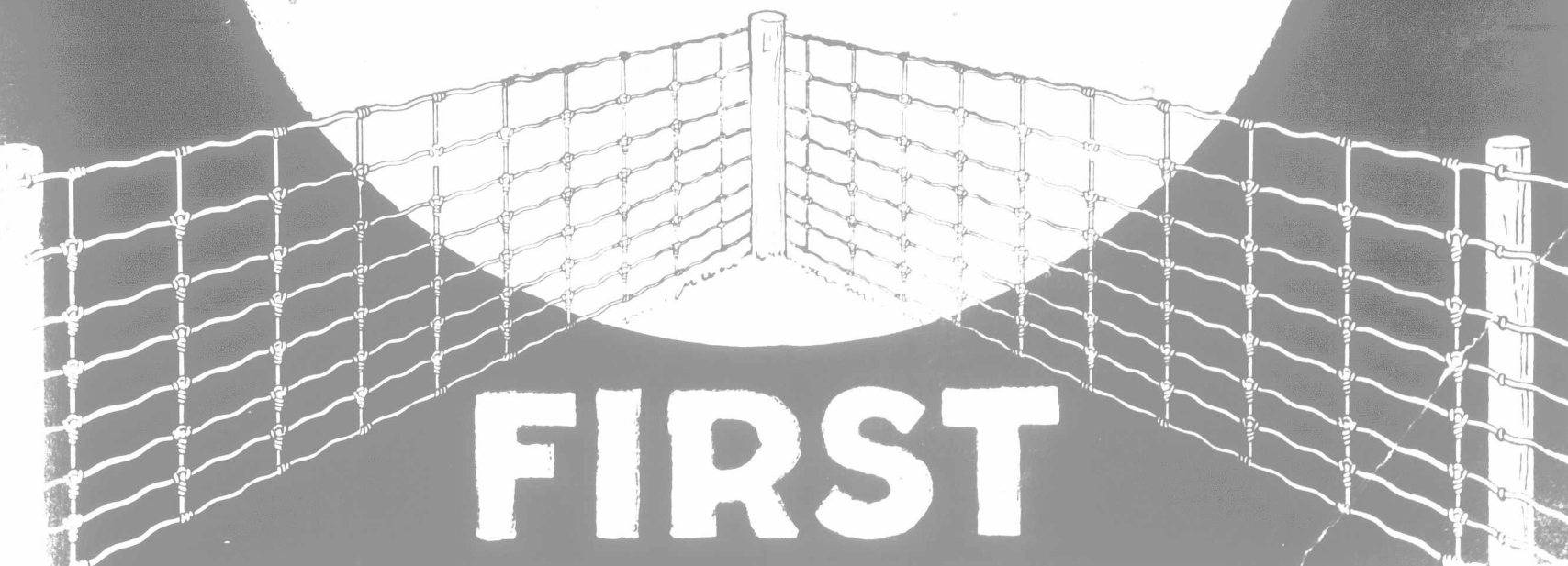
Also makers of Woven Wire and Iron Lawn Fence.
Inquire for catalogue.

FROST WIRE FENCE COMPANY

LIMITED

Hamilton, Canada

64



FIRST

Mail Co., TORONTO

and

PINE TREE BRAND



TRADE MARK
IT STANDS ALONE

PINE TREE BRAND SEED
Produces heavy yields and clean crops

Ask your dealer for
PINE TREE BRAND
Timothy - Clover - Alfalfa

The valuable Inoculating Material
NOD-O-GEN is FREE
with
PINE TREE BRAND ALFALFA
If your dealer cannot supply you
write:
THE ALBERT DICKINSON CO.
Chicago Minneapolis

'Security - First'



\$137 OF ASSETS
For each
\$100 OF LIABILITY

EXCELSIOR
Insurance **LIFE** Company

Head Office, Toronto, Canada

RIDER AGENTS WANTED

In every locality to ride and exhibit a 1916 Hyslop Bicycle with latest improvements.


10 DAYS' FREE TRIAL

Every Hyslop Bicycle is sold with the understanding that if owner is not satisfied after using bicycle 10 days it can be returned and money will be promptly refunded.

DO NOT BUY a Bicycle, Sun dries, Tires or Sporting Goods until you receive our latest literature and special money saving proposition.

TWO CENTS in all it will cost to send us a postal, and we will mail **Free, postpaid**, a handsome **Art Folder** showing our complete line of bicycles in large size actual covers; also catalogue of Sun dries, Tires and Sporting Goods. **Do not wait. Write to-day.**

HYSLOP BROTHERS Limited
Dept. "2" Toronto, Ontario



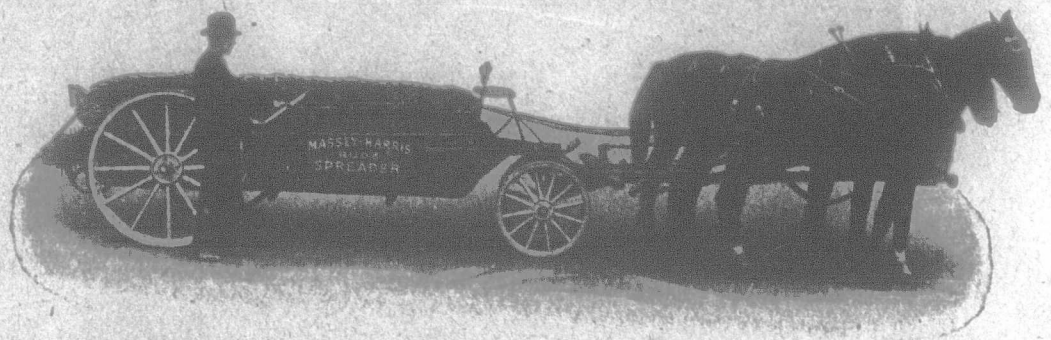
Build Silos, Dwellings, or any class of building from Concrete Block. The London Adjustable Concrete Block Machine makes every kind and size of Block. High grade. Moderate price. We manufacture a full line of Concrete Machinery. Send for Catalogue No. 3.

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

Corn That Will Grow

can grow seed corn. Your money back if not satisfied

W. KE. BETHVEN, ONT.



LOW DOWN

Massey-Harris Spreader

WIDE SPREAD

Here is a Spreader that is low down, but not too low—plenty of clearance under the Frame.

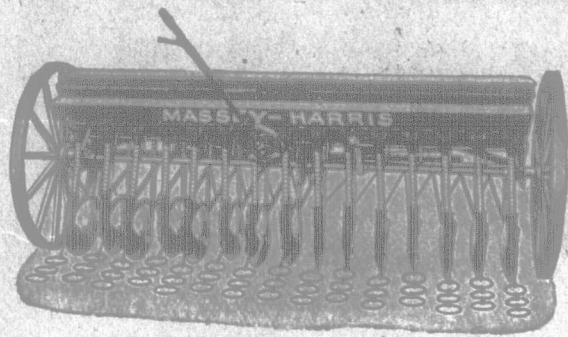
It is a Wide-Spread Machine—spreading full seven feet wide although the Box measures only 3 1/2 feet.

Ample strength is secured by making the Frame of Steel—heavy 4-inch Channel Side Sills with Steel Cross Sills, forming the strongest Frame ever put on a Spreader.

The Simple Chain Drive does away with all Cogs, Clutches, and Springs, and when out of gear no parts of the machine are running to cause wear.

The Upper Beater is in two sections, set at an angle to spread the load out beyond the Wheels.

The Simple, Direct Drive—the Divided Beater and small size of same—the taper shape of the Bed—the Broad-Faced Wheels—the careful fitting of all parts—these combine to secure light draft.

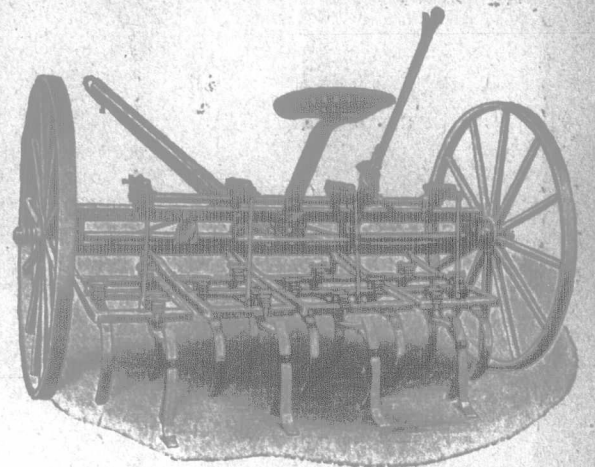


A Disc Drill with Steel Boots

The Steel Boots are an Exclusive **MASSEY-HARRIS FEATURE**

They are light enough to make shallow seeding possible in light soils, yet by means of the Pressure Springs they can be made to enter hard soil to any required depth.

In strength they are superior to the usual Cast-Iron Boot, the lower part is separate from the balance and if worn from use in sand or gritty soil, can be easily and cheaply replaced.



Reliable Spring-Tooth Cultivator

This Cultivator is a great weed killer and thoroughly pulverizes the soil, making it an easy matter for the hair-like roots of the growing plants to get through and increasing the amount of surface on which the plant can feed, at the same time giving the soil a greater capacity for holding moisture and reducing the loss by evaporation.

Massey-Harris Co., Limited.

Head Offices—Toronto, Canada.

— Canadian Branches at —

Montreal, Moncton, Winnipeg, Regina, Saskatoon, Swift Current, Yorkton, Calgary, Edmonton, E. G. Prior & Co., Ltd., Victoria, Vancouver, Kamloops.

— AGENCIES EVERYWHERE —

High Yielding **SEED CORN**

Grown and offered by
ESSEX COUNTY SEED FARMS, LIMITED

This farm consisting of 1,000 acres was purchased some years ago for the exclusive purpose of producing High-Yielding Seed. Our motto, "Larger yields for the farm." We have not only given our customers corn that will yield, but seed that will grow, and will grow a strong, rugged plant. The location of our farm ensures, even in unfavorable years like 1915, early maturity. Our seed is mature when harvested. It is cured in drying houses light exclusively for the purpose. It is tested before shipment. Our literature is free. Write for circular.

G. R. COTTRELL, President

W. MCKENNEY, Superintendent

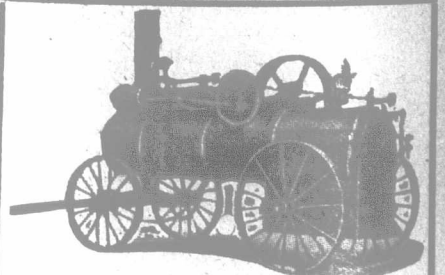
W. R. BROWN, ONTARIO

Early Seed Potatoes

Two weeks and Early Onions from hand selected stock, true to name and free from rot.

Phone 204

Windsor, Ontario



Rebuilt Portable and Traction Engines and Threshers

All sizes for sale cheap. Complete threshing outfit, traction engine with cab, separator, wind stacker, in good operative condition. **\$875**

The Robt. Bell Engine & Thresher Company, Limited
SEAFORTH ONTARIO

When writing please mention The Advocate

REO

Have You Ridden in the New Reo Six?

IF YOU HAVEN'T we think it is not too much to say you have yet to taste the real joys of motoring.

AND WHEN YOU HAVE ridden in this big luxurious equipage—the latest and in some respects, greatest product of Reo experience—you will understand why this car enjoys such a vogue—is so tremendously popular this season.

REO SIX WAS PROCLAIMED the "fashion plate for 1916" by designers generally from the moment its graceful lines were seen.

AND DOUBTLESS YOU'VE OBSERVED the influence this Sheer Line Reo has exerted on the design of seven passenger cars generally.

BUT YOU MUST SEE IT—must ride in and finally drive it yourself to fully appreciate what a magnificent car and what wonderful value it is at its price.

AND THE CLOSER YOU STUDY the details—the more carefully you enquire into every point of design, of construction, of quality of materials, of equipment and finish—the greater will be your admiration and the deeper your wonderment that it is possible to produce such a car for such a price.

FOR YOU MUST KNOW that this Reo Six is made as only the Reo Folk can make automobiles.

IT IS REAL INSIDE AND OUT—the Reo Folk do not use substitutes. Real leather in the upholstering and real hair.

BUT THAT STATEMENT is scarcely necessary. For you know the Reo Folk and you know Reo ideals. You know that Reo reputation is built on the most solid of foundations—a good product honestly made and honestly sold and honestly backed up afterward.

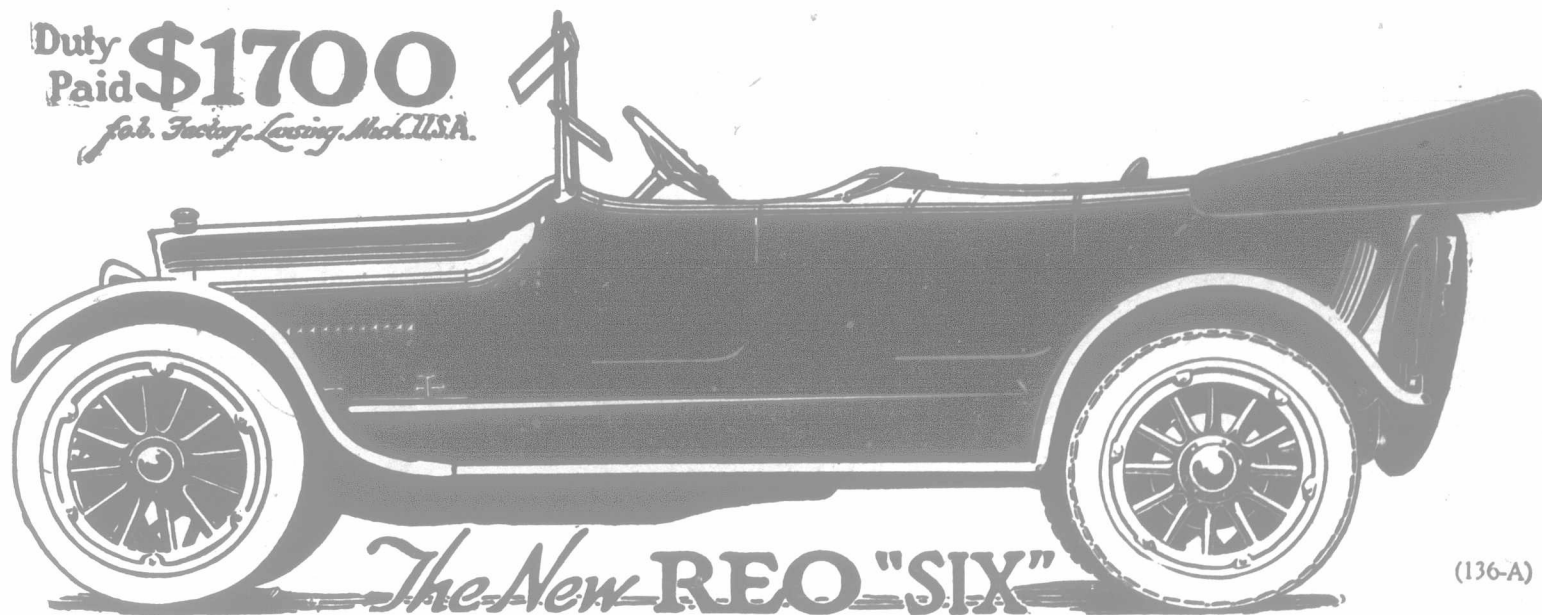
AND THERE'S "QUANTITY" TOO, if you like to put it that way. This is a big, full-size seven passenger car. Seats seven full grown adults comfortably—luxuriously.

WHEELBASE IS 126 INCHES. But that is increased—or rather the riding qualities are—to much more than it would otherwise amount by the Reo cantilever springs. They enhance the riding qualities of a car immeasurably—especially a big car like this New Reo Six.

IF YOU APPRECIATE the shortage there is going to be. If you want a Reo. And if you get us your order now—tomorrow—you will be one of the "lucky ones."

BUT DON'T DELAY—there won't be enough—never have been enough—Reos to go 'round.

Duty
Paid **\$1700**
fab. Factory Lansing, Mich. U.S.A.



The New **REO "SIX"**

(136-A)

REO MOTOR CAR COMPANY Lansing • Mich.

WIDE
SPREAD

with all Cogs,
out of gear
ing to cause

t at an angle
Wheels.

l Beater and
oe of the Bed
careful fitting
secure light



ltivator

killer and
king it an
ts of the
ncreasing
plant can
he soil a
sture and

Edmonton.



d Traction
eshers

omplete Threshing
separ
erative \$875

& Thresher
ited

ONTARIO

n The Advocate



FARMERS

You'll Find Just What You Want For Spring Painting, In

MARTIN-SENOUR PAINTS AND VARNISHES

"MADE IN CANADA"

Your needs have been foreseen. Dealers in your neighborhood have been supplied with the Martin-Senour line. And you have only to name your Painting Wants, to have them promptly filled.

HOUSE PAINT—Why should you waste money on impure paint, or bother with mixing lead and oil, when you can get Martin-Senour "100% Pure" Paint for all outside and inside painting? Always the same in quality, color, fineness and purity.

BARN PAINT—Martin-Senour "RED SCHOOL HOUSE" is the paint for the barn. It spreads easily—covers more surface—and holds its fresh, bright color against wear and weather.

FLOOR PAINT—There's only one to be considered—the old reliable *SENOUR'S* Floor Paint—the kind that wears, and wears, and wears.

WAGON PAINT—Keep the machines, wagons and tools fresh and bright—and protect them against rust and weather—by giving them a coat or two of Martin-Senour "Wagon and Implement" Paint.

Write us today for "Farmer's Color Set" and name of our nearest dealer-agent.

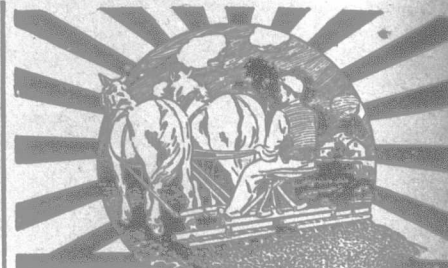
ADDRESS ALL ENQUIRIES TO

The MARTIN-SENOUR Co.

LIMITED.

655 DROLET STREET, MONTREAL.

74

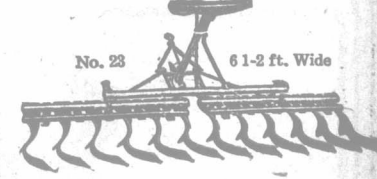


"Fine Work!"

—that's what you'll say when you see the soil, manure and stubble mixed over and over with the

"Acme" Pulverizing Harrow

"The coulters do the work." They cut and crush clods, turn the soil twice, pulverize and mulch at one operation. There's an "Acme" for every purpose—size 8 to 17 1/2 feet in width. Send for free book—now—and learn more about these most dependable of all seedbed builders.



The Bateman-Wilkinson Co., Ltd.
800 Symington Ave. Toronto, Ont.

Right Now You Need A Pair

DELIVERED TO YOU \$3.25



Don't wear ill-made inferior shoes and suffer with sore, tired aching feet. Send for a pair of our specially made, easy-fitting, durable harvest and plow shoes. We make them of our famous oil-tanned Skowhegan leather with full waterproofed sole, leather soles and heels and solid insoles. They are particularly adapted for farmers, woodsmen, millmen, trackmen and laborers—any who require comfortable footwear having extra strength and durability.

Palmer's "Moose Head Brand"

are made by specialists, on easy fitting right and left lasts. If your dealer hasn't them, send his name and \$3.25 (postal or express order), stating size, and we will deliver a pair all charges paid to your address, anywhere in Canada or U. S. The same style 8 eyelets high, \$3.75. Write for catalogue E. JOHN PALMER CO., Limited, Fredericton, N. B., Canada.

PLEASURE CRUISES BY

R.M.S.P. to WEST INDIES

FORTNIGHTLY SAILINGS By Twin-Screw Mail Steamers

SPECIAL FACILITIES FOR TOURISTS.

Next Sailing from HALIFAX: R.M.S.P. "Chaleur," April 21, 1916

Apply to The Royal Mail Steam Packet Co., 67-69, Granville Street, HALIFAX (N.S.) OR TO THE Local TICKET AGENCIES.



"MOST ENVIED TIRE IN ALL AMERICA"

- Most Durability in Service
- Most Immunity from Rim-Cuts
- Most Reliability in Danger
- Most Absence of Dust
- Most Freedom from Punctures
- Most Inches of Air-Capacity

These are some of the reasons for calling DUNLOP TRACTION TREAD "MOST ENVIED TIRE IN ALL AMERICA."

S.T. 114

ASK our sales office nearest you for prices and terms on fertilizers adapted to your soil and crops

Send for Canada Booklet-Free The American Agricultural Chemical Co.

New York, Boston, Buffalo, Detroit

ork!"
 y when you see
 bble mixed over

ing Harrow
 work." They cut
 the soil twice,
 t one operation.
 ery purpose—sine
 nd for free book—
 ut these most de-
 iders.

1-2 ft. Wide

inson Co., Ltd.
 Toronto, Ont.

Need A Pair



e inferior shoes
 tired aching feet,
 ur specially made,
 harvest and plow
 m of our famous
 leather with full
 ather soles and
 e. They are par-
 farmers, woods-
 en and laborers—
 comfortable footwear
 and durability.

Head Brand
 is, on easy fitting
 If your dealer
 name and \$3.25
 der), stating size,
 a pair all charges
 anywhere in Can-
 me style 8 eyelets
 or catalogue E
 CO., Limited,
 B., Canada. 24


RE
ES BY
P. to
NDIES

SAILINGS
 all Steamers.

FOR TOURISTS.
 m HALIFAX:
 April 21, 1916

am Packet Co.
 t, HALIFAX (N.S.)

AGENCIES.



Booklet-Free
 n Agricul-
 cal Co.
 Boston,
 Detroit

Canadian Ford Car Parts Reduced \$147 Per Car Since War Began

It is well known that the war has increased the price of practically all raw materials.

And, although all but \$16.88 worth of material that goes into the construction of the Ford car is bought right here in Canada, a high import duty adds its burden to that material that must be bought in the United States.

But in spite of increased duty and increased cost, the prices of parts that go to make up a complete Ford car have been decreased \$147 since war began.

This reduction was made for two reasons. First, because under normal conditions, increased quantity production would have made these lessened prices possible. Second, under abnormal conditions brought about by the war, the executives of this company felt it their duty as loyal British subjects to absorb these taxes of war into their manufacturing costs.

This reduction in price of parts is of first importance as a reduction in the cost of service to Ford owners. Prices of Ford spare parts have always been exceptionally low as compared to prices of parts for other cars, and under war time conditions the Ford company might have withheld, with seeming justice, any reduction in the price of parts in times such as these.

But the Ford Canadian executives had enough confidence in the progress of the Dominion and of the Empire to feel that the future prosperity of the country was sufficiently assured to warrant making these reductions.

This is improving a service already unrivalled in its efficiency. Ford, the Universal Car, can as well be named the Car of Universal Service.

Thus the Ford Company has left dollars in the pockets of Ford owners which it might have acquired were it not for its policy of the best service at the lowest cost. Even the finest piece of mechanism, often through abuse or neglect, sometimes requires attention. The remarkable economy of this Ford service is known to motorists all over the world.

In every community of any size in the Dominion there is a Ford dealer who carries a complete stock of parts and whose establishment is in itself a well equipped service station. A Ford owner, no matter where he drives his

car, is never far distant from a Ford service station that is ready to give prompt and efficient service in any emergency that may arise.

Moreover, Ford parts, as is the Ford car itself, are standardized and will fit in place in any Ford car to the thousandth part of an inch.

And every Ford dealer, because of this standardization of parts over a number of years, has an expert knowledge of the construction and repair of the Ford car. There is absolutely no guesswork in this Universal Service to Ford Owners.

Backing up the service afforded by over five hundred Ford dealers are the nine Ford branches located in the nine leading Canadian cities from St. John to Vancouver.

In four of these Canadian cities new branch buildings have been constructed since the war began and are themselves as large as many automobile factories. They are so completely equipped as to be able to build a Ford car complete. The buildings alone for these four new branches were erected at a cost of over a million dollars.

This immense expenditure is another indication of the attitude of absolute confidence in Canadian prosperity that has always been shown by the Canadian Ford executives and that has not been altered in the slightest degree by any war conditions.

At the same time that reductions in the price of Ford car parts were made there was also made a reduction in the price of the complete car. Twice—on August 1st, 1914 and August 1st, 1915, the price of the Ford car was reduced by \$60—a total reduction of \$120 in the price of the car since the start of the war.

This reduction is made on an estimated production of a definite number of cars for the coming year. Forty thousand Canadian Ford cars must be built and sold by August 1st, 1916 in order to warrant this last reduction of \$60 in price.

And here is another most emphatic expression of confidence in Canada. The Ford Canadian executives are basing everything on the continued and increasing prosperity of the Dominion.

And their judgment is being fully justified.

Ford Motor Company of Canada, Limited, Ford, Ontario

Ford Runabout	- - -	\$480
Ford Touring	- - -	530
Ford Coupelet	- - -	730
Ford Sedan	- - -	890
Ford Town Car	- - -	780

f. o. b. Ford, Ontario



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

"The Farm Help Problem Doesn't Bother Me"

"I am absolutely free from worry about farm help. The old-fashioned drudgery that used to make farmers old men at forty is as out of date as swallow-tail coats. The Gasoline Engine has changed it all. I can do more work sawing wood, chopping and grinding feed, watering the stock, cutting silage, filling silo, turning the grindstone, churn, separator, washing machine, etc., filling the water-tank, which gives pressure for hose for washing buggies, cleaning barn and stables, sprinkling lawn or putting out fire, with the help of my gasoline engine than I ever could with a hired man—and just think—at how much less cost! Besides, an engine turns a lathe, a sewing machine, or an ice cream freezer. If I do want a hired man, it is twice as easy to get a good one when I have a good engine. It pays—any way you look at it." This is the talk of a prosperous farmer who bought his engine and equipment from the Ontario Wind Engine & Pump Co., Limited.

Chapman Engine 2 h.p. to 10 h.p.

The Chapman Engine is the Big Power, Big Work Engine. It is so good that other makers try to imitate it. It has points that are patented which no other maker dare copy. It generates power in excess of its brake h.p. rating. It is the only engine with (1) a perfectly straight-line valve motion; (2) a combined suction and pump-feed fuel supply (3) a non-leakable, cast iron fuel tank; (4) a cam box containing the operating and ignition mechanism which may be easily removed; (5) fly ball governor that gives a variation of 250 r.p.m. without stopping the engine. These are not half the special features. When you buy a Chapman Engine, you are getting the best and the only one that has these numerous advantages. We would like to tell you more about the Chapman Engine.

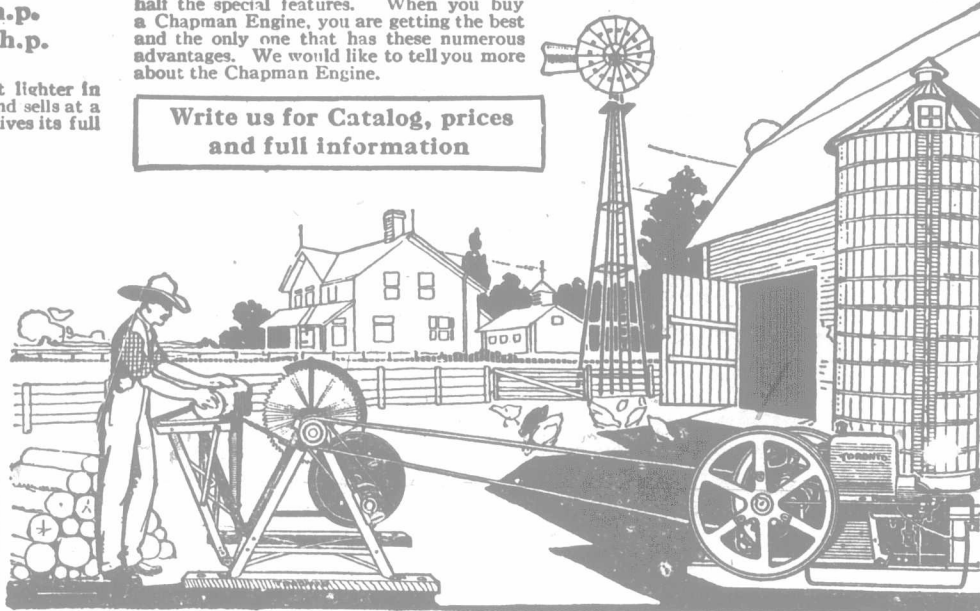
Toronto Engine 1 1/2 h.p. to 8 h.p.

The Toronto Engine is somewhat lighter in construction than the Chapman, and sells at a lower price. It is strong, and it gives its full rated horse power. There is no work that any gasoline engine of its size can do that the Toronto Engine will not do. (1)—It has special air valve and priming cups on all large sizes. (2)—Convenient spark changing device to prevent back-firing. (3)—Efficient speed changer giving wide variation of speed without stopping engine. (4)—Automatic oiler for connecting-rod bearings. (5)—Fisher battery or magneto ignition or combination system as required by purchaser. (6)—The larger sizes are capable of sawing wood, grinding feed, cutting straw and corn, and threshing, as well as the lighter work, and pumping water.

Write for TORONTO ENGINE Catalog

Write for Farm Equipment Catalogs

Write us for Catalog, prices and full information



Ontario Wind Engine & Pump Co., Limited

93 Atlantic Ave., TORONTO BRANCHES: Montreal, Winnipeg, Regina, Calgary.

Buy Page Fence Direct from Factory!

We Pay Freight.



THERE are two ways of selling fence. One is through agents and dealers, whose profits have to come out of the fence. The buyer has to pay for their work, which doesn't add a pound to the strength of his fence; or a day to its life.

The other way is to sell direct—to put all the buyer's money, (except a small manufacturing profit) into the fence, where it counts for something.

This is the Page way. Nearly twenty thousand farmers have found it the best way to buy fence. They've found it gives them the strongest, longest-wearing wire fence that is made, at prices that compete with other fence that won't last half as long.

We couldn't sell you Page quality at Page prices if we had to pay middlemen's profits. Sold that way, the price would be 25 to 50 per cent. more—and worth it, by comparison to other brands. Selling straight to you, we can put all agents' profits into the fence—where it does you most good—and where it gets us another satisfied customer. That's good business for both of us.

Prices Going Up!

ALL kinds of steel products are advancing in cost. The current Page Fence Price List may be the lowest we can quote for several years. Order from it NOW!

A postcard with your name and address will bring our complete Price List by return mail. Freight paid on all orders of \$10.00 or more.

ADDRESS NEAREST OFFICE

THE PAGE WIRE FENCE COMPANY, LIMITED

114 King St., Toronto. 517 Notre Dame St., West, Montreal. 39 Dock St., St. John, N. B.



A handy book on home decoration

(With furnished rooms in colors)

Think of the time saved in worry and experimenting. Think of the possibility of avoiding serious mistakes. Some of the sub-headings show just how practical this book is: "The Influence of Color"; "Light and Shade"; "Harmony in Colors—How to get the Right Effect"; "Value of Conventional Designs"; "Plain Tinting"; "Color Values."

Alabastine

Sanitary Wall Tints

If you are going to decorate a room or your whole home, enclose 15 cents in coin or stamps and get a copy of "Homes Beautiful and Beautiful." It gives many a useful hint for the treatment of bedroom, living-room, dining-room, halls, parlor, including even the kitchen.

THE ALABASTINE COMPANY LIMITED
86 Willow Street Paris, Ontario

Ploughs—Wilkinson

U.S.S. Soft Centre Steel Moldboards, highly tempered and guaranteed to clean any soil. Steel beams, steel landsides and high carbon steel coulters. Clevises can be used either stiff or swing. Each plough is fitted especially with its own pair of handles—rock elm, long and heavy and thoroughly braced. The long body makes it a very steady running plough. Shares of all widths—specials for stony or clay land. The plough shown turns a beautiful furrow, with minimum draft and narrow furrow at finish. Ask for catalogue.

The Bateman-Wilkinson Co., Limited
411 Symington Ave., Toronto, Canada.



FREE to Prospective BUILDERS

ALL CHARGES PAID BY US. Write for samples of Interprovincial Pressed Brick, for facing your buildings. Great strength, clean sharp edges and careful finish ensure durability and most pleasing appearance. Write TO-DAY for samples.

Interprovincial Brick Company of Canada, Limited

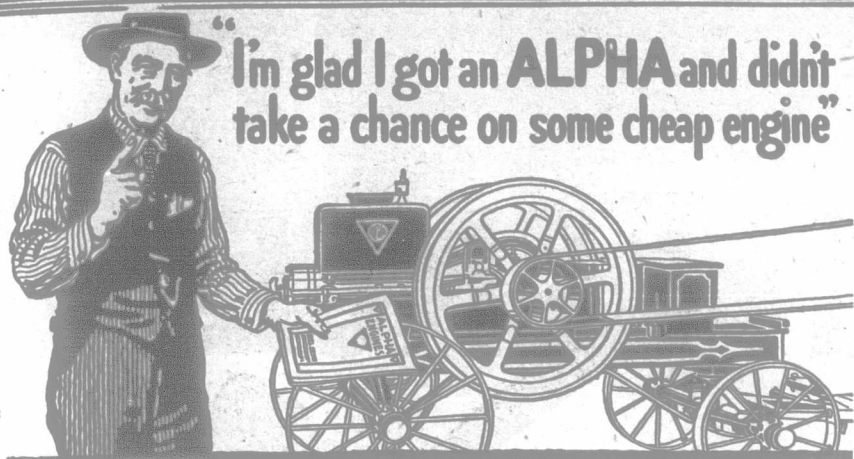
Goodyear Building, Toronto

CHURCH BELLS

CHIMES AND PEALS MEMORIAL BELLS A SPECIALTY FULLY WARRANTED
McSHANE BELL FOUNDRY CO., BALTIMORE, Md., U.S.A.
Chicago Office Room 64, 154 W. Randolph St. Established 1868

MAKE YOUR BIKE A MOTORCYCLE at a small cost by using our Attachable outfit. FITS ANY BICYCLE. Fully attached. No special tools required. Write today for our FREE BOOK giving list and free book describing the SHAW Bicycle Motor Attachment. Motorcycles, all makes, new and second-hand, \$35 and up.
SHAW MANUFACTURING CO. Dept 70 GALESBURG, KANS., U.S.A.





SOMETIMES a man is tempted to buy a cheaper engine than the Alpha, hoping to save a little money. If you are tempted to take such a chance, it will pay you to first study engine construction carefully. It is only reasonable to assume that if other engines were as good as the Alpha they would cost just as much. Why shouldn't they?

In considering the purchase of an engine, do not let the first cost blind you to the vitally important things you wish to buy in an engine. You want an engine that has plenty of power; that is simple and easy to operate, that is free from weak, complicated, troublesome parts; that is strong and durable enough to give you years of good service. With these things in mind, compare the Alpha, part for part, with any other engine. You will then see that for the slightly higher cost of the Alpha you get by far the most for your money.

Then talk to any of the thousands of Canadian farmers who are using Alpha Engines and they will tell you they are glad they did not take a chance on some "cheap" engine. It does not pay to take chances. Be on the safe side and buy an engine that sells on its merits; that has something more than its price to recommend it.

There is nothing mysterious about the superiority of the Alpha. The better design of this engine, the quality of material and workmanship that go into it, are easily seen. Ask for a copy of our catalogue. It illustrates and describes every feature of the Alpha and every feature of this engine has in it some sound reason why the Alpha will give better service and last longer. Read the catalogue carefully and you will see where the extra value comes in.

Alpha Engines are made in eleven sizes—2 to 28 H. P.—each furnished in stationary, semi-portable, or portable style, with hopper or tank cooled cylinder.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors of the famous De Laval Cream Separator. Manufacturers of Ideal Green Feed Silos. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER

"England Expects"

You know the rest, "that every man this day will do his duty."

This glorious signal applies to our everyday life as well as to the hour of battle.

Not only on the high seas and in the trenches but in daily life our country demands nothing short of our whole duty.

The protection of the home life is one of our primary duties—we owe it to ourselves, to our families and to our nation.

A Mutual Life insurance policy is the surest guarantee that your home will exist whether you live or whether you die.

Life insurance is a privilege, a necessity, and above all it is a duty.

Is there a Mutual policy in your home?

The Mutual Life

Assurance Company of Canada
Waterloo, Ontario

Gurney-Oxford Hot Water Heating

Protects the family health with the right kind of heat. Gives your wife and growing family the cozy, genial atmosphere they need for the social pleasures they are entitled to.

Let your neighbors see you are progressive and up-to-date.

Old-fashioned heating methods waste fuel, give off dust, gas and dirt, wear the women folk out and then only heat the house in "spots." With Gurney-Oxford Hot Water Heating just one fire is required to heat every room in the house, yet the strongest, bitterest wind or blizzard cannot lessen the steady flow of comfortable heat to every nook and corner.

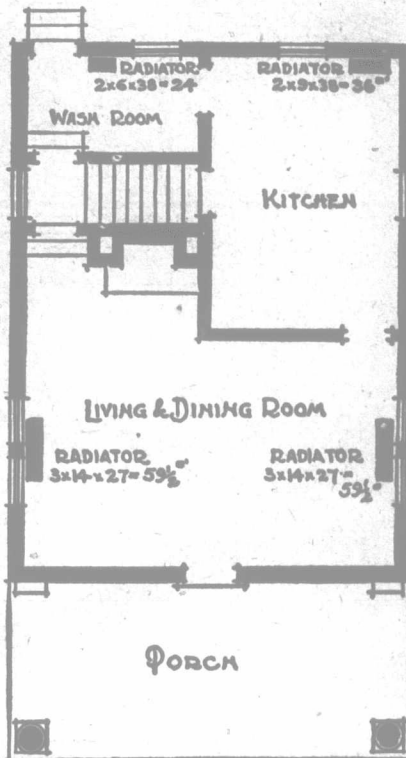
No Longer a Luxury

The Gurney-Oxford Hot Water Heating outfits are no longer considered "luxuries for the rich." Every farmer can afford one as the first cost is low. They save at least one ton of coal in six, to say nothing of the saving in doctors' bills. They make a wonderful difference in the comfort and health of the family and keep the young folks at home.

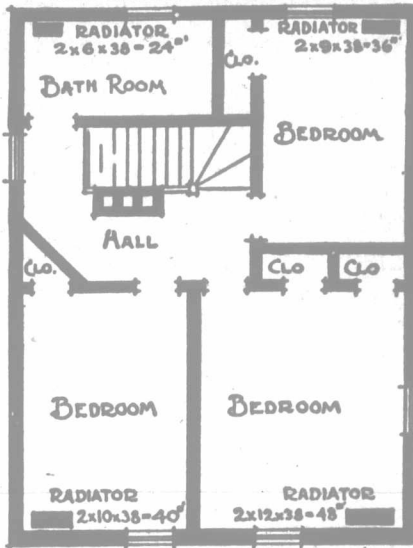
To Heat a House Like This Plan

would cost for the Gurney-Oxford boiler, pipes, radiators (327 feet of radiation) valves, fittings, etc., \$260 F.O.B. Toronto. This is the price from any reputable fitter, the labor and freight being moderate extras.

No running water system is needed—a few buckets of water used over and over again, last for many months.



Solid comfort every hour of the 24



The Boiler uses either coal or wood, as you select, and, with our famous draft control called the "Economizer," is very easy to manage.

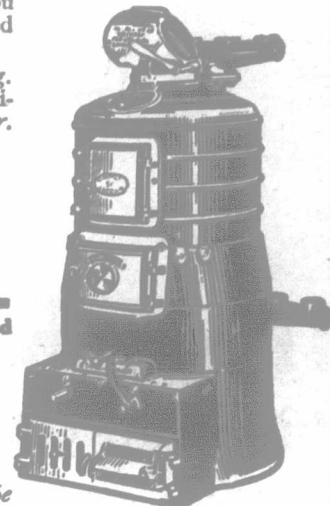
Every good city home has hot water heating. The country home needs it far more. Be sensible, make your home comfortable in the winter.

Our new booklet, "City Comfort for Country Homes," fully explains Gurney-Oxford Hot Water Heating. It is free. We urge you to write for a copy to-day. A postal will do. Address:

Gurney Foundry Co. Limited
Dept. 26
476-534 King St. West, Toronto

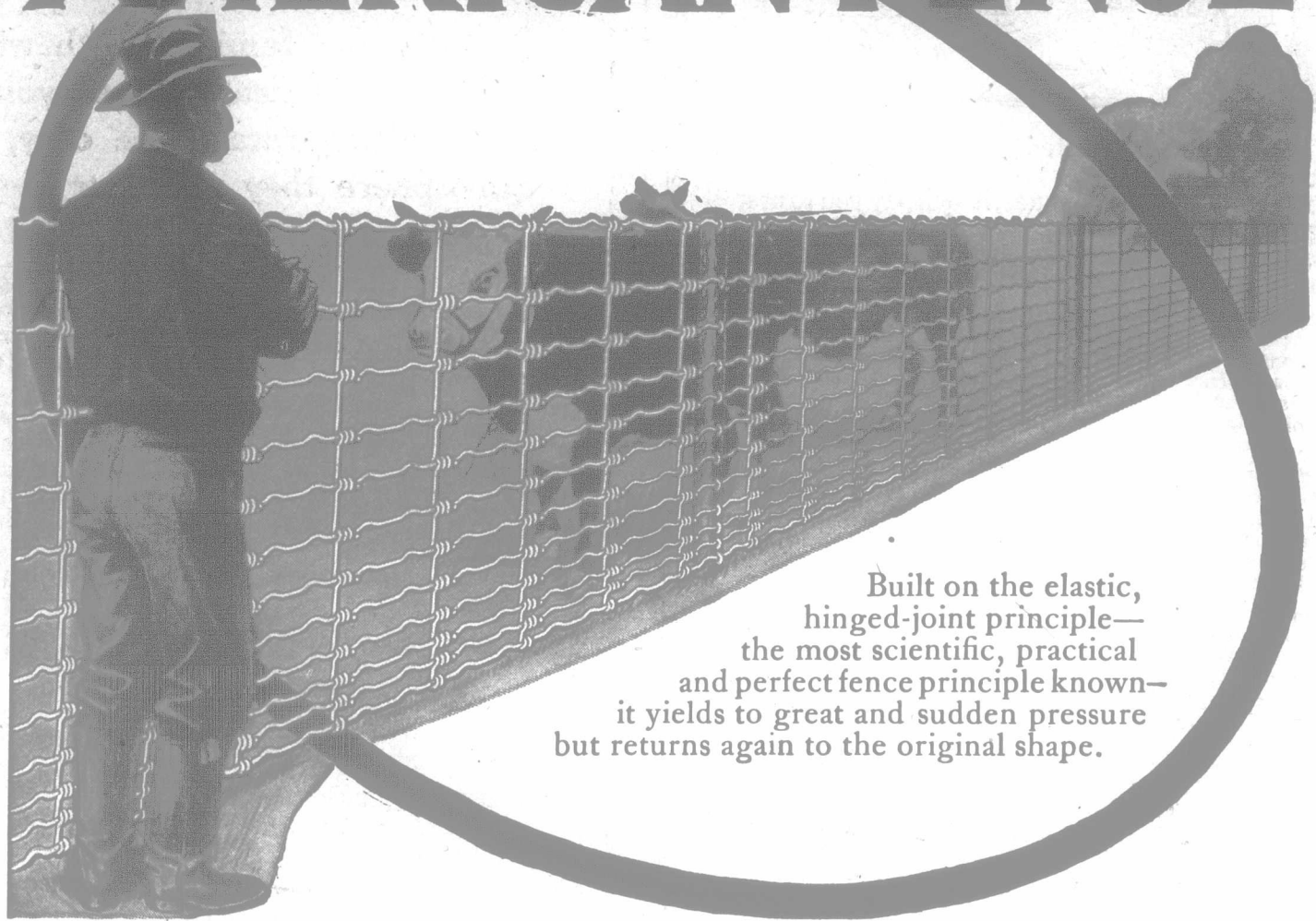


ALSO AT
Montreal, Hamilton,
Winnipeg, Calgary,
Edmonton and
Vancouver hpb



When writing advertisers please mention Advocate.

AMERICAN FENCE



Built on the elastic,
hinged-joint principle—
the most scientific, practical
and perfect fence principle known—
it yields to great and sudden pressure
but returns again to the original shape.

Thoroughly Galvanized and Protected Against Weather

THERE IS PRACTICALLY NO LIMIT TO THE STRENGTH OF AMERICAN FENCE, as, quality being equal, the strength is governed by the size of the wire used. In American fence, larger wires are used throughout—

The Canadian farmer has declared American fence to be the best, and is backing up his judgment by buying it more largely every year until fully eighty per cent. of the fence bought and built at the present time is American fence.

Call upon the dealer handling American fence, examine and test the different styles and weights and judge for yourself what it is and what it will do.

American Fence is sold by

ALL GOOD DEALERS. IF YOU
DO NOT KNOW HIM
WRITE US.

The Canadian Steel & Wire Company, Limited
Hamilton, Ont. Winnipeg, Man.



LI.

LONDON, ONTARIO, APRIL 13, 1916.

1229

EDITORIAL.

Seed down, even if clover seed is dear.

If in doubt, cultivate and harrow again.

Collars which fit are preferable to large collars with pads.

Save plenty of land for corn. It is the feed producer.

Prevention of sore shoulders is better than attempts to cure.

There are slackers who shirk work as well as the uniform.

Some seem to welcome investigation and some abhor it.

Plant a tree—better, plant trees around the buildings and the farm fences.

A clean-up of the yards and surroundings of farm buildings is in order.

Blocked—the one word which represents the condition of German arms.

Up early, and at it late! But who does not enjoy the spring with its farm work?

Cattle in the barnyard as much as possible these fine days means fewer chores.

Sow some mixed grain for feed. One bushel of barley and one of oats makes a heavy yielder.

Fear of the light of public opinion on the part of public men is never reassuring to the people.

In sowing, check up on the drill occasionally, to be sure that the proper amount of seed is going on.

Increase the grain ration steadily as the horses go to work. Do not over-feed the over-tired horse.

Put a little more pressure on the cultivator or disks. There is nothing like a deep, mellow seed bed.

See that the plow, the cultivator teeth and disks are clean. Gummed-up implements draw hard and do poor work.

If possible, keep the stables cool. Fattening stock suffer in close, ill-ventilated stables at this season, even more than later on.

The Kaiser should remember that Verdun is not all the Allies' line and save some of his men to be destroyed at other places.

Saving a few dollars by sowing poor seed may mean the loss of many times the amount in the value of the crop produced.

There is nothing to be gained by allowing the stock to roam over the fields at this season. Give the grass and the fences a chance.

The farmer must help himself in 1916, and, judging from past experiences, he is the man who will solve his own problems better than will any city men or government officials.

"It Is War."

"I do not think you would find an officer of the German navy or army who would willingly participate in the killing of women and children. Women and children become the victims of our operations, but not because we kill them intentionally. It is war."

The commander of a German air craft—Zeppelin—recently brought down to the Thames River and captured, is reported as making, among others, the foregoing absurd statement. He stated that the purpose of the raids was to damage and destroy British munition factories, warships, docks, etc., and not to molest the peaceful lives of non-combatants. Such statements as this, made right in the midst of raids on the innocents, supely give the lie to the raider. It is said that hostile aircraft flying over Britain travel at a height of from 3,000 to 9,000 feet, and the commander who made this statement is reported as saying that if they did not fly over 5,000 feet high they would never reach England. The ridiculousness of stating that the commanders and occupants of these machines would not willingly kill women and children is apparent when we consider how difficult airmen have found it to drop bombs accurately when flying much lower than the heights mentioned. Places other than fortified piers, docks or munition factories suffer, and with them, defenceless and innocent women and children. Another officer of the crew of this airship stated that in flying over England he knew right where he was all the time. Bombs from the machine doubtless added to the death roll of non-combatants reported after the raid. If he knew, why did he drop the bombs where he did when unwilling to kill? Can it be that these men are unwilling and are driven to it by the war lord and his militarists at home? We fear that, while the iron hand is exerted, all too many Germans are willing to hide behind such statements as, "it is war," and go a-killing whomsoever they can. Oh no, Mr. Zep or Sub Commander the world will never believe you and your mad Emperor unwilling to kill non-combatants, women and children while your horrible and hellish campaign of frightfulness which does not frighten goes on. The world will, however, always hold such practices against you, and the thoughts of what "it is war" means should, in the end, assure permanent future peace.

Conserve Time.

The one thing which is this year more than ever before occupying the minds of farmers is the conservation of time. The hired men and the sons of farmers have enlisted, and the owner or tenant has his 100, 150 or 200 acres pretty much on his hands. He will surely be his own boss this year, but he will have to be his own hired man as well. The most important consideration this year will be to save time. Our Government is trying to encourage patriotic thrift. The best place for the farmer to start is in a system of managing his farm work to save his time, so that he may in so far as possible and with as little over-exertion as possible accomplish more this year. As a general rule the farmer does not value his time as highly as he should. He is inclined to put a laborer's wage valuation on his time, whereas he should think of it in the same light as a business man or professional man does of his. Every minute saved and used intelligently, or, as an American writer puts it, intellectually, means thrift, means greater accomplishment and higher returns. The man on the farm who can, this year, so systematize his work, can harness more horses to wider implements and machinery, can bring into use labor-saving devices so that these things may assist him to do the work of two men without increasing his hours, will be "saving time."

War Wastage.

It was recently announced that up to the end of February Canada had raised an army of 290,000, and that since the war began the wastage among the Canadian troops from all causes totalled 43,700. Of course, it must be remembered that almost exactly half this wastage was due to other causes than those generally listed as casualties. Up to that time casualties from all causes numbered 22,000, and wastage from other defects 21,700. Canada has paid out, to the end of February, \$187,000,000 as a direct result of the war, and just a few days ago the Government made plans to provide \$250,000,000 more for war purposes. These figures are of interest to Canadians because they represent in no uncertain terms Canada's share in the war to date. At the time these figures were compiled Canada had 112,000 troops in Great Britain or at the front, and 136,000 in training in this country. We hear a great deal about war wastage and war costs, but the figures show that 15 per cent. of the men enlisted in this country since war broke out are now out of action for some reason or other. Of course, a very small percentage have been killed or have died of wounds, but the figures go to show that enlistment must be maintained at a rapid rate if the army already raised is to be kept up to strength, and must be speeded up if Canada is to, in the very near future, boast of an army of 500,000 men which it has been the aim of the Militia Department of our Government to reach. Such figures only serve to strengthen the argument that we should have some system of recruiting in this country.

More Corn—More Feed—Less Work.

In visiting different farms during the past winter and in studying methods of feeding live stock, we are more than ever convinced that the well-filled silo is the salvation of the stock farmer. This spring the farmer is going to be handicapped as never before through shortage of hired help, and through the loss of his sons who have enlisted in the service of the King. We believe that as a general thing it never pays to "scratch over" seeding operations, and that a larger acreage poorly put in would not yield as high net returns as a comparatively small acreage sown on well-prepared, fertile soil. It might be well then, if it should happen that some of the land was left rather late for cereal grains, to increase the acreage of corn, especially if there is manure left in the barnyard to give the land a fair application. Corn is a crop which can be worked very satisfactorily with the horses and without much hoeing, especially where it is planted by the check-row system, the rows being an equal distance apart each way so that cultivation may be given both ways very close to each hill. In fact corn sown thickly in rows may be kept fairly clean by working frequently close to the row with the cultivator during the growing season. We do not hesitate to advise an increased acreage of corn this year, but we caution against planting poor seed. Be sure to test the seed before planting.

More corn means more silos, and Ontario certainly would benefit by an increase in the number of silos on its farms. The silo means less labor for the farmer. The crop which he ensiles gives him the heaviest possible yield of coarse feed per acre. It is ensiled by the co-operative method, neighbors turning in to help. Once in the silo the feed is all ready prepared for the stock, so that much of the old-time root pulping throughout the winter is done away with. In times of labor shortage nothing should appeal to the farmer like the silo. Summer and winter it is a benefit. And, while on this point, notwithstanding the fact that roots are excellent feed, particularly for calves, pigs, sheep and horses, we would advise this year

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.

- 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.
- 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.
- ADVERTISING RATES.—Single insertion, 25 cents per line, per week. Contract rates furnished on application.
 - THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
 - THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.
 - REMITTANCES should be made direct to us, either by Money Order, Postal Note, Express Order or Registered Letter, which will be at our risk. When made otherwise we will not be responsible.
 - THE DATE ON YOUR LABEL shows to what time your subscription is paid.
 - ANONYMOUS communications will receive no attention. In every case the "Full Name and Post-office Address Must be Given."
 - WHEN A REPLY BY MAIL IS REQUIRED to Urgent Veterinary or Legal Enquiries, \$1.00 must be enclosed.
 - LETTERS intended for publication should be written on one side of the paper only.
 - CHANGE OF ADDRESS.—Subscribers when ordering a change of address should give the old as well as the new P. O. address.
 - 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.
 - ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
 - 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.
- Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (Limited),
London, Canada.

that fewer roots be sown and an increased acreage of corn be used to take their place. We believe that the farmer will be called upon to solve his own labor problem, and he might as well start early in the season by planting crops that will do away with as much of the hand labor as possible, and which may be fed on his own place next winter to the best advantage, entailing very little extra work.

Insinuations, Charges, Investigations.

During the past few years, and more particularly quite recently, Canadian politics have been one seething mess of insinuations, charges and investigations, with an occasional conviction. Since the war broke out, even though there is a so-called political truce between the two parties, the mire has deepened and been more thoroughly raked until almost every issue of every daily paper carries a report of some insinuation against some politician or party; occasionally a charge is made, and less frequently an investigation is held. Canada has no time for insinuations. If a direct charge cannot be made on which to base action why parley? Insinuation is unfair to all. If anyone has just and sufficient grounds for making charges, then, if such charges be in the interests of the public they should be fully investigated, and, if proven, proper punishment meted out to the offenders. It is time to stop heckling. If there are grounds for investigations let us have them. If not, somebody should stop insinuating. If there has been graft let him who knows of it lay a direct charge, let the evidence be taken and if sufficient to convict, the law should take its course. There is a difference between insinuations and charges. Insinuation is the weapon of the coward who hopes to profit by swaying public opinion against his opponent. The direct charge is used by the fearless statesman who stands out boldly in the interest of the people. Investigation is the medium by which the accused is exonerated or convicted. If charges are made both sides should welcome an investigation. Properly conducted, it clears the air. If the charges are groundless no person should be called upon to have them overhauling his record. If there has been just ground for making them then both parties would benefit by a thorough investiga-

tion. Let politicians forget insinuation, make charges only when sure of their ground, and then investigate promptly.

Central Aid to Agricultural Co-operation.

During the past few weeks "The Farmer's Advocate" has been giving its readers a few articles, intended to direct their thought toward the best form of co-operation to be inaugurated and practiced in agricultural Canada, and has endeavored to point out a few of the things which seem essential to success. There are at the present time a large number of Farmers' Clubs, Fruit Growers' Associations, and other more or less co-operative organizations of farmers in this country. Some of these are on the right basis, and some we fear are not. Assuming that a number of them are working in the best interests of agricultural co-operation and consequently in their own best interests, and in the promotion of agriculture generally, can they do the full measure of their work successfully without some central controlling body? We agree that they may be able to do considerable business in their own local organization, and that the local organization may seem at first the cure for most of the ills of the agricultural community around about, but as time goes on there will surely be found something lacking. The organization may be especially interested in the sale of fruit. Why not then have some direct means of selling a great deal of this fruit to the organizations in other parts where fruit cannot be grown to as good advantage? The same is true of corn. Ontario has only one real seed corn belt, and from it the seed for the rest of the Province should be purchased. Some organizations are especially favorably situated to deal in seed oats, others in seed barley and so on. And then when it comes to the purchase of supplies the larger the order the better the price, so that a central organization seems to be almost invaluable, and is certainly necessary to the best success of co-operation in any district or province.

There is only one thing which we wish to point out in connection with the central which has not already been included in articles recently published. To do the best work the central must be representative of the local organizations, and must secure, to do its business, men of sufficiently large calibre in a business way to handle the affairs of a provincial agricultural organization of the magnitude which it will surely reach, if properly handled. Such men are not plentiful, particularly in the farming community, because most farmers in these days are so very busy with their own affairs that they have not the time to put on the business of the organization. It is necessary for this central work to get men who have the proper agricultural point of view obtainable only through farm experience. In short, some practical business farmer must be hired at a wage sufficient to pay him to give up his farming operations and attend to the business of the organization, or some business man, born and raised on the farm, and so once a farmer himself must be engaged.

We have simply attempted a short outline of the essentials to success in agricultural co-operation, and hope that the few articles published may lead those interested in the work, and others who have not taken active part, to take hold with vigor, determination, and confidence, and push agricultural co-operation in this country forward to the success which awaits it.

Studies in Political Economy—VI.

Returning again to our simple Western community. In the beginning the first settler must do everything for himself that he and his family require. He must provide food and clothing, shelter and amusement, instruction and recreation. But, as one settler after another is added, it becomes possible to undertake some work collectively. There arrives a time when a school is built and a teacher engaged. In time a church will be erected. By and by the supply of water and light will be undertaken by the town or city. Municipal government will be established. Roads and bridges will be built by joint effort. Telephone systems will be established. Now, all these and similar joint undertakings which are characteristic of organized society, must be provided for by a common fund, the expenditure of which is directed by officials of the community. This common fund is provided by taxation, which must become increasingly heavy as the social organism grows in complexity and as more and more of what were once individual obligations become social obligations. How is this taxation to be levied? There are many ways. Let us suppose that the officials of the community decided to erect a barrier around the railway station and take a percentage of all commodities either coming

in or being shipped out. This is a method which in various forms has been largely employed everywhere. It was conspicuous in 18th-century France. It provides a considerable revenue with certainty and despatch. But note its effects. Those living at a distance from the railway station not only have to face the disability of the long haul, but the added disability of contributing a fixed percentage of their gross product, which is a higher percentage of their net product than in the case of those living near by. Moreover, they cannot share the advantages of the collective undertakings—for example, school—to the same extent as can those near the community centre. They are thus placed under a number of serious disabilities by the incidence of this species of taxation, and constant pressure will be exerted upon them to move to the centre of population where the more favored ones live in greater opulence. The appropriation of the Rent by individuals, and the placing of the burden of taxation upon those least able to bear it both combine to create a class of social parasites and to discourage all industry. But if, on the other hand, the Rent is appropriated by the community for social purposes, no injustice is done to any individual and a fund is secured which increases naturally with the growth of the community, and therefore with the social needs of that community. Here, it seems to me, is the key to the solution of the problem of distribution—at least in so far as political economy is concerned. It is that view from the mountain top which will enable us to enter the industrial jungle with some hope of exploring its depths without getting lost; it contains an ideal which will ever guide and inspire, because it is founded upon justice and not upon expediency. We should test it out in this direction and in that, apply it where possible, study, discuss and agitate; for, as the problem of production has been fairly satisfactorily worked out in the 19th century, the problem of distribution remains to be worked out in this the 20th century.

In a few succeeding letters I shall try to apply these principles to some of the perplexing questions of the day, with no hope of being exhaustive in treatment or generally convincing in argument, but with the hope that my readers may see that there are some fundamental truths which may illuminate the baffling problems of the day, and become in that way an ever present help in times of trouble.

Brant, Co., Ont.

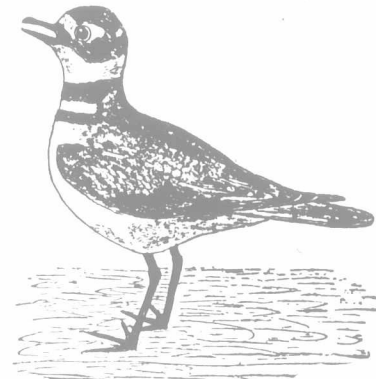
W. C. GOOD

Nature's Diary.

A. B. KLUGH, M. A.

The goddess of Spring has waved her magic wand—the grip of the ice-king is broken, the rivers are unloosed, a tinge of red runs along the Soft Maples—the red of bursting buds, the gray-coated "pussies" appear on the Willows, the Bluebird gladly carols from the air and the Song Sparrow as gladly answers from the bushes.

Spring is the season of resurrection, the season of youth, old age, death and decay have no appropriate place in the scheme of vernal things. Those who are on each returning spring filled with the spirit of the season do not ever really grow old, they are born again each year. For old age is not a matter of having lived for a certain number of years, of stiffening joints, of hardening arteries, or of wrinkles—it is an attitude of



Killdeer.



Meadow-lark

mind. Just as soon as a man says "I know all that is worth knowing everything is dull, stale and flat and there is nothing new under the sun" he is old, whether he be twenty, forty, or eighty. But when a man says "I know some few things, but the things I know are a mere drop in the bucket compared with the things I don't know, and there are all sorts of interesting problems around me waiting a solution" he is young, no matter how many years he may have seen. Thus it is that the true lover of nature never grows old, the world is to him a beautiful world, a world full of interest and unsolved problems, and each spring gives him a new lease of life and opens up new opportunities to investigate these problems.

The Prairie Horned Lark now sits on an upturned clod in the field or on the top of a fence-post and utters its rather squeaky song, or rises in the air and gives vent to a far more melodious ditty. This species is one of those grayish-colored, ground-haunting birds which are commonly grouped together under the general term of "graybirds". It can be distinguished from any other species by the black band on the upper part of the breast. The "horns" which give the bird its name are tufts of black feathers at the side of the head. When they are erected they furnish a good identification mark, but they are often laid so flat against the head as to be hard to discern. This bird is one of those species which have come into Ontario in comparatively recent

method which in
ed everywhere
ce. It provides
and despatch
distance from
the disability
of contributing
act, which is
han in the cas
y cannot share
dertakings—for
can those new
placed under a
vidence of this
will be exerted
population when
opulence. The
and the placing
st able to bear
social parasites
on the other
community for
any individual
urally with the
with the social
as to me, is the
distribution—at
ncerned. It is
will enable us
ope of exploring
tains an ideal
e it is founded
We should ten
apply it where
as the problem
ly worked out
ution remains
to apply these
estions of the
in treatment
with the hope
some funda
ffling problems
er present help

W. C. Good

magic wand—
s are unloosed
es—the red of
appear on the
the air and the
bushes.

the season of
no appropriate
those who are
spirit of the
are born again
f having lived
ing joints, of
an attitude of



meadow-lark

know all that
and flat and
old, whether
n a man says
s I know are
the things I
ting problems
ng, no matter
us it is that
the world is
interest and
s him a new
es to investi

an upturned
st and utter
nd gives vent
cies is one of
birds which
the general
hed from any
er part of the
its name are
head. When
identification
st the head
those species
tively recent

years, being first noticed in 1868. It came in from the West and as the province has become more and more cleared the population of this species has greatly increased.

Once again we hear the cry "Kill-deer—kill-deer—kill-deer", the cry of the Killdeer Plover. This a shore-bird which has forsaken the shore and adopted the fields as its home, and consequently is now found in inland localities where no other plovers are seen. It feeds almost exclusively on insects and as its menu includes some of the worst pests of the farm it should be regarded with favor and protected by the farmer on whose land it takes up its abode.

The drummers of the woodlands are once again sending forth their rolling notes—the Ruffed Grouse sounding the bass drum, the Downy and Hairy Woodpeckers the snare drums. In drumming the Ruffed Grouse takes up his position on a log, and standing there beats his wings inwards and downwards, but strikes either the log nor the sides of his body as is commonly supposed, and the sound is made entirely by the compression and expansion of the air between the wings and the body. In making their rolling tattoo the Woodpeckers strike rapidly repeated blows with their bills on a resonant tree-trunk or limb.

From the fields comes the high, clear whistle of the Meadow-lark. This species belongs to the Family Icteridae, the same family to which the Blackbirds, Orioles, Cowbird and Bobolink belong, and is not a true Lark, a fact which is made evident by writing the word "lark" with a hyphen in front of it and with a small letter instead of "Lark" with a capital and as a separate word.

Of all the sounds of spring none is more characteristic than the piping of the "Spring Peeper", the little tree-frog. Such a loud note has this little frog that its piping is usually attributed to some of the larger frogs. When it is calling it distends its throat into a large transparent sac, about one-half the size of its head and body together. It is only in the breeding season in the spring that this tiny frog, which is only from three-quarter inch to inch and a quarter in length visits the water. During the rest of the summer and autumn it lives on the trees, to the trunks and branches of which it is able to cling by means of the sticky substance which is excreted from pores in its toes, chiefly from pores in the little balls at the ends of the toes. The color of this frog varies according to what the color of its surroundings happens to be, and may be light fawn, dark brown or ashy gray. It takes about twenty minutes to change from one tint to another. No matter what its color it can always be identified by the large X on its back. The eggs are laid in the water being fastened either singly or in little groups to stems and leaves of water-plants. They hatch in from six to twelve days depending on the temperature of the water, and the tadpoles are full-grown in from six to seven weeks. They often leave the water before the tail is entirely absorbed. This species hibernates in October and passes the winter in the woods under leaves and moss.

THE HORSE.

Aids to Prevent Sore Shoulders.

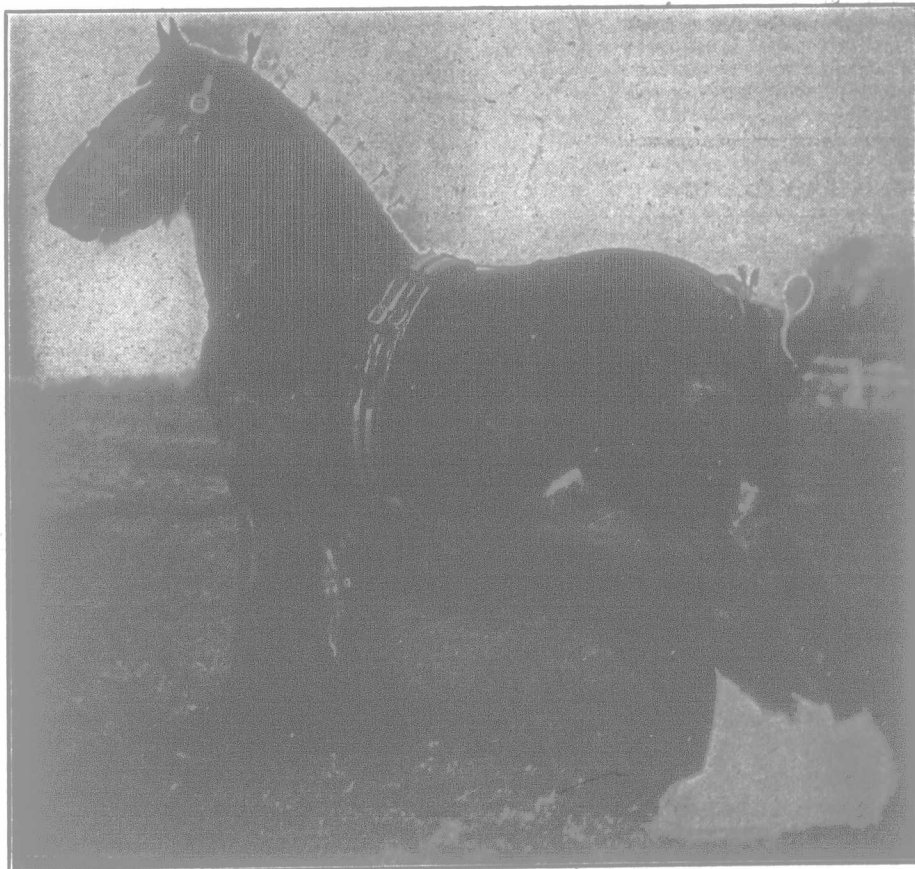
The season of sore shoulders is here again and many are the horses, which, due to carelessness or bad management, particularly through having to work in ill-fitting collars, will suffer and lose out in efficiency from this cause. As is the case with most diseases and horse troubles, prevention is always better than cure. As a general thing the horse which has stood idle all winter and has not had his head through a collar from fall until the day he goes to work on the land is most susceptible, particularly if he be a young horse or colt. No horse should go to work in the field without preparation. Exercise should be increased each day until the spring work begins. This will aid in toughening up the shoulders and in fact in toughening the horse ready for the most strenuous work of the year. Carelessness is the prime cause of sore shoulders.

First consider in preparing a horse for his work, and in the prevention of shoulder trouble, the collar. Many horses are called upon to work in ill-fitting collars and most of these are collars which are too large, rather than too small. A horse will choke down in a small collar and the attendant then usually changes the collar in some way, but in too large a collar the animal works away and very often the points of the shoulders soon show ugly sores if care is not taken. This spring there should be plenty of horses so that the heavy implements may have sufficient horse power and this should partially get over the trouble. It is a fact that too often two horses are called upon to do three horses' work, and three horses to do that work which should have a four-horse team. We would rather have a collar which fits properly than one which requires a pad. A collar should leave room at the bottom for a man to put his open hand in when snug on the shoulders. As a general thing it is wise to have a collar especially fitted for each horse as it is rare to find two horses with shoulders of the same conformation. Too often collars are bought without taking due consideration of the difference in shoulder conformation, and too many of the collars purchased are not built solid enough and full enough at the point of draft. Some horses require a half-sweeny or full-sweeny collar to work their best.

No matter how good the collar, if it is not kept clean sores will appear. Sweat sticks to the collar or pad, accumulates dust and dirt, and the whole goes to ir-

ritate the over-heated shoulder and a raw surface may soon result. The shoulder should be kept clean, as well as the collar, and washing in fairly strong salt and water at the noon hour and again after the day's work seems to have a beneficial effect.

The commonest form of sore shoulder is caused by what the farmer generally calls "scalding." The shoulder becomes over-heated, the hair falls out, the skin reddens, and the sore soon appears. As a prevention it is well from time to time, especially during the first days of seeding, to lift the collars while resting the horses at the end of the field, and rub the shoulders well with the hand. Always turn the horses with their heads to the breeze so that they cool off more quickly. Rubbing removes the accumulated sweat and dirt and the air cools and tends to dry the shoulder. This cannot be practiced too often. In doing this, watch the draft of the hames and see that it is properly regulated to the shoulder. After the horse has been working a week or ten days, the collar may seem a little large, because usually the horse loses in flesh. Re-adjust the collar and hames as required. Take every precaution to prevent sores appearing. If such should make their appearance, apply a dressing made of one ounce each of sulphate of zinc and acetate of lead to a pint of water. Apply this in the morning, at noon, and at night and take it to the field with you and give an application in the middle of the forenoon and another in the middle of the afternoon. It is difficult to heal up a sore while the horse is working. Pressure must necessarily be relieved from the sore itself by making a hole in the pad or by some such arrangement. These practices however are somewhat dangerous as any roughened surface or unequal distribution of the draft may cause new sores, or an increase in the area of the old one. Some use successfully a breast collar, where sore shoulders have made their appearance, and this of course has the advantage of relieving all pressure from the shoulder.



A Two-year-old Shire.
Junior champion at London, Eng., Shire Show.

Where the diseased skin separates from the healthy, in the form of a circle with the central portion remaining attached, the trouble is known as a "sit-fast." This must be removed before the sore will heal properly, and then the treatment applied.

Sometimes the shoulders become bruised and an abscess forms. We have known horses to suffer greatly from this cause before the attendant became aware of what was wrong. He would look at the shoulder and see no visible soreness but later the abscess would form and generally pus would collect low down on the shoulder. There are two kinds of abscess, one containing a reddish watery fluid and known as a serous abscess and the other containing pus of a whitish, thickish nature and known as a purulent abscess. The former forms much more quickly than the latter. As a general thing these become soft in the centre and if not lanced will burst and discharge. They should be lanced at the lowest possible point for the pus to escape, and the cavity should be flushed three times daily with five per cent. solution of carbolic acid or other good antiseptic.

Hard tumors sometimes occur and as a general thing these should be handled by a veterinarian. It is generally necessary to dissect them out. Where tumors or abscesses occur the animal should get rest or be worked with a breast collar. Sore backs, or sore necks, may be treated with the dressing mentioned for sore shoulders but pads should be arranged to prevent them and any weight or pressure removed by proper adjustment of the harness.

Lameness in Horses—XVII.

Laminitis—Inflammation of the Feet—Founder

Laminitis, commonly called founder, consists in inflammation of the sensitive laminae which surmount the walls of the bone of the foot, and is attached to the horny or insensitive wall by small leaf-like processes which are very numerous and correspond in number and depth to the horny or insensitive laminae found on the inner surface of the wall, the leaves of the one fitting into and being firmly united to those of the other. The disease appears in two forms, viz., inflammation primarily limited to the sensitive laminae and sensitive sole; and ostitis, or inflammation involving the bone of the foot from the first. The cause and tractability of the two forms differ; but the first, if not subdued promptly, may develop into the latter.

Laminitis is one of the most painful diseases to which the horse is subject. It is caused by over-exertion, inordinate feeding, drinking cold water when over-heated, long voyages, from the horse being compelled to stand for a long time in a constrained position or a sudden chill. It is often communicated to the feet from internal organs. The manner in which irritation to a mucous membrane, as from engorgement with grain, or other forms of indigestion, drinking freely of cold water when over-heated, irritation to the mucous membrane of the womb during parturition (parturient laminitis), etc., occurs is hard to explain. Some claim that it is the extending of the inflammation or irritation along the mucous membrane to the skin, and thence to the feet; while others favor the theory that in such cases toxins are formed, become absorbed, enter the circulation, and, having an affinity for the feet, have a specific action on the sensitive laminae.

Laminitis caused by over-exertion, concussion from travelling on hard roads, standing during long journeys by rail or boat, or standing on one foot for a long time

when its fellow is diseased, etc., is much more intractable than when it appears during or following irritation to a mucous membrane, when, if promptly and intelligently treated, it yields readily to treatment and passes off without leaving any structural change. While the form caused by concussion is more liable to be complicated by inflammation of the bone, it does not yield so readily to treatment and is very painful, at the same time if promptly treated usually results in a complete cure, but its course be not arrested until after there is a partial or complete separation of the sensitive and insensitive laminae, a complete cure cannot be effected. The symptoms of the two forms are identical, except in their severity.

The pain of the disease is agonizing and persistent, because the sensitive foot is invested with an unyielding horny box pressing upon the engaged blood-vessels, preventing free exudation and

swelling, thus proving a barrier to the method by which congested blood-vessels are relieved. In most cases the disease is confined to the fore feet, especially when caused by concussion; but it is not unusual to find all four feet affected, sometimes the hind feet only and in rare cases one fore and one hind foot.

Symptoms.—When both fore feet are affected, the horse is very lame, almost immovable, especially at starting; he acts as though his whole body were cramped and stands with hind feet well under the body and the fore feet advanced, in order to relieve them from weight as much as possible; occasionally he may be noticed to sway backwards, elevating the toes, throw his weight upon the heels of the fore feet for a very short time and then assume this original position. If compelled to move, he elevates his feet with difficulty, as he requires them all on the ground to bear the weight of the body. If forced to back, he will drag the fore feet backwards, with the heels bearing upon the ground and the toes elevated. He will often groan from pain while sweats bedew the skin. The pulse is full, strong and frequent, and the general temperature usually above normal. In some cases the patient lies down on his side, with his legs outstretched, for hours at a time, evidently getting great relief by relieving the feet from pressure. In other cases, especially in the earlier periods of the disease, he will stand persistently. When the hind feet only are affected, the patient stands with all fore feet well under the body, and the general distress is well marked, in some cases greater than when the fore feet are affected. When compelled to move, as

soon as the toes of the hind feet are pressed to the ground, he takes a kind of a jump forward. He is usually inclined to lie, and he experiences immediate relief when recumbent. The pulse often becomes rapidly reduced in both number and force when he has assumed this position. When all four feet are affected, the symptoms will consist in a combination of the foregoing, with local heat in all feet.

Treatment.—Constitutional treatment consists in the administration of a moderate purgative as six to eight drams of aloes and two drams ginger, this to be followed when purgation commences with two dram doses of nitrate of potassium twice daily for two or three days. The advisability of blood-letting is debatable. In the early stages, when the pulse is full, frequent and bounding, the extraction of two to three quarts of blood from the jugular vein is practiced by some practitioners, while others favor controlling the pulse and temperature by the administration of twelve to fifteen drops of Fleming's tincture of aconite in a little cold water, every two or three hours for two or three doses. When pain is excessive it is well to relieve it by the administration of anodynes, as two drams of the solid extract of belladonna or about six drams of chloral hydrate.

The result will depend greatly upon local treatment. The shoes should be removed, the heels pared well down and wet heat applied. Some favor cold, but our experience is that heat relieves pain more quickly. If the patient can be induced to lie a good part of the time, it favors successful treatment. The heat can be applied by standing the patient in a tub of hot water, or by applying hot poultices. In either case the water or poultices should be kept hot for twenty-four hours, or in some cases longer. So soon as the acute pain and soreness is allayed, cold may be substituted for heat. Some tie the patient in a stream of running water for several hours daily for a few days. If local treatment be promptly applied, a perfect recovery usually follows, but if treatment be neglected until there is partial separation of the sensitive and insensitive laminae and more or less descent of the bone of the foot, a perfect cure cannot result. If the patient continues a little tender after lameness practically ceases, it is good practice to blister the coronet. It is also good practice to wear bar shoes with good frog pressure for a couple of months after he is put to work. WHIP.

LIVE STOCK.

Fresh Meat of Choice Quality Every Week.

Will you kindly publish a chart showing how a carcass is divided for a sixteen-share beef-ring? Simcoe Co., Ont. B. B.

In some rural districts it is possible to have a supply of fresh meat delivered at the door every week by butchers from the near-by town or village. However, the farmers so situated are comparatively few in comparison to the number who are located beyond the radius served by the local butcher. But, by a number of families organizing a beef-ring, it is possible to arrange for the season's meat supply from their own herds and butchered by their own butcher. Members of a beef-ring are assured of a regular supply of choice meat throughout the summer. The recognized value of the beef-ring is evidenced by the number of years many rings have been in operation. Once an organization is effected it is seldom disbanded. The number of beef rings are increasing every year.

The beef-ring is an association of farmers, and may have sixteen, twenty or twenty-four members. The twenty-share ring is about as satisfactory as any, and if the first beef is killed the last week of May or first week in June, it will permit of running fairly late in the fall and furnish the meat supply for threshing and silo filling. In starting an organization it is necessary for two or three interested to go around among the farmers in the locality and get enough to signify their desire to join such a ring. A meeting should then be called to talk the matter over, and if it is decided to form a beef-ring, officers may be appointed. It is necessary to have someone appointed to look after any business that requires attention. President, Secretary-treasurer, three directors and an inspector are the offices that are usually filled. It is also necessary to hire a competent person to do the killing and cut up the meat. Usually there is some member of the ring who is capable of doing this work, and if he lives near the centre of the locality, so much the better. If an old building is not available, a suitable slaughter house can be erected at small cost. In order to raise money to buy a slaughter house and equipment, such as windlass, ropes, scales, etc., each member subscribes a stated sum sufficient to cover the cost. Many beef-rings have an inspector whose duty it is to examine both the living animal and the carcass, to make sure it is not diseased. If an animal is rejected while alive, its owner is expected to put in another one later on; but if it is condemned after being slaughtered, it is buried and no person gets beef that week, but the owner of the animal is not called on to put in another that season. It very seldom happens that an animal is diseased.

In most rings the members agree to furnish a two-year-old animal that will dress about 400 pounds. If it is too light or too heavy, it may be rejected by the inspector. In this way only choice beef is furnished the members. In determining the time that each member is supposed to put in an animal, the usual custom is to place cards, numbered one to twenty—more or less, according to the size of the ring—in a

hat and each man draws a card. The number on this card indicates when his turn comes to furnish an animal. A certain day is set for butchering and the animal for the week should be delivered at the slaughter house at least twenty-four hours before the time for slaughtering. The butcher's duty is to dress the carcass, weigh it, cut it into the required number of pieces, record the weights of each piece, hand each man his share when he comes for it, and keep the slaughter house in a sanitary condition. The butcher's salary is set by the association and each member pays for having his beast killed. The price varies from \$2 to as high as \$4. The hide, tallow, heart, liver, etc., revert to the supplier of the animal.

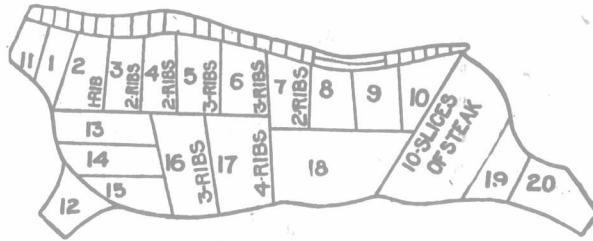


Fig. 1—Chart for 20-share Beef Ring.

The carcass is usually cut so that each member gets a boil, a roast and a piece of steak each week. If a carcass weighing 400 lbs. is evenly divided, each member of a twenty-share ring gets 20 pounds of meat. As the weights of the animals vary and it is difficult to proportionate the meat exactly, some members may secure more meat than the animal they furnished weighed, and others may secure less. The members agree on a certain price, and those who receive more than their share pay for it according to that price, and vice versa. When the business is straightened up at the end of the season, every member is paid for the

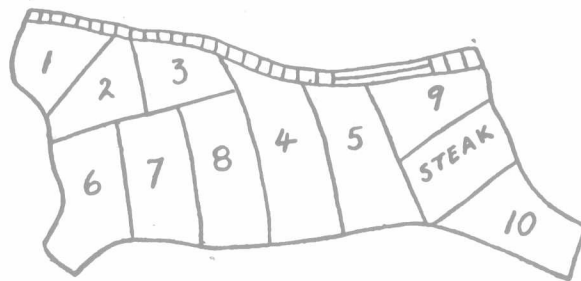


Fig. 2—Chart for 20-share Beef Ring.

animal he supplied either in meat or cash. A little co-operation on the part of the members in delivering the week's meat supply will save time. One member could easily deliver the meat to three or four of his neighbors one week and one of the neighbors could reciprocate the next week. We have heard of beef-rings where the man who supplied the animal also delivered the week's supply of meat to all the members. This could be done in half-a-day, and thus save a number of men making the trip every week. It is possible to divide a share between two families and each get about ten pounds of meat, but the average family will consume a full share each week.

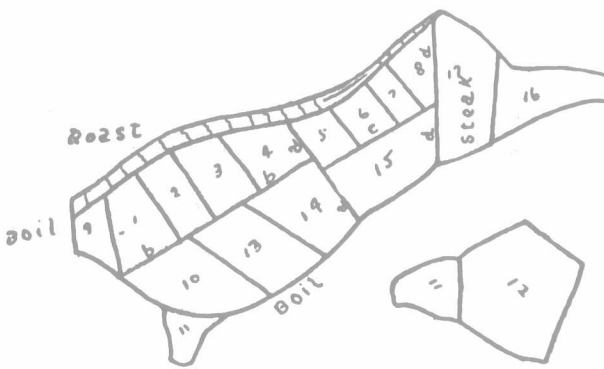


Fig. 3—Chart for 16-share Beef Ring.

In the slaughter house there should be a hook on which to hang the meat of each member, although in some places shelves are built and the names tacked on the wall. As the meat is cut, each member's share is placed on the hook or shelf opposite his name. A different cut is received each week from what was secured the week previous. By the end of the season each member will have received at least one piece of every portion of the carcass. Fig. No. 1 shows a side of beef divided for a twenty-share ring, the numbers one to ten inclusive are roasts and are arranged as follows:

Roast	Boil	Steak
1	14	1
2	13	2
3	19	3
4	16	4
5	17	5
6	18	6
7	15	7
8	12	8
9	20	9
10	11	10

Fig. 2 also shows how one side of the beef is cut for a twenty-share ring. The first ten members get the cuts shown, with a piece of steak. The other side

would be cut the same and divided exactly the same as shown in this cut.

Fig. 3 illustrates a chart for a 16-share beef-ring and represents one-half of beef lying on a table ready for the saw. For convenience in handling, divide the half in the middle before letting it down, by cutting across at "A," between roasts 4 and 5, leaving two ribs on the hind quarter. After laying both quarters on the table, divide the fore quarter at line "B." Number 9 represents neck. Saw the neck off, leaving three joints on it. Nos. 1, 2, and 3 represent roasts and three joints are left on each; No. 4 is a roast with four joints. No. 11 represents the front shank; No. 12 represents second rib cut, and is cut off, leaving five ribs to it. No. 13 represents first rib cut, to which is left four ribs. No. 10 represents brisket, and 12 shows the shoulder, which lies directly under the brisket.

The hind quarter is divided at line D. No. 11 represents flank, which should be cut off at line C. Nos. 6, 7 and 8 represent sirloin, rump No. 2 and rump No. 1, respectively, and should be divided as near the same weight as possible. No. 17 represents steak and is generally cut into slices so that each member will secure a part. No. 16 represents hind shank after steak is taken off.

The half of the beef is cut, as shown, and divided between the first eight members, giving each a roast a boil piece and a slice of steak. The other half of the beef is taken down and cut up in a similar manner.

It is doubtful whether there is any more satisfactory way of securing a week's supply of fresh meat of choice quality than through a beef-ring. It is a form of co-operation that works out to the benefit of all the members, and districts in which no beef-ring exists should endeavor to organize this spring.

Raising Baby Beef on Skim Milk.

The market offers splendid inducements to the producer of baby beef, and stockmen are beginning to cater more extensively to that trade. It is a recognized fact that the beef breeds are more adapted to producing what the meat market demands than are the dairy breeds. In order to keep the calf growing and gaining in flesh so that it will tip the scales at nine or ten hundred pounds when about one year old, the general practice is to allow the calf to suck the cow and also feed it liberally on rolled oats or other concentrates and clover or alfalfa hay. The calf must be fed and cared for so it will not lose its calf-flesh. Raising calves for the baby-beef market permits a quick turn-over of the money invested, and the price per pound for a finished yearling is about equal to that paid for older and heavier cattle.

Grade cows of the beef breeds if bred to a good bull of a beef breed produce calves that meet the market demands when about a year old. If a calf is worth \$80 when twelve months old, it is fairly good return from a cow for a year. The labor entailed in looking after the calf and the cost of feed to supplement the milk is not great. The strictly beef breeds are not the only class of bovine stock that are used for producing baby beef. In a number of stables, grade dairy cows are bred to an Angus bull, and the progeny produced are fed for the high-priced market. The same success is not attained as results from using both dam and sire of a beef breed. However, the returns are quite gratifying and reveal the possibilities in stock raising.

On several farms recently visited, the system followed was to breed the grade Holstein cows to a pure bred Angus bull, and raise the calves after they were a month or six weeks old on skim-milk, rolled oats, oil cake, silage and clover hay. On one farm where this system was followed, twenty-five calves had been raised on the feeds mentioned and sold for an average price of fifty-six dollars when about one year old. This left room in the stable for the next crop of calves which were coming on.

On another farm a herd of twelve to fifteen grade Holstein cows are kept and are bred to an Angus bull. The aim is to have the cows freshen during the fall or early winter. The calves are fed whole milk for two weeks, after which skim-milk is added. When the calves are five or six weeks old the whole milk is discontinued, and from eight to ten quarts of skim-milk is fed. At first there was trouble with the calves scouring, but by adding a little low-grade flour to the milk the difficulty was overcome. The calves are also given water to drink. When six weeks old the calves would eat silage, oat chop and clover hay. A handful of oil cake was given each calf, night and morning. At eight months old, the calves were fed about six pounds of grain, (oats, peas and barley), one and a-half-pounds of oil cake, and all the hay and silage they would eat. Raised on this ration the calves weighed about 800 pounds when one year old, and were in good condition. There was no trouble in selling them at the prevailing price for butcher cattle. The money received for the calves, added to the value of the cream, made a profitable return from grade cows.

The crossing of the breeds is not generally to be recommended, but several stockmen with grade dairy herds are finding it a profitable undertaking. True, the cows in the herd will wear out in time, and there will be no heifers growing up to take their place, but the idea is to purchase animals to keep the herd to its present number. It may be difficult to secure suitable animals of the desired quality, but the venture is proving remunerative, at the present time, to the men who were interviewed.

Dehorning the Mature Animal.

EDITOR THE FARMER'S ADVOCATE:

Horned cattle not treated while calves may be readily dehorned by using either an ordinary meat saw or dehorning clippers. The pain of such operation has been over-estimated and the mortality is practically nothing. The exact loss of flesh due to excitement, loss of blood and pain is difficult to estimate, as very much depends upon the skill of the operator, and, perhaps more still, upon the temperament of the animal operated upon, nervous, irritable animals suffering a greater set back than quiet, sluggish ones. In any case the loss is seldom great. No great difference is observed in the effect of the different instruments used in dehorning, except that there is but very little blood lost when the saw is used.

It is not advisable to dehorn in very cold weather, nor should it be done during fly time. March, April, October and November are favorable months.

To secure an animal for dehorning, a strong post or stanchion is necessary, or, if much of it has to be done, it is worth while to erect a dehorning chute. For a small herd it does very well to use a stall partition post to secure the animal. The victim should be backed into the stall and its head securely fastened to the post. A lead ring attached to the nose takes the animal's attention from the operation. In addition a rope should be put on in such a way as to form a noose over the nose to give control of the head. A dehorning chute is simply a strong stall built in the yard, with the forward end so arranged that the stanchion may be closed tightly on the animal's neck close to the head. The head when thus fastened should be not more than 20 inches from the ground. A noose firmly held completes the fastening.

Either the saw or clippers may be used, and there is little to choose between them. The saw, as a rule, makes the neater job, but the clippers perform the work more rapidly. Occasionally clippers crush the bone, causing a slow healing. Unless the horns are taken off very close they bleed badly and stubs grow. The cut should take about one-sixth of an inch of the skin around the base of the horn and should be slanted with the natural slope of the head. Some animals bleed severely. To prevent this, wind a piece of strong twine firmly around the head just below the horn bases so as not to interfere with the operation. Then tighten the twine by drawing together the upper and lower strands midway between the horns and fasten with a knot. Twine put on in this manner presses firmly against the large arteries. In a few hours the twine may be removed when danger from bleeding will have passed. Dehorned animals should not be allowed to rub against hay or straw stacks until the wound has healed. An application of carbolyzed oil or pine tar and lard after bleeding ceases will hasten the healing.

An examination of cattle from day to day in large markets proves that many cattle are badly dehorned, allowing stubs to grow out from the head. In many cases the stub turns down, curving in and penetrating the skin, even to the extent of creating a festering sore. The condition is objectionable for two reasons: 1st—In causing pain, and therefore reducing the gain by the animal. 2nd—Cattle having ingrown horns are rejected for export. Almost every week a number of animals in export shipments have to be withdrawn and disposed of locally. While a small proportion of cattle thus turned back have not been dehorned, the great majority of them have been subjected to the process of dehorning which has been imperfectly done. A horn that is not killed or removed below the base will grow out an abnormal stub and is liable to turn in toward the head, causing damage. In dehorning therefore care should be exercised to do the job thoroughly.

Elgin Co., Ont.

E. L.

One to the Acre.

EDITOR THE FARMER'S ADVOCATE:

I read with much interest your article on overstocking the farm, and you say it generally happens that these farms are over-stocked with scrub stock, and that these are not worth keeping. Now, I notice that the farm you visited was a 120-acre farm, and that it was feeding about 30 head of cattle. It appears to me that a 120-acre farm should feed a good many more than 30 cattle. I always think you can sum up a man's ability to farm if you take the number of acres that he cultivates and divide it by the number of stock he feeds through the winter. To my mind it should be at least one for every acre. I put that as the minimum for I think in most cases a farmer can do much better than that. I think a 100-acre farm should feed 50 cattle,



An Old Timer.

Everlasting Pine Stump Fence, Dorchester Tp., Middlesex Co., Ont.

8 horses and, say, 40 to 45 sheep. This would make a fairly good stock and should be a safe amount to winter. I have a neighbor who cultivates 27 acres of land, and he is feeding this winter about 47 head of stock. This includes 23 sheep, one team of horses, and the rest are cattle, and I find that he will not be able to feed all his feed. My own case works out to 1½ per acre, and I shall have plenty of feed. I think the stock that a farmer carries represents his money-making ability, whether the stock is scrub stock or good, but I must admit that the farmer who keeps his stock up to the mark will have a much better chance to make them pay than the man who allows the cattle to become scrubs. If every farmer would follow that principle, I am sure he would make his farm pay.

Muskoka District, Ont.

TOM PINE.

THE FARM.

Killing Time.

EDITOR "THE FARMER'S ADVOCATE":

Since the year 1898 I have been reading with much interest "The Farmer's Advocate and Home Magazine." I find many very useful suggestions which only take a minute or two to read, but when practised save the farmer many an hour. At this day and age when the world is engaged in military battles, a few minutes lost time may cost the nation millions of dollars, so does lost time cost the farmer considerable.

The use of wide machinery has been discussed to such an extent that two-horse teams are very seldom seen on the farm in spring seeding.

To the farmer who intends sowing roots this spring, if he has not used the grain drill for the sowing I would advise him to give it a trial. I have had as good results by sowing roots on the flat as in drills, and the time saved in preparing the ground adds to the profit.

It was a general practice in this locality a few years ago for four or five farmers to own a turnip sower. When you get your drills made you have to go to the neighbor who has last used the sower. It will possibly be one mile away. So you can easily lose one hour in the middle of the day, or some prefer making the trip at night and accidentally lose some part of the sower on the road. I have for the last six years used a 15' disc grain drill, sowing four rows at a time. For sowing mangels I set the index at four pecks of peas, and for carrots I put four grain tubes on the grass seed tubes the required distance apart, fastening them on with a string, place the carrot seed in the grass seed box and set the index at five lbs. of timothy per acre.

I have never tried sowing turnips in the grass seed box, but it should work equally well. One needs to be very careful not to get the seed sown too deeply. It is a good plan to roll the land before sowing to make the ground firmer. It is also much easier to make a straight row. For sowing alfalfa alone I prefer the above plan, you can get a more uniform depth of seeding, and where inoculated seed is used it is necessary to have it covered from the wind and sun as soon as possible. Some advise using a filler and sowing from the grain box, try it for yourself. Be patriotic and quit killing time.

Bruce Co., Ont.

W. J. R.

Fences and Fence Building.

Fences are a necessity on every farm where live stock is kept. There must be road fences, lane fences, cross fences, and line fences. Fences must be sufficiently strong to prevent horses and cattle from breaking them. They must be proof against hogs, sheep and all kinds of fowl. The pioneers used the material that was at hand to divide their holdings into fields. There was plenty of timber, and it was cut into the desired lengths and then split into rails. While cedar was the most common wood used, many fences were built of basswood, ash, oak or some of the common hardwoods. Many of the pioneers never tire of telling of their achievements at rail splitting. Stone fences are still to be seen in some localities, and, if properly built, do not detract from the appearance of the place. Pine stumps have and are still serving the purpose of fences, and have a redeeming feature, they require little repairing and last a lifetime. However, they are

unsightly, harbor weeds, occupy considerable space and are not an asset to the place.

There has been a gradual change in the style of fences used. The snake rail fences served their day, and served it well, but as timber became scarce it was found necessary to build a straight rail fence by utilizing the sound rails from the crooked fence. Many different kinds of straight rail fences have been built, but one that has weathered the storms possibly as well as any is built by using four stakes about six and a half feet long and making the fence five rails high. In building this fence, two stakes are spread two and a half feet at the bottom, then crossed about one foot from the top. They are driven in the ground and wired together where they cross. A top rail, or rider is placed in the crotch and then the other two stakes are driven in line with the fence, with about the same spread at the bottom from the centre, but are brought together at the top. The rail and stakes are wired firmly together. Four rails with a space between each one will fill the gap. Each rail is wired separately to the stakes which slant the same way as the fence runs. This form of fence does not take up much ground, is braced four ways, is economical of rails, and if a rail breaks it can be easily replaced without interfering with the other rails. This kind of fence proves very satisfactory, but all rail fences will soon have found their way to the backyard, and end their days of usefulness in the kitchen stove.

Fences are built to-day with a view to permanence coupled with economy. There are few things more provoking than having stock break into the crops. Experience proves that a material must be used that will hold the stock, look neat, and withstand the ravages of the elements. Good galvanized wire appears to fill the bill if carefully put up and fastened to posts properly set and anchored. The permanency of the fence depends a good deal on the anchor posts, which may be of wood, iron or concrete.



Spring in the Sheep Paddock.

Anchor Posts and How to Set Them.

In some localities cedar is plentiful, and posts of that wood will be used for some time to come. The great difficulty in some places is to keep the posts from heaving with the frost, or to keep the anchor posts from drawing. Having a tile drain near the row of posts lessens the danger from frost. A little extra care in setting the corner posts may save time later on. In order to stand the strain they must be firmly set. Several methods of putting in and anchoring corner posts are in use with more or less satisfactory results. One method which is giving good satisfaction is to use ten-foot posts, at least above eight inches in diameter, and place them in the ground about five feet. The hole for this post is dug about four feet by three feet in size. Notches are made in the post near the bottom, and two scantlings about four feet long are securely spiked or bolted to the post. The post is put in the ground, the dirt firmly packed around the bottom, and possibly flat stones could be found to place on top of the scantling, although it is not absolutely necessary. Simply throwing the dirt in loose is not sufficient, it must be thoroughly packed. While this method may entail considerable work, there is little trouble afterward from the post heaving or turning. Another method is to use a block of wood at the back of the post and a large stone in front. By packing the earth firmly around these the post is held in place. Possibly the most satisfactory method is to dig a hole, two and a half or three feet square and about three feet deep, place the post in the centre and then fill in with concrete. By allowing the concrete to extend up the post a few inches above the level of the ground it will keep water from standing around the wood, and thus lengthen the life of the post. However, steel and concrete posts are replacing wood, and present an appearance of permanency. It must be remembered that concrete posts equal in dimensions to those of cedar posts are not as strong and should be reinforced with steel or wire. Concrete anchor posts are built in various ways; some build a post about eighteen inches square, but posts twelve inches square at the bottom and tapering to eight or ten inches at the top, with a steel bar or triangle in the centre to give them strength, are proving satisfactory. A post may be built round, if it is so desired. A frame or mould of the desired size is used in building, and a number of posts may be built at one place, or the hole for the post may be dug and the frame set up, and the post built in the ground where it is to remain permanently.

The following is a method which is used in building cement line posts: A mould of the desired size is made, and a little concrete placed in the bottom. A double length strand of twisted wire is bent in a U-shape and laid in the cement. When a mould is nearly filled another U-shaped piece of wire is laid in, care being taken that the wire never comes against the face of the mould. The posts should be left a day or two in the mould to cure. The concrete is mixed in the proportion of about one of cement to five of sand and gravel. Staples are inserted in one face of the post to hold the wire, and are spaced according to the strands of the wire. The anchor posts are made considerably larger than line posts, and reinforced with steel bars rather than wire.

Bracing the Anchor Posts.

Added strength is given by properly bracing the anchor posts. The brace post could be placed from ten to twelve feet from the anchor post, and should be firmly set in the ground. For a brace a cedar rail or pole about four inches in diameter may be used, and should be placed about three feet from the ground at the end post, and eighteen inches from the ground at the brace post. The brace may be securely fastened in notches cut in the post. With cement posts the notches should be made at time of building them. Wire is used to tie these posts together; four strands of number nine soft wire proves very satisfactory, and should be placed as high as possible on the brace post, and as low as possible on the anchor post. This wire should then be twisted until it is tight. A method of bracing which is also proving satisfactory is to attach the brace pole near the top of the anchor post, and have the other end rest on a stone on the ground. The wire is fastened to the bottom of the brace pole and to the post, close to the ground, then twisted as tightly as possible.

Where two fences are running at right angles the one post would serve as an anchor for both fences. For this purpose some build a post that resembles the commencement of a corner wall of a stable. The foundation is dug, extending possibly three feet from the centre, parallel with the fence. A wooden form is made, which will leave the wall six or eight inches thick. The wall may be built with a gradual slope from the ground level to the height required, or may be built in the form of steps. The staples, or rods, are imbedded for each strand of the wire to be used. This kind of anchor post is not unsightly, and certainly has the appearance of stability.

The corner posts are the mainstay of the fence, as a fence will last no longer than the anchor post to which it is attached. When a stretch of fence extends over thirty or forty rods in length, it is advisable to set a post about the centre in a similar manner to the corner posts, and fasten the fence securely to it to relieve the strain from the other posts. Supporting posts need not be so large nor so firmly set as the main posts. The distance they should be placed apart in a permanent fence is a debatable question. Some believe that posts placed two rods apart give the fence sufficient support; others recommend placing the posts

closer, while some who consider the first cost would do with fewer posts. Wood, steel, or cement posts much lighter than the corner posts are used. Wooden posts may be pointed at the small end and driven with a post-driver, by having the end sharpened it lessens the danger of heaving by frost. Post holes may be dug with the post-hole augur, the posts set and the dirt firmly packed around. If the posts are pointed somewhat at the top after they are set, it will tend to improve the appearance and prevent water remaining on the top to start decay. The life of wooden posts may be prolonged if the portion to be placed in the ground is first treated with tar or creosote. Iron posts are sometimes used. Some are made with a footing which tends to hold them in place, while others are a straight shaft and are driven in the ground, and tend to hold the fence from sagging rather than preventing it from going sideways.

Stretching the Wire.

Having the material in readiness for building a wire fence, it would be best to make the ground as level as possible. Building the fence over cradle knolls and small hollows, usually gives an uneven appearance and leaves holes at the bottom where hogs and sheep may get through and be a continual source of trouble. Aim at having the fence straight. Nothing detracts more from the appearance of a farm than to have the fences out of line. A tape or line should be stretched across the space where the fence is to go, and the holes dug and the posts set to this line. An endeavor should be made to have the posts all the same distance apart, and as nearly level as possible over the entire length.

The woven wire fence, or the single strand wire may be used. The main thing to consider is to have a strong wire, well galvanized. A poor fence that soon rusts out is expensive at any price. The fences are built of different heights. The nine or ten strand woven wire fence with the strands placed closer together at the bottom than at the top, and the uprights sufficient in number to prevent any give of a single strand is quite satisfactory. Fences are built by stretching each strand separately and putting in wire or wooden pickets for uprights. Have the wires close enough together so that the stock cannot get their heads through between the different strands. To prevent horses, especially, from reaching over the fence, a strand of barbed wire may be stretched tightly along the top. The use of barbed wire is sometimes considered a barbarous practice, but we believe it has a place at the top of the fence, and will tend to prevent the horses from breaking down the wires. In placing the wire along the fence, previous to stretching, avoid dragging it over stones or anything with sharp edges, as there is danger of scratching the galvanizing and so giving rust a chance to operate.

The wire is now ready to be put in place, and care should be taken to see that every strand is stretched evenly, and the whole fence stretched tightly. Stretching is frequently done with a block and tackle and a wire grip, but a satisfactory home-made stretcher may be made that will serve the purpose admirably. Two pieces of chain and a scantling about three inches square and ten feet long are necessary. The pieces of chain should be about three feet long, and be made with a grab-hook at one end and a ring at the other. At one end of the scantling three holes should be bored through, about one foot apart. In the middle hole a chain can be fastened with a clevis, and the other end hitched to the anchor post. Short chains previously mentioned are fastened on the lever by clevises, with the grab-hooks pointing the opposite way to the chain attached to the centre hole. Two narrow boards may be bolted tightly to the wire. A logging chain is fastened to this about ten feet from where the scantling or lever is attached, and as this lever is pulled back and forth the grab-hooks on the short chains are hooked in a link of the logging chain. When the fence is sufficiently tight it should be fastened to the post with galvanized staples, inserting one on every horizontal wire at every post. Any expansion or contraction of the wire due to heat or cold is provided for by the coil in the strand of wire.

Where there are fences there should be gates, although it too frequently happens that a few rails or poles fill the gap into a field. From the point of convenience and saving of time, a gate that will swing easily and is fitted with a fastening that will stay fastened should be used. Apparently wooden gates are being replaced by wire. With the present price of lumber and cost of building, they are almost as expensive as wire gates, and are claimed by some to be more difficult to keep in repair. Wire gates are light, and those built in recent years are so braced as to prevent sagging. As a precaution, the end of the gate farthest from the hinges should rest on a block of wood, or be supported by the fastening to take the strain off the hinges when the gate is closed. All wire gates not in use in the winter should be stored in the barn or shed.

Reducing the Number of Fences.

The money invested in fences on the ordinary hundred-acre farm amounts to a considerable sum, when one considers the cost of material and work of construction. On a farm that is two hundred rods long by eighty rods in width, a farmer will have two hundred and forty rods of line fence and eighty rods of front fence to build and keep in repair. Where the lane runs through the centre of the farm, four hundred rods of fence would be required, and if the farm is divided in ten-acre fields three hundred and twenty rods of cross fence will be necessary. A number

of fences could be dispensed with, for instance, if the lane was built at one side of the farm there would be a saving of one-half the lane fence less the amount taken to extend from the buildings to the side of the farm. If many of the cross fences were removed there would be less waste land in fence bottoms consequently fewer places to harbor weeds and injurious insects. By having a couple of forty-rod stretches of woven wire, a temporary fence may be used to divide a field where it is desired to pasture stock. A couple of brace posts set at the end two or three line posts to stiffen the fence, and a few sharpened heavy stakes to support the wire are all that is needed. A couple of men would put up this fence in less than a day. A temporary fence can be placed where needed, and moved when it comes time to plow. It saves capital and reduces expense. If the woven wire is carefully rolled, when taken down, it will last for a number of years. It is economy to use the best fence material available, even if the first cost does run into a lot of money. But the best of material will not prove satisfactory unless the posts are properly set and the wire firmly attached to them.

What Does It Cost to Sell?

EDITOR "THE FARMER'S ADVOCATE":

The progressive business firm of to-day, that has something to sell to the public, be it codfish, gingham or grain binders, sets aside a certain percentage of its receipts to be applied to the cost of selling. Some times, in the case of a manufacturer who puts out an article requiring vigorous sales work, his selling cost may be as high as his manufacturing cost. Thus in many lines the price ultimately paid by the customer is split into three equal parts, one covering manufacturing cost, another profits, bookkeeping charges and the like, and the third cost of advertising, selling, trade promotion, etc. Even with the most staple goods there must be an outlay for selling because the more staple the goods the greater the competition. Getting customers, holding them and creating good will are indispensable items in modern business operations. Banks, railroads, insurance companies, public service corporations, churches and labor unions all spend something nowadays for sales work.

In this respect farming seems to differ greatly from every other big industry. Ask the average farmer what he charges for selling expenses in the operation of his farm, and in practically every case his answer will be of a negative character. When he has goods to dispose of they are bought not sold. The science of salesmanship does not enter into the transaction. As a consequence he suffers from disadvantages that other business men have overcome by taking thought about the market.

Marketing for the farmer as a whole is exceedingly diversified. The method that is eminently suited to the conditions of one will not always fit so well the requirements of another. For instance one man who has eggs to sell finds the parcel post and a list of direct customers the marketing solution for him. The fruit farmer may utilize a growers' association as the means of finding an outlet for his produce. The breeder, the dairyman and the grain grower all have different problems, each calling for different methods of solution.

Suppose, then, a stock raiser took a ten-dollar bill out of his pocket and said, "This is my first appropriation for selling expenses, and I'm going to invest it in better marketing." What could he get for ten dollars? Probably the best value would be market information. This amount invested in a trip to one of the large stock yards where he could see shipments graded and sold would give him some new ideas of selling his product. By his personal investigation he will see who handles the stuff, who buys it, what others are offering, and so on. Such a plan of course, holds good in other lines. The information secured will always indicate new plans that may be followed up. Better marketing is likely to mean an improvement in quality. All through the business world to-day goods are gradually coming to be sorted into grades and sold in attractive packages. If this rule, farming is no exception.

Take potatoes as an illustration. I made this discovery only recently that a concern in Idaho takes potatoes of the best flavor from a noted potato soil grades them so they are absolutely uniform in size wraps them in paper and sells them like fruit to big New York hotels at fancy prices. Furthermore, these potatoes are selected for baking, and do not give good results when boiled. The hotel steward will pay almost any price for such a potato, because the baked tuber goes to the guest in its own jacket, and the hotel gets ten or fifteen cents for it. No doubt the time will come when grocers, generally, will handle a fancy brand of potatoes grown for flavor, graded for sweetness, and sold to the consumer with the name of the producer stamped on the bag. Nor is it unlikely that other staples will be handled similarly. There is a growing evidence that the consumer is looking for quality. As a matter of fact, the whole tendency in buying nowadays is to associate quality with the producer, and to go back for more goods branded with his name when something satisfactory is found. That is the way we buy crackers or breakfast food. The farmer's products are no different in this respect.

Again, the market information gathered is pretty sure to open the farmer's eyes to the fact that there is such a person as the middleman, and a very prosper-

ous sort
may indic
eates the
upon the
as a conv
services ad
he handl
reasonable
ases, he d
profits of t
a serious a
farmer sold
a barrel.
the buyer
undersigned
for these ap
It took \$2.
the farmer
Evidenti

ent day is
About three
a scheme w
task. A co
ducts was c
lege. So fa
stitutions of
that State
profits to t
lege does n
plete listing
tion from n
farmers and
bureau is ca
ing organiza
Institute, th
making each
central bur
county dem
the work o
through the

It seems
might profit
Guelph, per
He would h
to work over
finished pro
asset to the
subject of fa
ever, as th
quainted wit
obtained a c
that part of
own product
Essex Co.

A
The head
Angels to the
ames mean
of California,
like their des
had a great r
of places in C
San or Santa
San Pedro, S
Lina, Santa B
of male or fe
get among ne
the "Latter
Paradise in th
the saints, bu
thought sugg
fancy were m
rock and mo
for hardness
there are sur

Leaving L
soon next da
three hours
growing and
into the mou
After time
bankments a

...this sort of individual he is too. This knowledge may indicate to the farmer that good selling eliminates the latter. Certain it is, most producers look upon the middleman as a necessary evil, maintained as a convenience, though it is well known that his services add materially to the selling cost of the articles he handles. Of course, no one would object to a reasonable commission, but, when, in the majority of cases, he deliberately gobbles up for himself the major profits of the transaction the matter naturally assumes a serious aspect. Here is a striking illustration: A farmer sold his apple crop several years ago for \$1.50 a barrel. In one barrel he placed this note: "To the buyer of this barrel of apples—Kindly write the undersigned, who grew them, how much you paid for these apples." In due time an answer came from the buyer in a Western city, saying he paid \$4.25. It took \$2.75 to find a buyer for these apples, while the farmer got only \$1.50.

Evidently, one of the biggest problems of the present day is, how to get the farmer closer to his market. About three years ago the farmers of Kansas evolved a scheme which they have shown to be equal to the task. A co-operative selling bureau for all farm products was established at the Kansas Agricultural College. So far as I know the idea is unique among institutions of this kind. By this means the farmers of that State have saved the unnecessary middlemen's profits to the extent of millions of dollars. The College does no actual buying or selling, but with complete listings of the state's farm produce and information from markets all over the country it brings the farmers and the buyers together. The work of the bureau is carried on in co-operation with all the existing organizations of farmers in the State—the Farmers' Institute, the Grange, the Farmers' Union and others, making each local association a sort of branch of the central bureau at the college. In counties where county demonstration agents are employed much of the work of organization and of operation is done through these agents.

It seems to me that this is a special work that might profitably be undertaken by our own college at Guelph, perhaps, in charge of the lecturer on economics. He would have in the idea some good raw material to work over, and doubtless would be able to evolve a finished product that would prove to be a splendid asset to the farmers of the province. The whole subject of farm marketing is still rather hazy. However, as the farmer gradually becomes better acquainted with what it is costing him, he will have obtained a clearer conception of the subject, especially that part of it bearing directly on the selling of his own products.

Essex Co., Ont.

AGRICOLA

Los Angeles to Salt Lake City.

A Canadian Farmer on a Tour.

The heading might as well have been "from the Angels to the City of the Saints," for that is what these names mean or imply. The first European occupiers of California, the Spanish, may have been bloodthirsty like their descendants the Mexicans, but they certainly had a great respect for saintliness. Witness the names of places in California. Most of them begin with either San or Santa, as, for instance, San Francisco, San Diego, San Pedro, San Jose, San Bernardino, and Santa Catalina, Santa Barbara, Santa Clara, Santa Ana, all names of male or female saints. When Utah is reached, we get among not the names, but the saints themselves, the "Latter Day Saints." There is a suggestion of Paradise in the mention of a journey from the angels to the saints, but the journey itself failed to carry out the thought suggested. The "fields of living green" of our fancy were markedly absent. There is the grandeur of rock and mountain, to be sure, but aside from that for hardness and barrenness, sterility and dry heat there are surely few roads in the world to equal it.

Leaving Los Angeles at 9 a.m., it took us till about noon next day to get to Salt Lake City. For two or three hours of the journey there were signs of crops growing and of human occupants, and then we got into the mountains where all such signs were absent. After a time we got through with cuttings and embankments and seemed to have reached an elevated

plain. Hour after hour we travelled here over hot, hard sand, and not a living creature to be seen except an occasional lonely, starved-looking jack rabbit, which jumped away on being startled by the train. The glare of the sun on the dry earth made the air near the ground quivery, and passengers began taking off coats and vests and opening windows and wondering what the temperature was. The only information on that point obtainable was from the trainmen, who guessed it was about 115 degrees in the shade, as usual in summer. The night was quite comfortable, having cooled off rapidly, so that by morning the temperature was very pleasant. We had crossed the State of Nevada in the night and were now in Utah. But the scene was as desert-like as ever. We seemed to be running slightly on the downgrade in a wide, level valley, with mountains on either side, but miles away; yet not a sign of water anywhere, nor of anything to support life. And thus for hours the same. In most places the ground was so hard that the wind could not raise a dust. But there were sandy sections, and in these the few scattered shrubs would be almost buried in sand in some parts, while in others they would surmount little mounds of earth, held together by their roots and all between to the depth of a foot and more had been swept somewhere else. In such sections the wind had carried the sand up over the foot of the rocky heights, which rise sharply from the side of the valley, and swooped it much higher up in the clefts and gorges which furrow the face of these heights.



Sparse Desert Growth.

Impressed as we were with the desolateness of the country and its great width, one could not but think of the courage of those who in early days attempted to cross it in emigrant waggons. We read that when the California gold fever was on, a daring man established a splendid stage line entirely across that wide desert. But we read also that the bones of many an emigrant's horses, and, sadder still, his own bones in some cases, whitened the trail.

It is not literally true that there is nothing green on those arid wastes. We had thought that sage brush and tree yucca were the limit of dry vegetation. We learned that there were more forbidding deserts than where these grew—where it was too dry even for them. But in the very driest plains over which we passed some species of shrubs grew, very far between, of course. The one that seemed able to stand conditions too severe for any other plant was not blue-gray like sage brush, but a good strong green.

Drawing near to the Great Salt Lake the valley widened, and at length on our left we saw a shimmering blue haze, and soon the water (rather brine) of the lake itself beneath. We had passed a little town farther back and taken on passengers where there seemed no means of subsistence, but learned that there was an extensive zinc mine and smelter there. On the route generally we scarcely stopped at all. Nobody wanted to get off anywhere, and there was nobody get on.

But now the appearance of the country changed suddenly. We had reached the level of the valley surrounding the lake. Irrigation ditches appeared, and we heard again the splash of water. Fertile farm lands, with farm houses and orchards surrounded by poplar trees, made a welcome change after the barrenness we had left, and soon the city itself was reached.

Salt Lake City is built close up to the Wahsatch mountains, whose noble range rises abruptly from the plain and faces westward. It is not close to the lake, as one would naturally expect, but is eighteen miles to the southeast of it. The railway line, which runs north from Salt Lake City, keeps quite close to the line of mountains, with the lake away off to the left. A traveller on that line may notice a level line about 150 feet up the mountain side which looks something like a sheep track. In and out of the indentations of the mountain face it runs, but always level. To one who has seen irrigation plants it suggests an irrigation ditch. Once noticed, it is always easily traceable, and is seen mile after mile as the train bowls along. Geologists tell us that it is an ancient shore line and that several such lines at different heights can easily be made out. The highest is about 950 feet above the present level of the lake. When it stood at that high level, it was a fresh water lake, with an outlet northward to the Snake River. It was then immensely larger than now, being about 300 miles from north to south and 180 miles wide. Owing to a change of climate in those long ago ages, evaporation began to exceed inflow, and the lake sank lower and lower. On account of the slight percentage of salt present in the water of all streams and which remained on the lake because of no outlet, the water became more and more salty. At present the lake is about 80 miles long by 30 miles at its widest part. It is so shallow that a railway line apparently built on piles runs across it about the centre. It is another

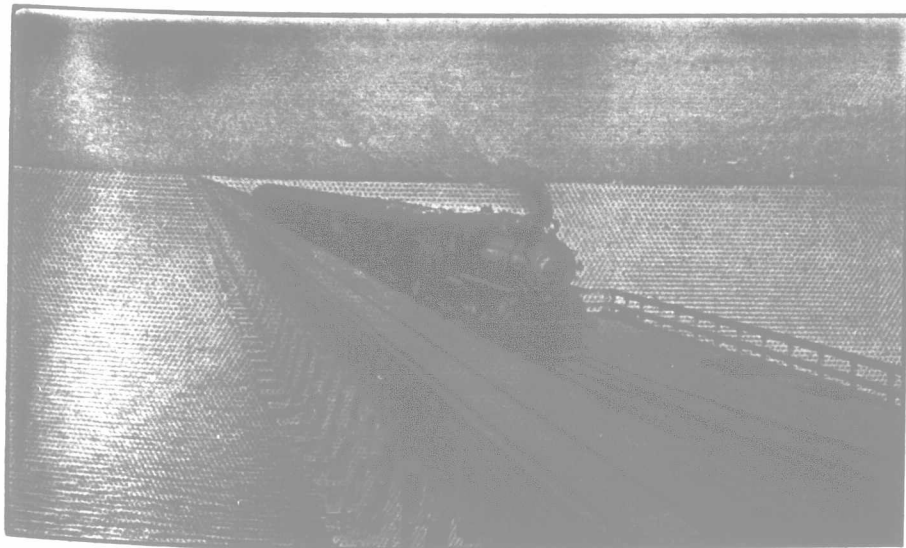
Dead Sea in reality, as no fish live in its waters and no water fowl is seen on its surface. Human beings bathe in it, however, and in a minute after coming out are crusted over with salt, which is removed by a douche of hot water. Train loads of salt are collected and shipped from its shallows.

The wide, flat country between the mountains and the present shore line which the Mormons have converted into farms and gardens is but the gently sloping

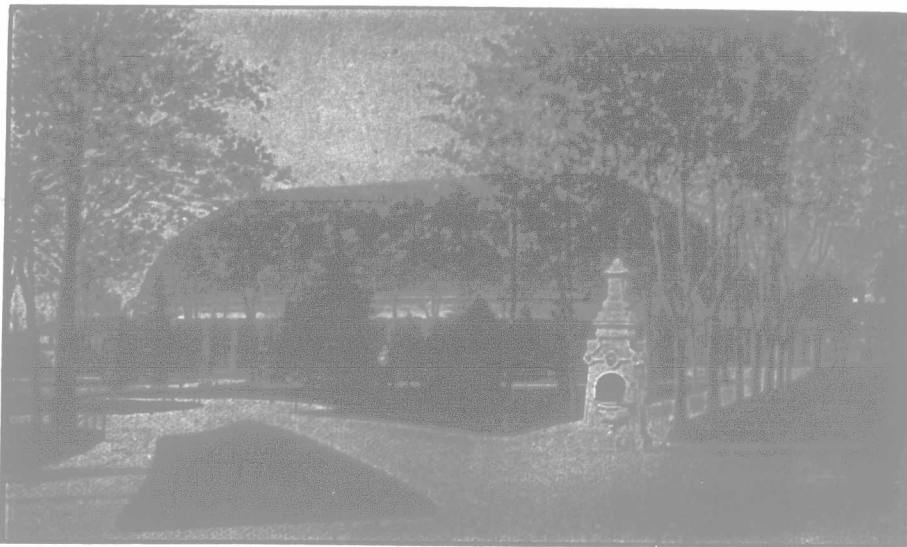
bottom of the ancient lake.

Let any traveller be dropped off at Salt Lake City without knowing his whereabouts and (unless he caught sight of the Temple area) he would never suspect that he was at the religious centre of a modern cult. It is a splendidly-built, up-to-date city of about 120,000. As originally laid out, each street was 132 feet wide and each block contained exactly ten acres. It was not intended that more than four families should occupy one block, so that each might have two and a half acres, and thus have the proverbial cow and a garden. It may have been the thought—who knows?—that one man, if he were sufficiently married, might own a whole block and have a home and family in every corner. However that may be, the exigencies of modern business have necessitated the running of lanes or narrow streets across some of the busier blocks, so that not all the streets are so magnificently wide as the main ones. It was also planned that on both sides of every street there should be a stream of fresh water flowing. But last summer, unlike conditions in the east, there was a diminished rainfall in the mountains and a consequent shortage of water in the city, and only on two or three of the principal streets was the water allowed to flow in the gutters. When the Mormon people first settled in this wonderful basin valley so utterly removed and cut off from other settlements, they undoubtedly thought that they were at last secure from intrusion and would be free to work out their own destiny. But railroads came and their seclusion was invaded. At the present time it is said that not less than 60 per cent. of the population of Salt Lake City itself are Gentiles.

Every day at the noon hour there is an organ recital for the general public in the "Tabernacle." By the time the doors were opened about 1,500 of us had



Crossing Salt Lake.



The Mormon Tabernacle.

gathered, eager to see and hear. While the crowd was waiting outside they were addressed by clever speakers, who strove to put their religion in the most favorable light. When 12-30 arrived, we were admitted, not into the body of the building, but into the gallery, which we nearly filled. After the recital was over, it was announced that any who wished would be shown over the buildings by a guide. About 200 of us went. We were taken first into the smallest of the three main buildings of the Temple square. It is called, I think, Assembly Hall and used for business meetings. It is seated like a church, and, on our guide's invitation, we sat down for a short time, while he told us about things and gave us some more information about the excellencies of the Mormon religion. He then re-introduced us into the Tabernacle, but by a rear entrance, and, passing the great organ and the pulpit, led us up into the gallery and away to the farther end. This was in order that we might have a demonstration of the wonderful acoustic properties of the building. At a table by the side of the pulpit desk stood another man 200 feet from us. He rubbed his hands together and we heard the rustling noise. He whispered and we could hear the sound. He then took a pin and, holding it about 18 inches above the table, let it drop, and we heard it quite distinctly, as we did the two or three times he repeated the pin dropping. It was nothing less than wonderful. The remarkable acoustic quality of the building is no doubt due to the flattened dome shape of the roof and ceiling.

Following out into the grounds again our guide showed us the Temple, the outside of it. No one but a Mormon, and he must be a good Mormon at that, he said, is ever allowed inside. The "Assembly Hall" is for business, the "Tabernacle" for worship, but the "Temple" is for ordinances alone. At each end of the Temple building proper are three towers, all of one design, the centre one at either end being the highest. The three stories of the building itself we may presume to indicate three different grades of excellence in those worthy to enter. At regular distances on the upper story carved in stone is a representation of the sun, on the second story the moon is figured, and on the lower a star. The higher the more glorious evidently. Our guide having given us a great deal of the information above mentioned, treated us again, and at greater length, to a recital of the many good features of Mormonism. A free and easy style was used and questions were invited. There seemed to be a straining after favorable opinion, or, possibly, converts.

In regard to the secrecy maintained as to what goes on in the "Temple," one cannot resist the feeling that the ceremonies there must partake of the character of those things that love the darkness rather than the light.

It was with evident pride that he quoted the remark of a distinguished visitor, to the effect that there was no more perfect organization in the world than that of their religious body. That is no doubt true. From the first Presidency, down through the various orders of patriarchs, apostles, etc., each has his work rigidly defined, and the central authorities are thus able to keep in touch with any member wherever he may be and bring him to book or relieve his need as may be necessary. To one brought up in a recognized Christian denomination, the religious belief of the Mormon sect seems man-made, grotesque, even blasphemous. But no one can deny that in the main they are thrifty, good-living people, industrious to a fault, and that they have done things. Their leaders have been men of remarkable brain power.

Take, for instance, the case of the Tabernacle building, planned and built wholly by themselves. Here is a great auditorium 250 feet long by 150 feet wide, seating 8,000 people, and its immense roof has not a single post or brace inside. Instead of the pillared arches which support the steep and dizzy heighted roofs of the great European cathedrals there is here a squat, widespread structure and nothing apparently to hold it up in the middle. How did they do it? Here is the secret. The roof is ten feet thick. The sides of the roof outside are ten or twelve feet farther out all round than the true wall of the building and are supported by cross buttress walls. The ceiling inside springs from the real wall, is curved on lines parallel to the outside surface of roof, but ten feet from it, and the space between is one great maze of wooden X-style bridge-truss work. The peculiar shape of the building, with its rounded ends and the turtle back or mushroom style of roof, was undoubtedly chosen to secure the marvelous acoustic quality so important in a large meeting place. And as with the Tabernacle, so with their other projects, they have shown originality, adaptability and daring.

A special feature of the community which must commend itself to THE FARMER'S ADVOCATE and its readers is the importance attached to agriculture. They are farmers first and all the time. The very clever guide whom we followed, after trying to answer some questions about the great organ, in the end said he was no musician—he was a sheep farmer. And no apologetic tone was traceable.

The Mormons profess to have quit the practice of polygamy since it has been declared contrary to United States law. But if, as some suspect, there are remote corners where they still indulge in the forbidden, and even though their presence in a country constitutes a serious problem, they are a wonderful people and have done wonderful things. To quote from an article in Chamber's Encyclopedia referring to their settlement in the valley of Salt Lake in 1848. "The world has never seen swifter, more active, more glad-hearted colonists than these singular 'Saints.'" T. B.

The Cultivation to Give the Crop the Proper Start.

EDITOR THE FARMER'S ADVOCATE:

How to produce maximum crops with a minimum of hired help is the farmer's big problem for the season now at hand. With recruiting officers turned loose on every concession to draw men whence they can, regardless of system, commonsense or consequences, the farmer's problem on many an Ontario farm will be difficult indeed.

What is a Government? A Government is a thing that takes a year to see what any good businessman would see in a minute. And what is a politician? A politician is a partizan who either "points with pride" or "views with alarm," as the case may be—and there the thing ends. Thank heaven, we are slowly moving towards the Age of the Business Man. We need business men at the head of our Government, and we need them real badly.

This hasn't much to do with spring cultivation, which the Editor asked me to write on, but I have just simply put into words what every farmer and every businessman in this young country is thinking.

In the growing of crops Nature is the great wonder-worker. But unless the man is on the job with the proper implements at the proper time, and does his part in the proper way, Nature is nowhere when it comes to maximum crop production. She can send the snow and the rain to supply moisture, but unless the man is there to look after his own interest and provide mulch, Nature, the fickle lady, sends a powerful sunbeam to suck the moisture away again, while the man sleeps or temporizes with Obsolete Methods. So man has to be Johnny-on-the-spot with a good strong team, hitched to a double cutaway harrow, or a whole season's hopes and plans are going to vanish with the moisture that is stolen away by Old Sol.

And so we see that Nature is the Great Enigma—she sendeth the good things, and unless we are there to gather them up she taketh them away again, which is a way she has of keeping her partner, Mr. Man, up to the scratch.

It is this feature of the proposition that originated the saying among tillers of the soil, "It keeps us scratching."

We shall be short on man-power, but most of us will be long on horse-power, and here seems to be the only solution of the great problem, Getting Things Done. We shall now fall into line with the teachings of Prof. Grisdale—the Economy of using More Horse-power and Bigger Implements. Necessity will show us the folly of using two-horse teams where the man could just as well drive three and four horses and accomplish double the work. Yes, indeed, the war is waking us up.

Four years ago, on the writer's farm, a double cutaway harrow was purchased. It has done all that the makers and the Experimental farms claim for it, and it has more than paid for itself in that time. It is two disks in one, and more than that, for there is no half-lapping the work to ensure a perfect job. Three 1,200-lb. horses handle it nicely on a clay-loam soil. This spring, to push the work and lighten the load, four horses will be used. This outfit will be a joy to the man who drives it.

And the implement we swear by is a twin-plow, which, handled by three horses, does work that needn't be criticized and far better work than many plowmen turn with single plows. To go back to single plowing after using the twin-plow makes a man feel ashamed of himself and wonder what he's been doing with his time. On many a farm where much plowing has to be done, and help is scarce, a good gang plow will about pay for itself before fall.

I am a believer in rather shallow plowing and deep cultivation. By plowing shallow—4 to 6 inches—we keep the humus near the surface where we need it; and I have a conviction that humus, more than any other constituent, is the determining factor in crop production and the property most lacking on Ontario farms. Replace the stolen humus and there would be less complaint of land having "run out." Our deep cultivation is done with a stiff-tooth cultivator, which, for a thorough job on fairly heavy land is worth two or three spring-tooth cultivators. With three or four horses it does an excellent job, for it has the weight and the determination to stay there and rip things. Like all cultivation implements that do good work, it needs plenty of power ahead.

The most abused implement of cultivation in this country is the disk. I have seen farmers disking with light teams, when for all the good they were doing they might almost as well have been resting in the parlor. To do good work a disk must be set at a good angle—"Kinked around." That means horse-power. This year, more than ever before, plenty of horse-power will be the greatest economy. Three and even four-horse teams will pay good dividends and probably save the farmer much anxiety before the season is through.

Next to lack of humus (which is due to lack of a proper rotation), the greatest bar to larger crops on many farms is lack of sufficient tillage. On far too many farms the crops are simply "scratched in," and it speaks volumes for the kindness of our soils that the crops are as good as they are. It is an old European axiom that plenty of tillage is almost equal to a coat of manure.

Where farmers are short of help it will not pay to plow corn land for grain. It is questionable if it is good policy to plow corn land for grain in almost any year, unless the land were dirty when it should be fall-plowed. Here is where the stiff-tooth cultivator and

the double-cutaway come into perfection, doing a splendid job.

Corn ground that has been reasonably well cleaned the year previous has germinated most of the weed seeds near the surface. To plow the land brings up a fresh lot of weed seeds and to a large extent undoes the good work of the year before.

That means loss in three ways—time lost in plowing, reduction of crop through the presence of weeds that would not otherwise appear, and a weedy field until it is again brought under the cultivator.

The motto is: Clean well the corn and root land and get in the following year's grain crop without the interference of the plow. The beneficent frost has done its work in the under soil, which is better not to be disturbed. A moderately firm seed bed is better than one too loose for grain, grass and clover.

Comes in here a point which I believe to be of the utmost importance—the question of moisture. How can we best conserve it for the use of the tender, growing plants? A serious complaint, heard perhaps oftener than any other, is of failure to get a catch of clover. Charge it up first of all to lack of humus and then to lack of moisture during the early life of the young plants. We do not get our seed beds fine enough for such small seeds as clovers and grasses, and then we leave them too loose at the surface for our average dry seasons. It is impossible for small seeds sown in a coarse, open seed bed to get the moisture that is necessary for either germination or growth. Seeds which germinate are in their isolated position cut off from connection with the subsoil where the moisture comes from and they wither and die.

Capillarity, or nature's process of supplying water from the lower soil to the plant roots in the seed bed, is a matter requiring more consideration. Water is drawn upwards by the air and the sun's rays passing from soil particle to soil particle, enveloping each with a film of moisture until the surface is reached where it is taken up by the plant roots or lost by evaporation. The process of capillarity is perfect when the soil is compact and at the same time thoroughly pulverized. But the process is held back or destroyed if the soil is lumpy and loose. Large air spaces between clods and capillary connection with the subsoil are never found together. That is why I believe the use of the roller to be almost absolutely necessary on a seed bed for small seeds, except on heavy, wet clays. We have used the roller with a weeder dragging behind with good effect.

I never sow small seeds from the grain drill, either in front of or behind hoes, without a twinge of conscience that I am not doing the right thing. The furrows made by the hoes are too deep for small seeds, many of which are buried beyond recall by the harrows which follow. The ideal condition is to harrow the ground behind the drill and then sow the grass and clover either by hand or with a small grass seeder. Then follow with the roller and weeder or a light drag harrow. A drag arrangement made of brush or a light plank leveler would be preferable to a heavy drag harrow, which would destroy too much the good work of the roller. On a seed bed so prepared the small seeds are where they should be—near the surface in a firm seed bed, where they will rejoice and thrive amazingly almost in spite of unfavorable atmospheric conditions, or lack of rainfall, especially if the soil be possessed of a fair supply of humus.

This matter of humus is of such urgent importance all over Ontario that it should really be considered in a separate article. I cannot close without touching upon one aspect of its up-keep—I refer to the sowing of clover with a view to following a shorter rotation. By all means sow clover and sow plenty of it, in spite of the present high price. Cast upon a well-prepared seed bed it will return to you many times over in increase of crop, increase of fertility in succeeding years, and abundant satisfaction all the way round. A farmer never makes a better investment than when he puts his money into the good red clover and then plows it under in the second or third year.

I make it a practice to sow never less than eighteen pounds of seed to the acre, and as high as twenty-two pounds. Eighteen pounds, made up of 8 lbs. timothy, 8 lbs. red clover, and 2 lbs. alsike is a nice seeding; but let it be more rather than less. Last year I sowed Prof. Grisdale's mixture, 8 lbs. timothy, 6 lbs. red clover, 6 lbs. alfalfa, and 2 lbs. alsike. It was a splendid catch, and the alfalfa was nine inches high when we cut the grain. Owing to the heavy shelling of the grain, due to the bad season, the thick after-growth of sprouted oats doubtless caused some injury to the seeding, but we shall see what we shall see later on.

Fifteen acres were seeded in 1914 at the rate of 20 lbs. to the acre—10 lbs. timothy, 8 lbs. red clover, 2 lbs. alsike. It was the dry summer when so many seedings came to grief, with the consequent light hay crop last year; yet in this field sufficient of the seed came through the trying season to yield an unusually good crop in 1915—more than justifying the extra cost of seed. It was an oasis in a desert, as twelve or fourteen tons of first-class hay in the barn as I write eloquently testify.

In this field we got a demonstration. On ten acres of it the seed was sown with the grain drill and rolled, with a weeder drawn behind the roller. Five acres were drilled, harrowed, seed sown by hand, and rolled, with weeder following. The hay crop on the five acres was fully fifty per cent. heavier than on the ten acres. It was so heavy in parts that the mower could not properly divide it.

It was a complete demonstration of the profitability of heavier seeding. And, also, it demonstrated the superiority of harrowing after the drill, then sowing the seed, rolling, and stirring the surface as a finisher

And
pounds
be crazy
crop as
After
wrong,
his view
North

A

EDITOR

There
regarding
solution
mut. S
solution
parative
the Onta
periment
clusively
solution
of 1 pint
prevent t
at the s
apacity
Durin
have bee
quality of
of forma
his fall
created t
strength

The v
cions of
prevent s
the vital
recommen
prevent
involves
ommon

The in
er's Adv
method o
ty it requ
upon the

Spring
alin, if p
Stinking
paratively

of formal
gallons of
and Stin
but as all

to the sta
ure of su
1 pint of
the grain
te the fo

the grain
then spri
every gra
the pile w
or over ni
out thinly
will haste
enough fo
about two

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

It is a
ft is dry
eed grain
to allow f
days befo
placing in
method de
every grain
upon taki
seed is no
muddy sa

And yet one man who heard we had sown twenty pounds of seed per acre delivered himself thusly: "Must be crazy!" Later he was one who marvelled at the crop and asked me about the quantity of seed sown. After all, when we say that a man is crazy or dead wrong, we simply mean that we don't just understand his viewpoint. W. L. MARTIN, Northumberland Co., Ont.

Another Word About Smut.

EDITOR THE "FARMER'S ADVOCATE": There appears to be a great difference of opinion regarding the strength and quantity of the formalin solution to use in the treatment of seed grain to prevent smut. Some men use and recommend a very strong solution of formalin, while others use with success comparatively dilute solutions. Experiments conducted at the Ontario Agricultural College and at numerous Experiment Stations in the United States have shown conclusively that a solution of standard formalin (a 40% solution of formaldehyde gas and water) of the strength of 1 pint to 40 gallons of water is sufficiently strong to prevent Oat Smut and Stinking Smut of Wheat, and at the same time does not reduce the germinative capacity of the seed.

During the last two or three years several instances have been brought to the writer's attention of the vitality of seed grain being destroyed by strong solutions of formalin. One correspondent last fall stated that his fall wheat failed to come up due to the fact that he treated the seed with a solution of formalin of the strength of 1 pint of formalin to 10 gals. of water.

The writer is convinced that the use of strong solutions of formalin in the treatment of seed grain to prevent smut involves considerable danger of injury to the vitality of the seed and, therefore, is not to be recommended. The comparatively dilute solutions will prevent the smut and at the same time their use involves no danger to the vitality of the seed if ordinary common sense precautions are taken.

The immersion method, as described in "The Farmer's Advocate" of March 16th, is the most reliable method of treating grain with formalin, but unfortunately it requires more time and labor than can be spared upon the average farm.

Sprinkling the seed with a dilute solution of formalin, if properly done, will prevent Oat Smut and Stinking Smut of Wheat, and is at the same time comparatively easily and quickly accomplished. A solution of formalin of the strength of 1 pint of formalin to 40 gallons of water will destroy the spores of Oat Smut and Stinking Smut of Wheat adhering to the seed, but as all the formalin sold does not appear to be up to the standard strength it is advisable, in order to be sure of success, to use a little stronger solution, viz: 1 pint of formalin to 30 imperial gallons of water. Place the grain to be treated on a clean canvas or floor; sprinkle the formalin solution over the grain, then shovel the grain into another pile so as to mix it thoroughly; then sprinkle and shovel again. Repeat this until every grain is moistened by the solution. Then cover the pile with sacking and leave for three or four hours or over night. At the end of this time spread the grain out thinly to dry; shovelling it over three or four times will hasten drying. Each gallon of the solution is enough for a little more than one bushel of oats or about two bushels of wheat.

It is advisable to sow the treated seed as soon as it is dry enough to run freely through the drill. If the seed grain is swollen when sown the drill should be set to allow for this. If the seed is to be stored for several days before sowing, dry very thoroughly before replacing in bags or bins. Success in the use of this method depends, first, upon thoroughness in application (every grain must be wet by the solution) and, second, upon taking proper precautions to see that the treated seed is not re-infected by coming in contact with smutty sacks, bins, floors or drills.

J. E. HOWITT, Botanical Department, O. A. C.

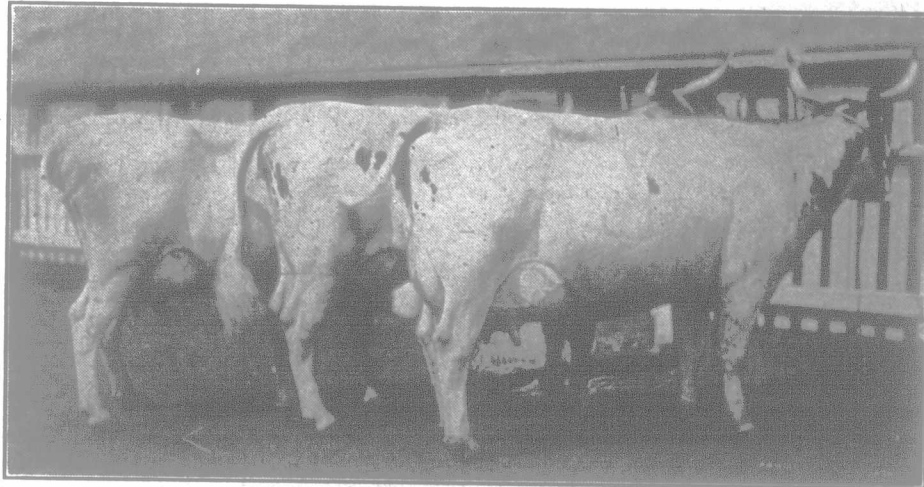
THE DAIRY.

Testing of Dairy Products.

In a bulletin recently issued by the Dairy and Cold Storage Branch of the Federal Department of Agriculture, under the title of "The Testing of Milk, Cream and Dairy By-products, by means of a Babcock test," and written by J. F. Singleton, chief inspector of dairy products, the use of the Babcock tester is given in detail. Care that should be taken of the component parts of the tester, the measurements advisable and the methods which should be employed in doing the work are clearly set forth. Qualities most emphasized are exactness, cleanliness and temperature. The use of the Babcock test has been widely adopted and successfully applied in the testing of cream, skim milk, buttermilk, whey and cheese. This test has been of immense value to the dairy industry since it has provided a means of determining the fat production of individual cows and the making of a more equitable division of cheese factory and creamery proceeds. It has been used in detecting losses of fat in such by-products as skim-milk, buttermilk and whey, and in detecting adulteration such as watering and skimming of milk. The writer points out that while the test is simple to operate, great care and accuracy must be exercised in all details of the work or the results will be inaccurate and misleading. The apparatus employed in making a test of the various dairy products, and how to make a test is clearly out-

lined. Emphasis is placed on securing a representative sample of the products to be tested. If the sample is not representative, the test is of little value. Where it is not possible to make a daily test, a preservative may be used, and one composed largely of corrosive sublimate is recommended. The quantity of preservative to use depends on the quantity of milk that will be placed in the sample bottle, the length of time the sample is to be kept, the temperature, and the degree of ripeness of the milk composing the sample. The composite samples are tested in a similar manner to the sweet milk, and the results should be the same. Results of testing cream, using the pipette and scales to measure the samples, are to the effect that with sweet cream the test from the weighed sample was 34.7 per cent., as

soiling crop makes it possible to feed more stock per acre than depending on pasture alone. Soiling crops, as a rule, will feed two or three times the amount of stock as the same acreage in pasture. If it were not for the labor involved in cutting and feeding the green feed, there is no doubt but that the system would be more generally and extensively followed. Considering the feed alone, pasturing is an expensive method of feeding dairy cows, but the scarcity of labor makes complete soiling almost impossible. However, in order to obtain the most profit from summer dairying, provision should be made for a feed to supplement the pasture during a dry spell. Possibly the silo is one of the best means of providing this extra feed, and in the dairy districts two silos on one farm are quite common.



Three Cows, Typically Ayrshire.

compared with 32.4 per cent. with cream from the same can measured with a pipette. Similar results were obtained when testing sour cream. The scales are considered to be a much more accurate method of measuring samples of cream than is the pipette.

Every dairyman should make a practice of testing the individual cows in the herd in order to determine which are the most profitable. The old method of paying for milk on the pooling system will soon be discarded, and all milk sold to factories will soon be paid for according to test. Babcock testers are not expensive, and small-sized machines can be purchased which are suitable for the farm. By following the directions given in the bulletin, anyone may test milk or any of its products. The bulletin is number 45 of the Dairy and Cold Storage Series, and can be had upon application to the Publication Branch, Department of Agriculture, Ottawa.

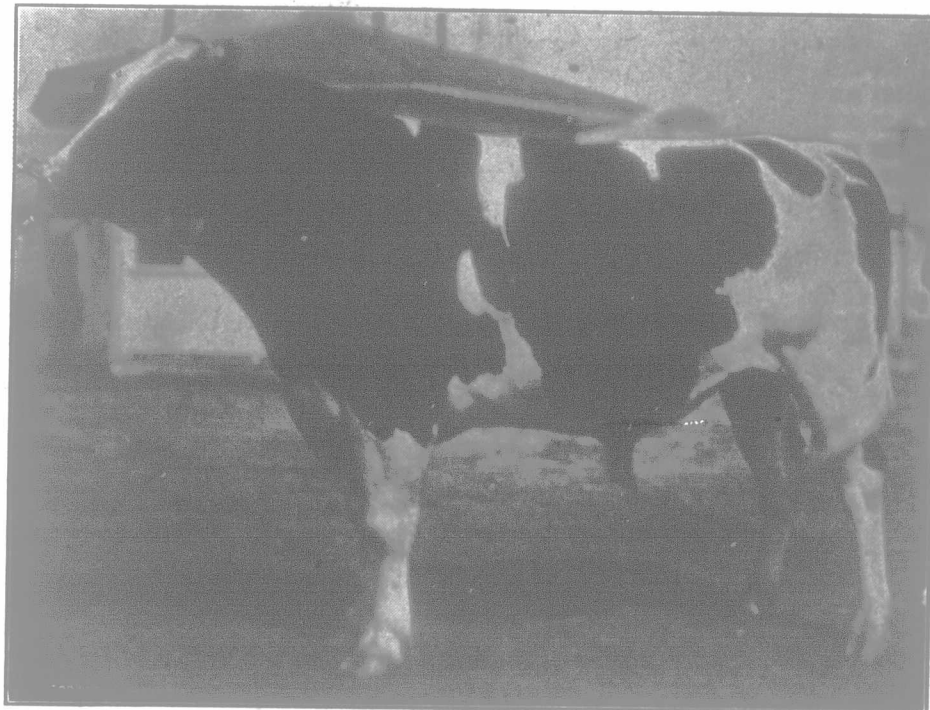
Soiling Crops to Supplement the Pastures.

As a rule, the flow of milk from most herds materially decreases during the months of July and August

store feed for summer use.

Alfalfa is a valuable soiling crop, as it is ready to cut early in the season and continues to make rapid growth throughout the summer. Where it can be grown its value as a feed is well known. Whether fed green or as hay it comes nearer to taking the place of concentrates in the ration than most crops grown on the average farm. A few acres will furnish a large amount of feed. By the time the field is cut over once the part first cut frequently has attained sufficient growth to permit of cutting again. Alfalfa has not proved a successful crop on all farms. Where it cannot be grown, a small paddock near the buildings might be sown to sweet clover. This new crop grows rapidly, and some feeders claim that the stock will eat it readily. If it is used as a soiling crop, it should be cut before the stalks become woody. In chemical composition sweet clover is similar to alfalfa. Red clover is in the same class as alfalfa as a soiling crop, but does not grow as great a bulk of feed throughout the season. It is not ready for cutting quite so early, and the new growth does not come on as quickly.

Peas and oats may be sown for a soiling crop, as they form a fairly good balanced ration and are relished by the cows. If several seedings are made at intervals



Lakeview Dutchland Hengerveld 2nd.

First-prize two-year-old Holstein bull at the Canadian National Exhibition, Toronto, 1915.

when the pastures become short and dry. Once there is a falling off in the flow, it is almost impossible to bring it back to normal again, even with the most careful feeding. This difficulty may be averted by providing for a supply of fresh, succulent feed to supplement the pastures during the period of hot, dry weather. The summer of 1915 was ideal for dairymen, as pastures kept fresh throughout the entire season, consequently a good flow of milk was maintained right up to time of stabling the cattle. It is impossible to say what the coming season will bring forth, but the dairyman who plans ahead and has a supply of green feed in readiness is prepared for any emergency. A

the farm during the busy season, and that is probably the reason more do not grow such crops to help out the pasture. But if for fifty cents of extra labor the returns from the cows can be increased by one dollar, it will be good business. A small amount of green feed to supplement the pasture will materially aid in keeping up the milk flow during the late summer.

If co-operation is to accomplish its purpose, its aim must be to help the individual through the community, not at the expense of the community.

The silo, to supply summer feed, is considered a necessity on some farms. A large bulk of feed may be grown on an acre sown to corn than if sown to any other crop, and the silo makes it possible to store and keep the corn crop for an indefinite period. A year from the time corn is put in the silo the silage is as palatable and valuable for feed as it was a week after it was ensiled. The dairy farm without a silo will be an exception in the distant future, and on an increasing number of farms the second silo will be erected to

of a week or ten days, it will prolong the feeding period. When the crop is not all required for green feed, it might be cured for hay, as oats and peas cut in the milk stage and cured make very good fodder. The proportion recommended to sow is two bushels of oats to one of peas. If there is a possibility of a scarcity of hay, owing to meadows being winter killed, oats and peas might profitably be sown with the intention of cutting and curing for hay.

The latter part of the season green corn could profitably be fed to supplement the pasture. Rye and millet may also be grown for soiling crops but are not quite so rich in digestible nutrients as some of the crops previously mentioned.

Growing and feeding soiling crops increases the work on

HORTICULTURE.

The Fruit-Tree Leaf-Roller.

BY L. CAESAR, PROVINCIAL ENTOMOLOGIST.

There are two moderately common Leaf-rollers that attack fruit trees, especially apple and pear, in Ontario. One of these is known as the Oblique-banded Leaf-roller from two broad bands that run obliquely across each of the front wings of the adult moth, and the other the Fruit-tree Leaf-roller. The former of these insects though found in almost every orchard, has not to my own personal knowledge ever caused any appreciable amount of damage. The same has been true of the latter species until about three years ago. Up to that time it had evidently been kept in check by parasites, diseases or other factors, but for some unknown reason these controlling forces have of late become weakened so that this insect is at present one of the most destructive fruit pests and one of the most difficult to combat.

From what has been said it will easily be inferred that this is not a new pest. It occurs from one end of the province to the other, but fortunately up to the present not so far as the writer can tell, not been very abundant and therefore very destructive in only three orchards. One of these is situated near Trenton, another near Hamilton, and the third near Simcoe. In the first of these approximately 50 per cent. of the fruit during the last two years has been either destroyed or rendered culls. In the Hamilton orchard the loss has not been nearly so great with the exception of a few trees which suffered severely. At Simcoe from 40 to 50 per cent. of the apples, as nearly as one can judge, were injured in the infested part, about 10 acres, of a large 60 acre block of apples.

A peculiarity of the insect is its habit of centering its attack upon a single orchard and scarcely doing any damage at all to neighboring orchards. Sometimes it will, as in the case of the Simcoe orchard, attack severely not the whole orchard but only a certain portion of it. From this peculiarity one feels hopeful that the great mass of the orchards in the province may escape severe attack even though a considerable number should become badly infested.

We are not the only province or state troubled with this insect, for during the last few years it has become a source of worry to fruit growers in New York and several other states. It has been troublesome for many years in Colorado, but is gradually becoming of less importance here. I feel sure that since it is not a recently-imported pest that in Ontario the forces which have kept it in check in the past will in a few years again gain the upper hand and reduce it to a position of insignificance. In the meantime it is well to know about its life-history, habits and means of control.

Description of Adult and Larva.

The adult is a small moth about half an inch long when the wings are closed, but with a wing-expanse of nearly one inch when these are stretched out. The upper wings are a rusty brown with several silvery white markings; the hind wings are a light ashy brown without any markings. The larva, when full grown, is a somewhat slender caterpillar nearly one inch long, and of a pale yellowish green color with a black head. They are usually to be found concealed in a leaf loosely rolled up. When disturbed they quickly wriggle out of the leaf and drop down on a silken thread. When danger is past they crawl up by this thread to the tree again.

The Oblique-banded Leaf-roller larva looks very much like this one and has the same habits but is, as has been said, seldom at all abundant.

Nature of the Injury.

The larvae of the Fruit-tree Leaf-roller attack the leaves, fruit-buds or blossoms, and also the fruit. The attack on the leaves begins about the time they begin to open. At this date the little larvae have just hatched out of the egg. They at once work their way in among the unfolding leaflets, fasten them together with a few silken threads and feed upon the inner tissues in this sheltered position, where it is clear one cannot reach them with a spray mixture. As the leaves get larger they roll them either up or down but usually up, keeping them in this position by a little silken web. In these they feed, often eating holes right through them or leavering part of the top or base. The fruit buds are often bored into and destroyed, and, when the blossoms have opened, these are often webbed together and some of them destroyed. Once the fruit begins to form the caterpillars prefer these to anything else and, coming out of their hiding places, they eat holes in them. These holes frequently extend to the core, but often do not go so deeply. The worst injured apples drop; the rest remain on the tree but are deformed and seldom are good enough to grade as anything but culls. So that it is by the attack on the fruit that the chief injury is done.

Pears eaten suffer quite severely; plums are also subject to attack, but so far the chief injury has been to apples. The pest is not confined entirely to fruit trees as it also feeds and breeds to some extent on forest trees also. In the orchard the caterpillars will, where there are weeds or clover, drop down in large numbers and feed on these, but we have never found eggs on any of these plants but only on trees.

Brief Life-History.

In winter the insects are in the egg stage. The eggs are laid in small clusters and nearly always on the upper

side of two or three-year-old twigs. So that this is the place to hunt for them. The clusters are, as seen in the illustration about one-quarter of an inch or less in length and are oval and dark brown in color. After hatching they soon become nearly white and show the little holes out of which the caterpillars came. Eggs do not begin to hatch until the leaf-buds have started to burst. Hatching, however, continues for nearly a month, especially if the weather is cool. The young larva, as already described, attacks first the opening leaflets, then the larger leaves, fruit-buds, blossoms and fruit. About the middle of June they begin to be full grown and by July 1 moths may be seen in the orchard. During the day the moths conceal themselves among the foliage, but, if the branches are shaken, they will rapidly fly out with a zig-zag motion and usually go down into the grass or weeds to hide. Late in the evening they begin to fly around, mate and lay their clusters of eggs on the twigs. The last of the moths is usually dead by the end of July, and as there is only one brood, the insect from July to the next May remains in the egg stage.

Natural Enemies.

In our study of this insect we found that there were several kinds of parasites that attacked it, both

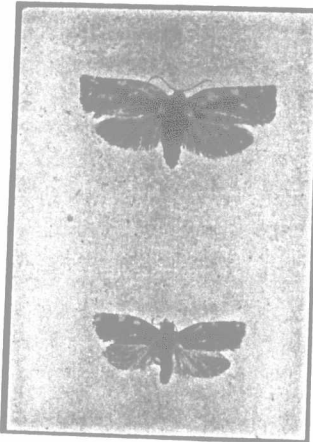


Fig. 1—Moth of the Fruit-tree Leaf-roller; the larger one is a female, the smaller a male. Both natural size.



Fig. 2—Full-grown larvae of the Fruit-tree Leaf-roller. Natural size.

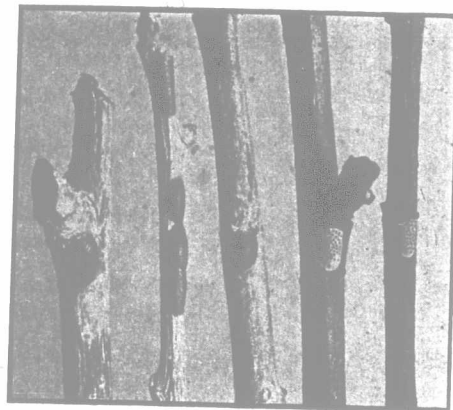


Fig. 3—Egg clusters of Fruit-tree Leaf-roller on apple twigs; the whitish ones to the right have hatched, the others are unhatched. Natural size.

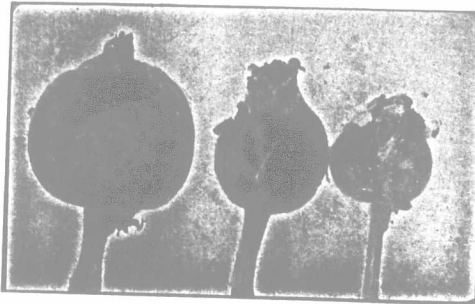


Fig. 4—Work of Fruit-tree Leaf-roller on young apples. Natural size.

in the larval and pupal stage. The larvae were also subject to disease. Birds and predaceous insects destroyed some, but it was quite clear that all these forces combined were not at present sufficient to keep it in check.

Means of Control.

Arsenical Poison—Anyone who has ever seen the tattered foliage, and the holes eaten in the apples would think that all that was necessary to control this biting pest would be to spray the trees a couple of times with arsenate of lead while the injury was being done. I also had great hopes of success by this method, but, when I tried it I found that arsenate of lead, no matter when or how carefully applied, did not kill more than 50 per cent. It often did not seem to destroy even that many. The reason for this is that although the larvae will die, if they eat the poison while they are still small, yet their habit of feeding inside the little webbed leaflets prevents most of them from getting any of the poison on their food, and later on when they are half-an-inch or so in length they seem to be able to eat the poison and not be killed. There is no doubt, however, that arsenate of lead does kill some and we strongly

advise any one troubled with this pest to give the trees two applications of arsenate of lead (4 lbs. to 40 gals. of dilute lime-sulphur or Bordeaux mixture), the first application being just before the blossoms open and the second just after they fall. These are two of the regular sprayings that every apple and pear orchard should receive even if this pest were not present. Both sprayings should be very thorough and every leaf, if possible, be covered both from above and below.

Scaleside—This is a miscible oil spray. It costs about \$30.00 per barrel, and should be used at a dilution of 1 gal. to 15 gals. of water, so that 1 barrel will make 16 barrels of spray. When diluted the spray looks like milk and is easy and pleasant to use. This or some other good miscible oil is the only substance yet known that will give real good results against this pest. The mixture must be applied just before the leaf-buds burst in spring and at that date will destroy the eggs or prevent their hatching, but will not do so if applied in the autumn. Great care, however, is necessary to see that every egg mass is thoroughly wet; a mere light mist spray will, therefore, not do. In order to save material and make the spraying easier, badly infested trees should be severely pruned and the tops, if very high, lowered. Then in spraying we must keep in mind that the eggs are laid on the twigs, and not on the branches, hence the former must be carefully sprayed while the latter, unless there is San Jose scale present may be disregarded. It is very difficult to cover every twig and so one should examine his work as he goes along and see that this is being done. A strong wind or high pressure to force the spray right through the tree helps greatly. The stronger the wind the better.

Cultivation—We found many larvae feeding on weeds, clover, etc., and also found many pupae on the ground; hence we believe that good cultivation and discing throughout June would destroy many larvae and pupae. The last discing should be as deep and as late as is safe for the district. In some districts this would be about the last week of June, in others not until about July 10.

Chickens—Where fruit growers have many chickens these could be kept in the worst affected portion of the orchard and would destroy great numbers of the larvae as they dropped down on their silken threads, or pupae whenever these were on the ground or on weeds, but poultry would give best results where the orchard was cultivated because they would see the insects more easily then.

Proposed Organization for the Niagara District.

Last season, 93,808 tons of fruit left the Niagara Peninsula in freight and express shipments. This tonnage was worth between five and six million dollars when valued at prices prevailing in 1915. On account of the perishable nature of the product and the lack of adequate organized machinery for the distribution of the fruit, it has been felt that an effort should be made to launch a growers' organization to minister to the needs of the producers located between Hamilton and Jordan. That area between Jordan and Niagara-on-the-lake does a different kind of business; they do not ship so many small express orders and they consign more fruit, it is said, than is the case in the western end of the District. A movement has been on foot to amalgamate the producers and selling agencies in the western half of the Peninsula, or to form a large co-operative association that would be essentially a growers' organization, controlled by the growers. The success of such an institution would depend largely on two factors: The manner of organizing and the men who were placed in charge. F. C. Hart, of the Dept. of Agriculture, with the assistance of J. R. Hastings of Winona, and others, has been instrumental in bringing the growers' organization to the attention of the producers. Several meetings have been held, and plans have been discussed, but at no time has a complete and comprehensive outline of the proposed organization been presented to the fruit growers of the District for their consideration. The large organizations on this continent have different constitutions, by-laws, rules and methods of transacting business. Some modifications of these have been suggested. In a recent interview, Mr. Hastings outlined to a representative of this paper the scheme he thought most adaptable to the District, and the conditions which exist there. His ideas are expressed in the following paragraphs:

Plans Not Suitable.

"The western end of the Peninsula, at least," he said, "offers an ideal field for the venture, but, let me say, that no attempt should be made to put such an organization in operation until every detail has been put in perfect shape and the whole structure made ready for the work to be done. This will be no easy task, and will require the active assistance and support of those men who have many years' experience in the marketing of the fruits of the District as well as in all other branches of the industry. There are many problems to solve, many situations to meet which are peculiar to our particular district and its products, and which will have to be dealt with in a special way since there are no experiences, that I know of, which will be a sure guide for us.

"Two plans of organization have been considered one patterned after the California Fruit Growers Exchange, and others already in operation both in the United States and Canada. The California Exchange is simply the selling agency for a great many local concerns scattered over hundreds of miles of territory, handling the products of these local organizations to

car lots to ment. V the Niaga our needs

When Mr. Hast the distric co-operati ers. That the growe and each shipping s and the c twelve or chosen by or from th from amo number to executive t manager. the differ thoroughly organizati ing the ins "The thoroughly supervisors visors' du and the g sary, to th as planting

On

On the called Vine is located This is the house, and benefactions loved so we famed Ritt natural env and agricult In the sum and so is vicinity. A of Nature, summer, pa the fruit is call at the E be stamped and genia but what th able visit. and over 70 chards and out-door lab and the exp would not b

Early in stations thro minister to Experiment of a standing Association, a feasible sch five stations Agricultural Horticultur Smith, A.H tion, L. Wol The first me the Presiden The stations established intention of expert know Fruit Growe with the Ass Department and two sub- were brought 15 in all. In the Provincia Vineland. T a foreman w work was do late H. S. Pe time the poli Vineland Sta certain specia years had be tano Fruit G of the Depar is to deal wit a manner as in charge of e tion work so vegetable gro officer in the in 1912. Late in Olericultur ning and the assistant in P

car lots to the large centres and mostly on consignment. While this plan might in a measure succeed in the Niagara Peninsula it is not the one best suited to our needs."

The Proposed Plan.

When asked to outline the scheme he had in mind, Mr. Hastings replied: "I would suggest organizing the district from Hamilton east to Jordan under one co-operative company controlled entirely by the growers. That area to be cut up for the convenience of the growers, so as to facilitate business, into divisions, and each division to have one or more receiving and shipping stations. The head office to be in Grimsby, and the organization to be managed by a board of twelve or fourteen directors. The directors to be chosen by the members; two from each district, or from the district as a whole. The directors to select from among themselves three or four of their own number to act as an executive committee, and the executive to act in close co-operation with the general manager. Each receiving and shipping station in the different divisions to be in charge of a man thoroughly qualified to handle the business of the organization to be transacted at that station, including the inspection of fruit."

"The organization to have one or more men thoroughly qualified by experience to act as general supervisors over the entire district. These supervisors' duties to include the inspection of orchards and the giving of advice and guidance, when necessary, to the individual members in all such matters as planting, pruning, spraying, cultivating, picking,

packing, etc. The supervisor and the various employees in charge at the respective receiving and shipping stations, in the various divisions, to be under the direct control of the general manager."

"This proposed organization to be known as The Growers' Organization. This intends one company only, operating under one charter, and under the control of the growers. Should such an organization include in its membership practically all of the fruit-growers in the District, it would not be only advisable but, perhaps, absolutely necessary, that some or all of the present dealers maintain their present selling organizations, and assist as they are now doing in the distribution of the fruit products, and to act in close co-operation with the Growers' Organization. This would simply mean that the dealers instead of getting their supplies directly from the individual growers, as at present, would deal with The Growers' Organization. There is no good reason why an agreement could not be perfected that would be mutually satisfactory and operate for the general good of the individual fruit-grower and the industry as a whole."

"It is a question whether the Growers' Organization should also act as a selling factor or leave the distributing end of it to the dealers and perhaps the small co-operative companies now in existence; the chief aim of the Growers' Organization to be to raise the standard of our products and to create a greater uniformity of packages, packing, etc., to reduce the cost of handling, and to enable the fruit-grower to receive a reasonable profit from his operations without making it necessary to increase the

price to the consumer. If it is not possible to conclude a satisfactory agreement between the proposed Growers' Organization and the dealers, who are now our largest distributors, a wiser plan would be to limit the proposed organization and include in its membership only such growers as might supply quantities of fruit, as the organization itself, acting entirely as its own distributing and selling agency, could handle to good advantage. The organization to be extended as the facilities for proper distribution could be developed."

"There seems no good reason why a second organization for the eastern end, of the Peninsula could not be organized and developed along the lines indicated for the western end. It has also been suggested that a third organization to include the district from Hamilton to Toronto be considered, and the three sections, through their separate organizations, work in entire harmony to the mutual advantage of all."

When asked regarding the probable expense of operating such a machine as he had described, Mr Hastings remarked: "The cost of operating such an organization should not exceed 6 1/2 per cent. of the receipts, and a competent general manager should hew it to 5 per cent. It would cost more on the start, but when the business became established and things got running right, between 5 and 6 1/2 per cent of the total business transacted should meet all expenses. Furthermore, supplies could be handled for the members, and a small profit on these would tend to meet some of the charges of operating the association and reduce the expenses."

Ontario's Horticultural Experiment Station

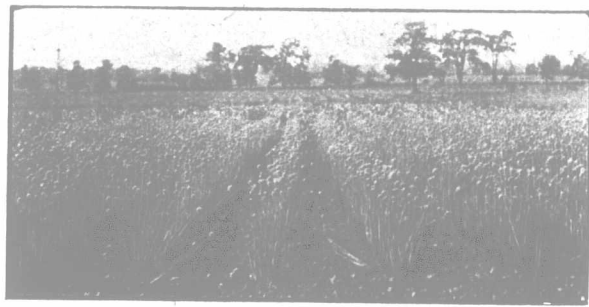
On the bank of Lake Ontario, at a little station called Vineland about six miles west of St. Catharines, is located Ontario's Horticultural Experiment Station. This is the home community of the late M. F. Rittenhouse, and half of the Station's land is one of his many benefactions to the community and to the country he loved so well. This is the location, too, of the far-famed Rittenhouse School, noted for its beautiful natural environments and for the atmosphere of nature and agriculture which the children are allowed to enjoy. In the summer this is one of Ontario's beauty spots, and so is the Experiment Station in the immediate vicinity. Anyone interested in fruit, or in the beauties of Nature, should endeavor, sometime through the summer, particularly in peach-blossom time or when the fruit is ripe, to visit this part of the country and call at the Experiment Station. This invitation cannot be stamped as official, but knowing, as we do, the capable and genial Director, F. M. Clement, there is no doubt but what the pilgrim will enjoy a pleasant and a profitable visit. There are 90 acres in the Station Farm and over 70 experiments are now under way in the orchards and vineyards on the land. It is one immense out-door laboratory. Before describing the surroundings and the experiments in detail, a brief, historical sketch would not be inopportune.

An Historical Sketch.

Early in the days of experimental work in Ontario, stations throughout the Province were established to minister to the needs of the fruit grower. The Fruit Experiment Stations of Ontario grew out of the report of a standing committee of the Ontario Fruit Growers' Association, appointed for the purpose of formulating a feasible scheme for fruit experimental work. In 1894 five stations were established. The President of the Agricultural College, then Dr. Mills, Professor Hutt, Horticulturist at Guelph College, D. Nichol, A. M. Smith, A. H. Pettit, and the Secretary of the Association, L. Wolverton, made up the first board of control. The first meeting is recorded as having been held in the President's office, O.A.C., Guelph, April 5, 1894. The stations were not provincially owned, but were established largely for variety testing, and with the intention of making use of the special training and expert knowledge of some members of the Ontario Fruit Growers' Association, working in co-operation with the Association, the Agricultural College, and the Department of Agriculture. In 1895 five more stations and two sub-stations were established. Other stations were brought into existence, until by 1901 there were 15 in all. In 1906 the late M. F. Rittenhouse presented the Provincial Government with a block of land at Vineland. The balance of the property was purchased, a foreman was placed in charge, much of the cleaning work was done at once. In the following year the late H. S. Peart was appointed Director, and from that time the policy was to concentrate more work at the Vineland Station, gradually withdrawing it, except in certain special cases, from the various stations that for years had been working in co-operation with the Ontario Fruit Growers' Association, and the Fruit Branch of the Department of Agriculture. The policy to-day is to deal with special horticultural topics, in as specific a manner as possible; to have a specially trained man in charge of each branch, and to carry on the investigation work so it will be of practical value to fruit and vegetable growers of Ontario. F. S. Reeves, now an officer in the Canadian army, was appointed Hybridist in 1912. Later, O. J. Robb was made assistant director in Olericulture. P. E. Culverhouse, assistant in Canning and the study of By-products, and A. G. Harris assistant in Pomology.

The Station Equipment.

In the accompanying illustrations will be seen some of the buildings of the Horticultural Experiment Stations. In the Administration Building are the offices of the staff and there records are kept. A lodge for the farm help can be seen to the left and a farm house is visible in the background. A coldstorage is used for cooling and preserving fruit, and a small greenhouse makes it possible to germinate many kinds of seeds, and thus gain a year in conducting experiments with various kinds of plants. The farm was carefully laid out in blocks and all planting has been systematically



Onions in Flower.

These onions were grown from seed at the Horticultural Experiment Station.

done, looking well to the future. An irrigation system has been installed, making it possible to conduct investigations with artificial "rain" and arrive at conclusions relative to the value of irrigation in producing fruit and vegetables.

The Experimental Work.

It has been stated previously in this article that over seventy experiments are in progress on the Station Farm. This, however, does not convey to the reader the full significance of the work. In one test in pruning and cover crops 600 trees are involved. Trials with varieties are called one experiment, but in the one experiment regarding the varieties of apples there are 150 different kinds, in peaches 140 varieties, in plums

130 varieties, in cherries 56 varieties, and of each variety there are from two to four trees. The different kinds of apples comprise one experiment, peaches another and so on through the fruits. In addition, there are 135 varieties of grapes; 11 varieties of asparagus, 67 of strawberries and 26 of tomatoes. To make records regarding the qualities of so many varieties is indeed a task which only the investigator can appreciate, for to him accuracy means more than it does to the lay mind, and accuracy, in its fullest sense, is necessary in this work.

The duty of the Hybridist is an interesting but laborious one. He crosses different varieties or strains of varieties and watches and waits for results. The flower of one plant is fertilized, by hand, with the pollen from another bloom. The resulting seed is sown and the plant and its fruit studied. If ten per cent. of these plants are uniformly good and show any valuable characteristics, the Hybridist is satisfied, but his work does not stop there. He must continue to select and eliminate until he has the multitudinous seedlings limited to two or three. Yet all the time it is necessary to make notes and describe each individual plant and preserve the records, for they are valuable when conclusions must be drawn regarding the different crosses. The work of deriving or originating new varieties depends largely on the process of selection and elimination. This must go on year after year. For instance, only 275 strawberry plants were selected from 6,800 seedlings as worthy of further study, and out of 1,300 raspberry seedlings only 40 were retained for further tests.

One interesting cross now under study is the Brandywine strawberry on the Williams. The latter is a seedling from the Sharples, itself a poor variety, but the Williams is a prolific bearer and a good shipper. The Brandywine, with excellent quality, is a seedling from the Cumberland, a good kind, but itself a cross from the wild strawberry. Thus the Brandywine has many good qualities, and with them it is naturally strong and hardy, deriving its ruggedness, perhaps, from its progenitor of the wilds. These qualities make the Brandywine a good parent. The seedlings of the cross are exceptionally strong and much faith in the outcome is maintained.

This is only one phase of the work. The field tests relative to irrigation, pruning, spraying, cultivating and cultural methods, as a whole, are of more immediate



Buildings on the Horticultural Experiment Station.

In the foreground are the Director's Residence and the Administration Building.

and practical interest to fruit and vegetable growers at large.

It would be impossible in the short space available to describe in detail the experiments that are being carried on and the results that have been obtained. However, a few of the important ones may be mentioned, for the findings in these cases have a direct bearing upon fruit and vegetable growing generally.

Irrigation

The investigations carried on with an irrigation plant installed on the farm have led the Director to disagree with some growers relative to the use of water on early vegetables. For those crops which come off early, Mr. Clement states that forcing is more particularly a matter of soil tilth and temperatures. He asserts that where the proper tillage has been given, and where cultivation is conducted thoroughly, there is usually plenty of water in the soil, up to about the third week in June. At each application at the Horticultural Experiment Station, about three-fifths of an inch of water is applied. This was found to lower the temperature of the soil from 3 to 4 degrees at a depth of 6 inches. The effect would be even more noticeable at the surface, on account of evaporation. These figures apply to the latter part of May and the first three weeks in June, when there is usually sufficient water in the soil, and the experiments have shown that by thorough cultivation, such as market gardeners give, proper tilth can be maintained and the temperatures kept higher than where cold water is applied. For crops that come off in July and August, good results have been obtained from irrigation. In the case of strawberries an increase of 12.35 per cent. of fruit was derived from irrigation where the berries were mulched; where not mulched an increase of 93 per cent. was obtained, and there was no difference in the quality of the berries on irrigated and non-irrigated plots. This is at the same time an argument in favor of mulching. Asparagus also responded to irrigation, but there was no increase in beets or carrots—in fact, it seemed to induce an excessive growth of fibrous roots which was objectionable. In onions the irrigation induced mildew. Raspberries could not be forced in this way, as the application of water on the berries tended to make them soft.

Thinning Apples.

In 1914 an experiment was launched in thinning apples. Forty-two large trees were selected and one-half of them were thinned. On an average 3,191 apples were removed from each tree. An effort was made to leave only one apple to a spur, and often not that if there was any likelihood of the fruits touching each other when they attained full size. The work was done from the 8th to the 16th of July, when the fruit was about the size of shelled walnuts, or smaller. Thinning shears were used so no injury could be done to the spurs or the buds responsible for the next season's crop. The average cost of thinning was 58.1 cents per tree. There are other items of expense and profit that might be enumerated here, but suffice it to say that a cash loss of 17.1 cents per tree was recorded, and these results were reported by Mr. Clement to the Ontario Fruit Growers' Association Convention, in the fall of 1914. At the same time he expressed the hope that the crop of apples, in 1915, on the thinned trees would be sufficiently superior to the crop on the unthinned trees to make the practice profitable and practicable. The actual result was that the thinned trees gave no more fruit in 1915 than did those that were not thinned. In the accompanying illustration may be seen one tree from which 7,000 apples were taken. In many cases the fruit was cleaned from the spurs with the expectation of inducing those spurs to produce fruit the following year. The results, however, were disappointing. This experiment is to continue for a five-year period, and there is still time for results favorable to thinning to be forthcoming.

Pruning Young Trees.

In another test block there are over 600 trees which form an experiment started in 1912. The aim was to ascertain correct systems of pruning, and the most efficient cover crops. One part was thoroughly pruned in the spring; another block was pruned moderately in the summer, and another block was allowed to go unpruned. The outcome of this trial to date is that the unpruned trees, especially in the early bearing varieties, such as Duchess, Wageners, etc., bore fruit in 1915, while the thoroughly pruned trees bore none. The summer pruned trees gave about half as much fruit as did the unpruned trees, and they do not appear as thrifty as do those trees pruned thoroughly or those which went unpruned. The best shaped trees are those that were pruned, but they have not borne fruit. The Director stated that pruning young trees, in his belief, tends to check the fruiting habit, and his remarks were applicable to plums and peaches as well. Peaches, of course, he said, are liable to grow too high if not pruned.

No Need of Lime.

In order to determine the value of lime on the land of the Horticultural Experiment Station, lime-rock dust was applied at the rate of from 2 to 4 tons per acre, and one-quarter of the amount was lime enough to be available at once to counteract any acidity. In 1914 and 1915 neither cover crop, intercrop of beans nor fruit gave one ounce increase, or showed any indication of profiting by the application of lime. The trees were peaches, apples and plums. Burnt lime was also used, but the soil did not respond. Other experiment stations have reported beneficial effects from the ap-

plication of lime, but the indications are that the soil at this particular station is not lacking in lime.

New Varieties.

A few varieties which Mr. Clement says "might prove worth while" may be mentioned. In strawberries, the Superb and Joe are two. In peaches, the Arp Beauty is yellow flesh, cling-stone, and of the Elberta type. It is an introduction to the district. In plums, the Arch Duke, which is not commonly grown, is a heavy bearer, late, blue, an excellent shipper, and not subject to rot. Its season is between the Monarch and Grand Duke. In grapes there is the Hicks, which is much like the Concord, but earlier, and a heavier yielder. A local introduction of the sweet cherry tribe to the district is the Pelham, which gives much promise. These varieties mentioned are not superior to the standards we now have, but they are considered



One Tree in the Apple Thinning Experiment.

Over 7,000 apples were taken from this tree in thinning, and it produced eight barrels of marketable fruit.

quite the equal of or better than other varieties of their season. When the results of the numerous variety tests now under way can be compiled and published, there should be some valuable information for fruit growers. The vegetable seed produced during the first two years is being tried out this year in the endeavor to determine the relative merits of commercial seed and the home-grown product.

These are only a few of the lines under investigation at the Horticultural Experiment Station. Every phase of fruit and vegetable growing is being considered, while the Director, with his practical knowledge of the trade, is interested in every move that will tend to improve the facilities for the transportation of products and their distribution. The Station equipment is being used to this end.

Up to the end of February the number of men enlisted in Canada was over 290,000, and wastage from all causes had reached 43,700, or a little over 15 per cent. It must be remembered, however, that total casualties were only 22,000.

When prohibition comes into force, it is the duty of the government and of every individual in the area to which the Act applies to see that prohibition prohibits.



A Block of the Plum Orchard.

This illustration shows the plum orchard where the variety first is being conducted on the Experiment Station Farm. Other young plants are to be seen.

POULTRY.

Brooding the Young Chicks.

Allowing a hen to mother the young chicks usually makes the rearing of chicks an easy task. The hen endeavors to protect her brood from harm and furnishes the necessary heat to keep them warm. It is nature's way of raising chicks and less attention is required than when an artificial hen is used. Many poultrymen allow each hen to mother the chicks she hatches, whether they be many or few. This does not seem necessary, as one hen is capable of looking after from twenty to twenty-five chicks. It is a good plan to set several hens at one time, and when the eggs are tested about the ninth day, possibly two hens could cover the fertile eggs that were set under three hens. When the chicks

hatch, one hen could be given the two lots. Instead of having several hens trailing around with a few chicks, one hen could mother a large number and the other hens could go back to the egg-producing ranks again.

A small coop about 30 inches by 28 inches and 24 inches high is a satisfactory size for a hen and her brood. The coop might be placed in the yard or orchard and a small pen with wire top could be made to protect the tiny chicks from cats, crows or hawks if there is any danger from these robbers. The chicks should be reared on fresh ground. It is a mistake to leave the coops in the same place year after year.

Where a large number of chicks are raised, it is sometimes difficult to secure a sufficient number of broody hens. There-

fore, a brooder must be used to supply heat and protection. The young chicks never do well if allowed to become chilled. This may be one reason why there is sometimes a large mortality among chicks after they are placed in the brooder. The temperature of the brooder should only be a few degrees lower than that of the incubator, and chicks should be placed in the brooder without becoming subject to a draft. The proper temperature is from 95 to 100 degrees under the hover when the birds are put in, and the brooder should be clean. There are different kinds of brooders in use. The out-door kind serves the purpose for a small flock, but they do not provide accommodation for the chicks for any length of time. If the indoor brooder is used, it can be placed in a colony house which gives ample scratching room and protection for the chicks during unfavorable weather. The same house may be used for rearing the chicks and saves moving them from one pen to another. Small round hovers are used for the indoor brooders and give good results. The lamp is attached to the outside of the colony house and is so protected that the danger from fire is very much lessened. Heat is distributed in the hover, so that there is no necessity of the chicks crowding. One hover would be sufficient in a colony house that is six by eight feet in size, and would accommodate fifty or more chicks. In a large pen the number of hovers could be increased. As soon as the chicks are strong enough to look after themselves, the brooders can be removed, although chicks require heat until they are quite a size in order

to keep the few chicks in an ordinary box and an In the upper up the cent lamp. The rising through warm. Strip chicks are ta In the upper for the chick hen, and sm described cou

Chicks ha ficial heat. box and the keep them w inches high, number of c must be enla be placed in chicks may b to go in the turns cold, a old flannel an chicks in this necessity the

FAR

Results

The specia College, Guel were well at of the most s vince of Onta

The Regis follows: Ge 24; Ice-cream and Instructo

When it have been h that no bonu been offered and that stud all the course the showing i more proof i in dairying, a ness.

The Gener dairy classes,

Factory C E., 1031; 3, 1 5, White, J., 941; 8, Green Foster, W., 8 H., 880; 13, 15, Anderson, F., 845; 18, R C., 814; 21, S West, C., 707; 598.

Farm Dai gomery, Miss brough, R., 9 827; 7, McLar

Maximum The followi tions in the t are qualified to Davis, H.; Dav C.; Hammer, W.; Peterson, A.; Wallace,

Under the Diseases Act, 1916, governin products, or of State of Illinois is extended for 1916.

Toro

Receipts at West Toronto, Mon. April 10 cattle 2214 hog Quality of cat prices, 15 cent steers, \$8.65 to choice butchers butchers', \$8.10 bulls steady, \$ firm at last we quality cattle s one steer 1800 Montreal.

The total n the City and the past week

to keep them growing. An improvised brooder for a few chicks can be made by using two small boxes and an ordinary lamp. The lamp is placed in the lower box and an inverted funnel is placed over the chimney. In the upper box is a can which is made with a tube up the centre that connects with the funnel from the lamp. The can is filled with warm water and the heat rising through the tube in the centre keeps the water warm. Strips of flannel reaching to the back of the chicks are tacked in the box for them to nestle under. In the upper box a small scratching pen is divided off for the chicks to feed in. If anything happens to a hen, and small chicks are left motherless, a brooder as described could be made.

Chicks have been raised without a hen or any artificial heat. A number of them can be put in a small box and the heat generated by their own bodies will keep them warm. The box must not be over five or six inches high, and only large enough to accommodate the number of chicks put in it. As they grow, the box must be enlarged. The small sleeping quarters should be placed inside a larger box for protection. The chicks may be fed in the larger box and they soon learn to go in the small box to keep warm. If the weather turns cold, a jar of hot water could be wrapped up in old flannel and placed in the centre of the pen. Raising chicks in this way is not recommended, but in case of necessity the method may be used.

FARM BULLETIN.

Results of Dairy School Exams.

The special courses in Dairying, held at the O. A. College, Guelph, in spite of the general depression, were well attended, indicating that dairying is one of the most stable agricultural industries in the Province of Ontario.

The Registration of students by Courses was as follows: General 12 weeks' course, 43; Cow-testing, 24; Ice-cream, Soft Cheese and Specials, 8; Inspectors and Instructors, 10; total, 85.

When it is considered that these dairy courses have been held for twenty-five consecutive years, that no bonuses or special inducements have ever been offered to those attending the Dairy Classes, and that students are charged a registration fee in all the courses, except for Specials and Instructors, the showing may be considered excellent and is one more proof, if that were needed, of the interest taken in dairying, and the faith of dairymen in their business.

The General Proficiency list for factory and farm dairy classes, 1916, is:

Factory Class.—1, Howell, W., 1075; 2, Abbott, E., 1031; 3, Beninger, C., 997; 4, Pedersen, O., 997; 5, White, J., 951; 6, Silcox, C., 950; 7, Davis, H., 941; 8, Green, R., 941; 9, Peterson, P., 930; 10, Foster, W., 890; 11, Keilor, S., 890; 12, Deuster, H., 880; 13, Singleton, A., 876; 14, Dennis, R., 875; 15, Anderson, N., 861; 16, Leitch, A., 860; 17, Murray, F., 845; 18, Roy, E., 844; 19, Bain, G., 843; 20, Bell, C., 814; 21, Statham, I., 769; 22, Neal, R., 711; 23, West, C., 707; 24, MacKay, J., 658; 25, Cameron, D., 598.

Farm Dairy Class.—1, Minto, A., 1055; 2, Montgomery, Miss A., 987; 3, White, R., 956; 4, Risebrough, R., 911; 5, Giffen, G., 891; 6, Nimmo, W., 827; 7, McLaren, R., 743.

Maximum marks in each case 1,200. The following have passed the necessary examinations in the theory and practice of cow-testing, and are qualified to act as Supervisors of Official Testing: Davis, H.; Davis, O.; Deuster, H.; Healey, N.; Hamner, C.; Hammer, J.; Howell, W.; Nerkeley, F.; Nimmo, W.; Peterson, P.; Risebrough, R.; Ruby, E.; Singleton, A.; Wallace, D.; White, A.

Under the provisions of "The Animal Contagious Diseases Act," the Ministerial Order of January 8th, 1916, governing the importation of animals or their products, or of hay, straw, fodder or manure from the State of Illinois, together with all amendments thereto, is extended for a period of one month from April 8th, 1916.

(Sgd.) GEO. F. O'HALLORAN,
Deputy Minister of Agriculture.

The Church Must Stand United.

EDITOR THE FARMER'S ADVOCATE:

An article in March 16th issue, headed "The Church and the Rural Community," is suggestive of the place of the Church in the solution of the rural problem. It may seem foreign to the columns of an agricultural paper to discuss therein "Church Union" and "Church Leadership," yet in relation to rural life these are not so far removed from agricultural progress or retrogression as to be banned. The signature to the splendid article is suggestive. The rush to town and city and the consequent depletion of rural communities took thither not only the laboring classes in large numbers, not only many of the sons and daughters of the farm homes, but the cream of the ministerial profession. The character of the leadership that the writer of the article, "The Church and the Rural Community," gave to urban churches in Western Ontario is well known to some of us and makes us long for a change in attitude that will make the goal of the ambition of a larger percentage of the Ministry, a dominating place in rural leadership through ministrations to a country flock, rather than the centres of population, great as the claims of these may seem to be. Out of 200 ministers in the London Conference of the Methodist Church three availed themselves of the course in "the Rural Leadership" at the O.A.C. last summer. A young man in the ministry in this same conference said to the writer not long since: "What the rural churches need is a leadership of leaders." There is truth in this: This man's success on his charges proved the truth of his statement, and he is engaged in bringing out the best of the social and material and intellectual, as well as the spiritual, life of the communities in which he labors. He was at the time referred to seeking information relative to the working of a co-operative organization that he might assist the farmers in his community to form a similar organization—and, by the way, he was not losing any prestige in spiritual leadership. The call of rural life to the leaders in our churches is forcible and insistent. I know the salary question appears in an unfavorable light when compared with the more liberal basis of payment in urban centres, and I am not denying to any capable minister the right to the highest salary his church affords; but no rural community fails to appraise the best leadership at its real value, if given opportunity to do so. And while all the advantages of city life may not be present on the rural charges, yet the compensations are there even from a material standpoint.

Nor should the aims of rural communities be more diverse in efforts after spiritual than after material, social or intellectual progress. The days of hair-splitting theologies for rural communities are surely past. The need is too great to waste energy on rivalries of creeds—to assemble a handful of the community at the Presbyterian centre on the corner and another handful a few rods away in the Methodist or Baptist, or other centre, and allow the denominationally unconnected to go without the leadership a strong united cause affords. The spirit of the great denominational leaders of the past can be reincarnated in the lives of the men who look to the future, who can see "our sons made as plants grown up in their youth and our daughters as corner stones polished after the similitude of a temple and our garners full, affording all manner of stores," rather than seek to draw sustenance for their "isms and 'ologies from the past. And when on common ground we meet to develop the best that is in us in relation to our spiritual life, may not a deeper, and richer, and fuller purpose actuate us to a better development of material and social and intellectual life as well?

Different observers have arrived at different conclusions as to the ills from which our rural life suffers. To some minds the rural problem is largely social. Increase the opportunities in rural life—give us rural mail, telephones, Hydro-electric power, radial railways, etc., and the problems will disappear. To others the problem is economic. Some would conserve the markets we have, others would enlarge them, and still others not in rural life at all, but with a deep appreciation of their own interests, are constantly divesting themselves of opinions that would revolutionize agriculture—on paper. But these methods, many or few, successful or otherwise, we cannot doubt the part the church is called to play as an organizing, leading, unifying factor

in the rehabilitation of rural life. If men and women can unite their interests under proper leadership through the medium of the church in its attention to spiritual interest first, who can tell how far that unity will extend and how important a factor she will become in solving the rural problem?

Middlesex Co., Ont. AN AGRICULTURAL SIMEON.

The Situation.

BY PETER MCARTHUR.

It is a good thing that spring is here and that for the next few months a majority of the Canadian people will be so busy in the fields that they will have little time to discuss public questions or read the newspapers. It is said that every question has two sides to it. That is true of the questions now before the public—with the addition that both sides are bad. If Greed has been as shameless as the Liberals assert that side of the question is fiendishly bad. If on the other hand groundless Suspicion is as bad as the Conservatives assert it is equally fiendish. Between them, the two parties have developed a mess that is enough to make any true Canadian blush for shame. At this time of supreme national sacrifice a squabble such as we are having is a national disgrace. Some one is horribly to blame and when the whole matter is sifted to the bottom the punishment should be sure and swift. If there has been grafting no punishment can be too severe. If there has been only suspicion the same is true. At the present time the press has divided so completely along partisan lines that it is impossible to get at the truth. But I am convinced that an ever increasing body of citizens are determined to have the miserable affair cleared up for the good of Canada rather than for the good of any political party. Canada should mean more to us than any party and if the parties are working for their own benefit at this time they should be made to feel the full weight of public indignation. During the next few weeks the truth will probably be brought out and if we do not allow ourselves to be blinded by partisanship we can probably get at the truth and be in a position to act according to our convictions. In the meantime it is a good thing that the never failing seedtime has come back with its full burden of labor. The necessary work of the world is more important to all of us than any political question and the only thing for us to do just now is to attend to the duty nearest to hand. The farmers are to be congratulated that for the next few months their dealings will all be with the sanities of Nature rather than with the madness of Big Business and political ambition.

* * * * *

Besides the impossibility of getting at the truth in the present crisis there is another reason why we should avoid discussion of the present situation. Not only do we lack the necessary information but "That way madness lies." Medical experts who have to do with insanity tell us that the chief causes of dementia are Greed and Suspicion. The public mind is just as liable to insanity as the individual mind and the causes are doubtless the same. You have only to read the papers to see that the chief topics of debate at the present time are Greed and Suspicion and no matter which is the prevailing vice they are equally dangerous. Both lead to madness. The man who wishes to retain his political sanity cannot do better than leave the present muddle to parliament and the courts. We are not conducting a political campaign just now but a most horrible war. The manifest duty of every citizen is to "do his bit", whatever it may be. If it turns out that some people have been less anxious to "do their bit" than to "get their bit" there will be a day of reckoning. And if anyone is trying to "get his bit" politically by making unfounded charges there will also be a day of reckoning. In the meantime let the great work of the world go on so that the harvest may follow the seedtime. That way sanity lies.

Toronto, Montreal, Buffalo and Other Leading Markets.

Toronto.

Receipts at the Union Stock Yards, West Toronto, from Sat. April 8 to Mon. April 10 numbered 140 cars, 2359 cattle 2214 hogs, 68 sheep, 300 calves. Quality of cattle best since Christmas; prices, 15 cents higher. Choice heavy steers, \$8.65 to \$8.90 and a few at \$9; choice butchers', \$8.35 to \$8.65; good butchers', \$8.10 to \$8.35; cows and bulls steady. Sheep, lambs, calves, hogs, firm at last week's close. A few Easter quality cattle sold at \$9.50 to \$10 and one steer 1860 lbs. sold at \$11 to go to Montreal.

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

	City	Union	Total
Cars	44	403	447
Cattle	588	4,485	5,073
Hogs	745	7,461	8,206
Sheep	76	233	309
Calves	395	885	1,190
Horses	62	1,369	1,431

The total receipts of live stock at the two markets for the corresponding week of 1915 were:

	City	Union	Total
Cars	39	321	360
Cattle	465	3,955	4,420
Hogs	534	8,715	9,249
Sheep	284	350	634
Calves	78	1,343	1,421
Horses	292	332	624

The combined receipts, at the two markets, for the past week show an increase

of 87 cars, 653 cattle and 807 horses; and a decrease of 43 hogs, 325 sheep, and 231 calves compared with the corresponding week of 1915.

Receipts of live stock for the past week were heavy in horses and cattle but lighter in hogs, sheep and calves. The market for hogs and lambs was especially strong. The market was fairly steady on cattle.

Butchers' Cattle.—Choice heavy steers at \$8.50 to \$8.75; choice butchers' cattle at \$8.25 to \$8.50; good butchers' at \$8 to \$8.25; medium butchers', \$7.60 to \$7.85; common butchers', \$6.75 to \$7; choice cows, \$6.75 to \$7; good cows, \$6.25 to \$6.50; medium cows, \$5.50 to \$5.85; common cows, \$5 to \$5.50; choice bulls, \$7 to \$7.25; good bulls, \$6.50 to \$6.75; common bulls, \$5.25 to \$6.

Stockers and Feeders.—Feeders, short-

keep, 950 to 1,000 lbs., \$7.50 to \$7.75; steers, 750 to 850 lbs., \$7 to \$7.35; common rough stockers of less weights, \$6.50 to \$6.75.

Milkers and Springers.—Choice milkers and springers at \$85 to \$90; good cows at \$65 to \$75; common cows at \$50 to \$60.

Veal Calves.—Choice veal calves, \$9.50 to \$10.50; good calves, \$8.50 to \$9; medium, \$7.50 to \$8; common, \$4.50 to \$6; heavy fat calves, \$6 to \$7.

Sheep and Lambs.—Light sheep sold at \$9 to \$9.50; heavy sheep at \$7 to \$8; culls at \$6 to \$6.50; choice lambs at \$11.50 to \$12.50; cull lambs at \$8 to \$11; spring lambs, \$8 to \$10 each.

Hogs.—Selects weighed off cars, \$11.50; \$11.15 fed and watered; \$10.80 f.o.b. cars. For heavy, fat, thin, light hogs, 50c. per cwt. is deducted; \$2.50 off for

THE ROYAL BANK OF CANADA

Capital Authorized - - - \$ 25,000,000
 Capital Paid up - - - 11,500,000
 Reserve Funds - - - 13,000,000
 Total Assets - - - 180,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province of the Dominion of Canada

Accounts of Farmers Invited
 Sale Notes Collected

Savings Department at all Branches

sows; \$4 off for stags from prices paid for selects; half of one per cent. off all hogs for inspection.

Country Produce

Butter.—Creamery solids, 32c. to 33c.; creamery fresh-made squares, 36c. to 37c.; separator dairy, 29c. to 31c.

Eggs.—New laid eggs again declined, and were quoted at 24 cents per dozen.

Cheese.—Quoted at 18 to 19½ cents per lb.

Honey.—Unchanged, at 13c. to 13½c.

Poultry.—Live-weight: Chickens, 18c. to 20c. per lb.; ducks, 18c.; geese, 12c.; turkeys, young, 22c.; fowl, heavy, 18c.; fowl, light, 17c.

Hides and Skins.

Lambskins and pelts, \$1.20 to \$1.25; Sheepskins, city, \$2.00 to \$3.00; sheepskins, country, \$1.50 to \$2.50; city hides, flat, 18c.; country hides, cured, 16c. to 17c.; country hides, part-cured, 15c. to 16c.; country hides, green, 14c. to 15c.; calfskins, per lb., 20c.; kip skins, per lb., 18c.; horsehair, per lb., 37c. to 40c.; horsehides, No. 1, \$4.00 to \$5.00; horsehides, No. 2, \$3.00 to \$4.00; tallow, No. 1, 6½c. to 7½c.; wool, washed, 40c. to 44c.; wool, rejections, 33c. to 35c.; wool, unwashed, 28c. to 32c.

Breadstuffs.

Wheat.—Ontario No. 2 winter, per car lot, \$1.02 to \$1.04; No. 1 commercial, 99c. to \$1.01; No. 2 commercial, 97c. to 99c.; No. 3 commercial, 94c. to 95c.; feed wheat, 86c. to 88c. Manitoba, No. 1 northern, \$1.15¼; No. 2 northern, \$1.13½; No. 3 northern, \$1.09½.

Oats.—Ontario, No. 3 white, 44c. to 45c.; commercial, 43c. to 44c. Manitoba, No. 2 C.W., 42¾c.; No. 3 C.W., 40¾c.; Extra No. 1 feed, 40¾c.; No. 1 feed, 39¾c., in store, Fort William.

Peas.—According to freights outside, No. 2, \$1.50; according to sample, \$1 to \$1.30.

Barley.—According to freights outside, malting barley, 62c. to 63c.; feed barley, 59c. to 62c.

Buckwheat.—According to freights outside, nominal, 69c. to 70c.

Rye.—According to freights outside, No. 1 commercial, 89c. to 90c.; rejected, according to sample, 85c. to 87c.

Corn.—American (track, Toronto), No. 3 yellow, 83½c.; Canadian (track, Toronto), feed, 68c. to 70c.

Flour.—First patents, in jute bags, \$6.50; second patents, in jute bags, \$6; strong bakers, in jute bags, \$5.80. Ontario, winter, according to sample, \$4.15 to \$4.25, track, Toronto; \$4.25 to \$4.35, bulk, seaboard.

Hay and Millfeed.

Hay.—No. 1, per ton, \$18. to \$19.; No. 2, per ton, \$14 to \$15.

Straw.—Car lots, per ton, \$6.50 to \$7 track, Toronto.

Bran.—Per ton, \$25.

Shorts.—Per ton, \$26.

Middlings.—Per ton, \$27.

Good Feed Flour.—Per bag, \$1.60 to \$1.70.

Wholesale Fruits and Vegetables

Apples.—25c. to 35c. per 11-quart basket; Spys, \$4 to \$7 per bbl.; Greenings and Baldwins, \$3 to \$5 per bbl.; Russets, \$3 to \$1.50 per bbl.; imported, \$2.50 to \$3 per box; Ontario, \$1.50 to \$2 per box.

Beets.—60c. per bag; new, 65c. to 75c. per dozen bunches.

Cauliflower.—California, \$4 per case; Oregon, \$3 per case.

Cabbage.—\$1.75 and \$2 per bbl.; new, \$3.50 per case, \$1.50 to \$1.75 per hamper.

Carrots.—\$1.10 to \$1.25 per bag; new, 65c. to 75c. per dozen, \$2 per hamper.

Celery.—Florida, \$2.75 to \$3 per case.

Cucumbers.—Hothouse, \$2 per dozen; Leamington, \$2 to \$3.25 11-quart basket; seedless, \$2 per 11-quart basket.

Lettuce.—Leaf, 25c. to 35c. per dozen; head, \$2.50 per hamper.

Onions.—Canadian, \$2 to \$2.25 per 75-lb. bag; Spanish, \$1.75 to \$2 per small case; American, \$2.75 to \$3 per 100-lb. bag; Texas Bermudas, \$2.25 per crate; green, 10c. to 20c. per dozen bunches; large shallots, 50c. per dozen bunches.

Parsley.—\$1 to \$1.25 per dozen; home grown, 75c. per 11-quart basket.

Parsnips.—80c. to 90c. per bag.

Potatoes.—New Brunswick Delawares, \$2 to \$2.05 per bag; Ontario, \$1.90 per bag; Cobbler seed potatoes, \$2.25 and \$2.30 per bag.

Potatoes.—New, \$10.50 per bbl.

Peppers.—Sweet, green, 65c. per basket 40c. to 50c. per dozen.

Spinach.—\$1.40 to \$1.50 per hamper.

Rhubarb.—75c. to \$1 per dozen bunches.

Montreal,

Supplies of live stocks on the local market continue light, and the market was firm all the way round. Demand is not particularly heavy at this period of the year so that few sales are noted. Sales of choice steers and heifers were made at 8½c. to 8¾c. per lb., while fine stock was 8c. to 8¼c., and good 7½c. to 8c., with lower grades ranging down to 6c. per lb. Butchers' cows sold at 5½c. to 7¼c. per lb., and bulls at 6c. to 7¾c. Sheep and lambs continued very scarce and prices firm. Yearling lambs still sold at 11¾c. to 12c., while sheep ranged from 7½c. to 8½c. per lb. Some spring lambs of good quality were offered on the market, and sold at \$5 to \$8 each. Calves were fairly plentiful at 5c. to 7c. per lb. for good, and \$2 to \$4 each for common. Offerings of hogs were light, and prices firm, with selects selling at 11¾c. to a fraction higher.

Horses.—Quite a few horses have been purchased lately by local carters, and some of the cheaper animals were shipped to the country for farmers. Prices were steady, as follows: Heavy draft horses, weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft horses, weighing 1,400 to 1,500 lbs., \$150 to \$200 each. Small horses, \$100 to \$125 each, and culls \$50 to \$75 each. Fine saddle and carriage animals were \$200 to \$250 each.

Dressed Hogs.—The tone of the market for dressed hogs was firm, and prices advanced ¼c., at 16c. to 16½c. per lb. for abattoir-dressed, fresh-killed stock.

Poultry.—The market was unchanged at 25c. to 28c. for turkeys; covering all qualities of good to choice; 23c. to 24c. for chickens; 17c. to 19c. for geese and fowl, and 19c. to 20c. for ducks.

Potatoes.—There was practically no change in the market for potatoes. Green Mountains and Quebec potatoes sold in car lots, ex-track, at \$1.75 to \$1.80 per bag of 90 lbs., and 10c. to 15c. additional, in a smaller way, ex-store.

Maple Syrup and Honey.—New crop maple syrup is scarce and very little was offered, so that prices are high. Sales of 8-lb. tins have been made at 95c. each, and of 13-lb. tins, as much as \$1.50. Sugar was 10c. to 11c. per lb. Honey was rather lower at 14½c. to 15½c. per lb. for white clover comb, and 12c. to 12½c. for extracted, brown clover comb being 12c. to 13c. per lb., and brown extracted, 10c. to 11c. Buckwheat honey was 9c. to 10c. per lb.

Eggs.—Receipts of fresh-laid eggs are increasing constantly, and prices were on the easy side at 26c. to 27c. per dozen. Held stock is said to be completely exhausted. Consumption is large.

Butter.—Although receipts of new milk butter are showing an increase, they are still light, and as demand is generally good throughout Lent, the market held firm. Finest creamery was quoted at 33c. to 34c. per lb., and fine at 32½c. to 33c., while seconds were 31½c. to 32c., and dairies range around 25c. to 27c.

Cheese.—The market for cheese was fractionally lower, at 18½c. to 18¾c. for finest Westerns, 18c. to 18¼c. for finest, and 17¾c. to 18c. for choicer makes.

Grain.—Oats were higher all the way round, No. 2 Canadian Westerns quoted at 52c. per bushel, ex-store; No. 3

at 50½c. to 51c.; No. 1 extra feed at 50½c. to 51c.; No. 1 feed, 49c. to 50c., and No. 2 feed, 48½c. to 49c. Ontario and Quebec white oats were 50c. for No. 2, and 49c. for No. 3, and 48c. for No. 4.

Flour.—Prices of Ontario flour declined 10c. to 20c. per barrel, but those of Manitoba flour were unchanged. Manitoba first patents were \$6.60 per barrel, in bags, seconds being \$6.10, and strong bakers' \$5.90. Ontario flour was \$6 for patents, and \$5.30 to \$5.40 per barrel, in wood, for straight rollers, the latter being \$2.50 per bag.

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

Seeds.—Enquiry for seeds is waking up, but red clover and timothy were very dear. This affects the demand. Quotations per 100 lbs., Montreal, were steady at \$10 to \$15 for timothy, and \$23 to \$28 for red clover, and \$17 to \$24 for alsike.

Hides.—Calf skins were at a high record price. Importations from Russia, France and South America have ceased. Canadian producers are getting the advantage, the price being 26c. per lb. for No. 2, and 28c. for No. 1. Beef hides were 21c., 20c., and 19c. for No's. 1, 2 and 3 respectively. Sheep skins, \$2.50 each, and horse hides at \$2.50 to \$3.50. Rough tallow was 1½c. to 2½c. per lb., rendered being 7c. to 7½c. per lb.

Buffalo.

Cattle.—Cattle trade appears to be in the ascendancy. Runs last week were not large, and killers paid high prices. Steers sold up to \$9.75 at Buffalo, with a very prime kind at Chicago ten cents. Some sellers are inclined to believe that the top will climb even higher. Good to choice cattle are scarce. True, now and then, shippers drive hard to a high market, too many are offered for the day and some setback in the market is had, but the general opinion among sellers at Buffalo is that good, strong weight steers, carrying good flesh and plenty of fat, will continue to sell high right along. Canadians reached \$9.00 per cwt., here last week and they were not a fancy kind at that. The past week's market was about a dime to fifteen cents lower, but the range appeared very high at that. No steers went to eastern killers under \$8.70, and for the best steers generally it was a \$9.35 to \$9.70 trade. On butchering grades the trade ruled about steady with the week before, and the demand was good, canners and cutters alone, possibly showing shade easier values.

Bulls are bringing firm prices, top the past week reached \$7.75. Milchers and springers have been on a downward scare of late, but as the range season approaches there is reason to believe that these will find better sale under a more liberal demand. Receipts last week were 4,125 head, as against 4,475 head for the previous week, and 3,350 for the corresponding week last year. Quotations: Shipping Steers.—Choice to prime natives, \$9.15 to \$9.70; fair to good, \$8.50 to \$8.85; plain, \$8.15 to \$8.35; Very coarse and common, \$7.65 to \$7.90; best Canadians, \$8.50 to \$8.75; fair to good, \$8 to \$8.25; common and plain, \$7.50 to \$7.85.

Butchering Steers.—Choice heavy, \$8.50 to \$8.75; fair to good, \$7.75 to \$8.25; best handy, \$8.50 to \$8.75; common to good, \$7.50 to \$8.25; light, thin, \$7 to \$7.25; yearlings, prime, \$8.50 to \$9; yearlings, common to good, \$8 to \$8.35.

Stockers and Feeders.—Best feeders, \$6.75 to \$7.25; common to good, \$6.25 to \$6.50; best stockers, \$6.25 to \$6.50; common to good, \$5 to \$5.75.

Hogs.—The bad slump in prices two weeks ago checked receipts at all marketing points, and last week the result was a considerably improved trade. On the opening day of the week at Buffalo the bulk of the good hogs sold at \$10.25, few made \$10.30, with one load reaching \$10.35, and pigs landed generally at \$9.50. Tuesday's market was strong to a nickel higher, Wednesday and Thursday sales were made from \$10.25 to \$10.35, with pigs selling from \$9.25 to \$9.50, and Friday top dropped to \$10.20, bulk went at \$10.15, and the pig range was from \$9 to \$9.25. Rought \$9 to \$9.25, and stags \$8 down. Receipts

last week were 23,300 head, being against 23,786 head for the previous week, and 25,500 head for the same week a year ago.

Sheep and Lambs.—Last week started with top lambs selling from \$11.50 to \$11.75, and culls went from \$11 down, Tuesday's market was steady, and the next three days the most desirable lambs sold from \$11.50 to \$11.70. Heavy lambs have been very bad sale at all marketing points, and at Buffalo kinds weighing around 100 pounds were not worth as much as good culls, being hard to place even at \$10.50 and \$10.75. Top for yearlings last week was \$10.50, wether sheep sold up to \$9.50, and the ewe range was from \$9 down. Receipts last week aggregated 18,300 head, as compared with 14,816 head for the week previous, and 18,775 head for the same week a year ago.

Calves.—Receipts last week were very liberal, there being around 3,550 head. Offerings were against 3,360 head for the week before, and 2,925 head for the same week a year ago. The first three days of the week top veals sold from \$10 to \$10.50, bulk \$10.50; Thursday a few reached up to \$11, and Friday, under a supply that figured close around 2,200 head, best lots went at \$10.50 and \$10.75. Cull grades sold up to \$9, though bulk went from \$8.50 down.

Chicago.

Cattle.—Beeves, \$8 to \$10; stockers and feeders, \$6.10 to \$8.75; cows and heifers, \$4.20 to \$9.10; calves, \$6.75 to \$9.50.

Hogs.—Light, \$9.30 to \$9.85; mixed, \$9.35 to \$9.80; heavy, \$9.25 to \$9.80; rough, \$9.25 to \$9.40; pigs, \$7.50 to \$9.10.

Sheep.—Native, \$8.25 to \$9.25. Lambs.—Native, \$8.75 to \$11.50.

Special One Way Fares to Pacific Coast Points. Daily Until April 14th.

Those contemplating a trip to Pacific Coast points, including Vancouver, B. C., Seattle, Wash., Portland, Ore., etc., should consult Canadian Pacific Ticket Agents for particulars of low fares in effect daily until April 14th.

Sale Dates Claimed.

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

April 19—Burns & Sheppard, The Repository, Toronto, Ont.; Clydesdales (Estate of late R. Davies.)

April 22—McGarvin Bros., Chatham, Ont.; Percheron stallions.

April 25—Bernice Gregory, Lakeside, Ont.; Holsteins.

Good Clydesdales at Auction.

Elsewhere in this issue is the advertisement of the big dispersion sale of the great Clydesdale stock belonging to the estate of the late Robert Davies, Thorncliffe Farm, Tadmorden. The horses will be sold April 19 at 11 o'clock at the Repository, Toronto. They include choice stallions, mares, fillies and colts. Get full particulars from Burns & Sheppard. The Repository, Simcoe & Nelson Streets, Toronto. Look up the advertisement, which gives much information.

A Percheron Sale.

Attention is directed to the advertisement elsewhere in this issue of the big sale of Percherons to be held in Chatham, Ont., April 22. These horses include seven registered stallions duly inspected and enrolled, a few choice registered mares, greys and blacks, and a number of grade mares and geldings. They are the property of McGarvin Bros., R. R. 3, Chatham, who will be pleased after you have read the advertisement to give further particulars.

A. A. Colwill, breeder of Clydesdales, Shorthorns and Tamworths, Newcastle, Ont., writes in changing his advertisement that he never has had a better season's trade in Shorthorns and Tamworths. Although sales have been numerous he is offering some choice stock of excellent breeding from grand sires. See the advertisement.

In the advertisement of T. I. Thomson, Ltd., re Lankford Collars, this issue, the instructions should read "order same size as in leather collars," instead of "order size smaller than in leather collars."



I am a worker
 Sleep on and
 Though my s
 in the
 Beating thro
 Furrowing hill
 Till twilight d
 And I stand
 sky.

I am a worker,

I feed the peo
 Eagerly wait o
 High-born and
 of wa
 Kingdoms may
 War claim her
 Hands are outs
 Master of men
 I feed the peop

I prove God's
 Toiling that ea
 Fruit men sha

the su
 Where sleeps th
 Corn-fields sha
 Showing that
 Nor seed nor ha
 I prove God's

—V. F. BOY

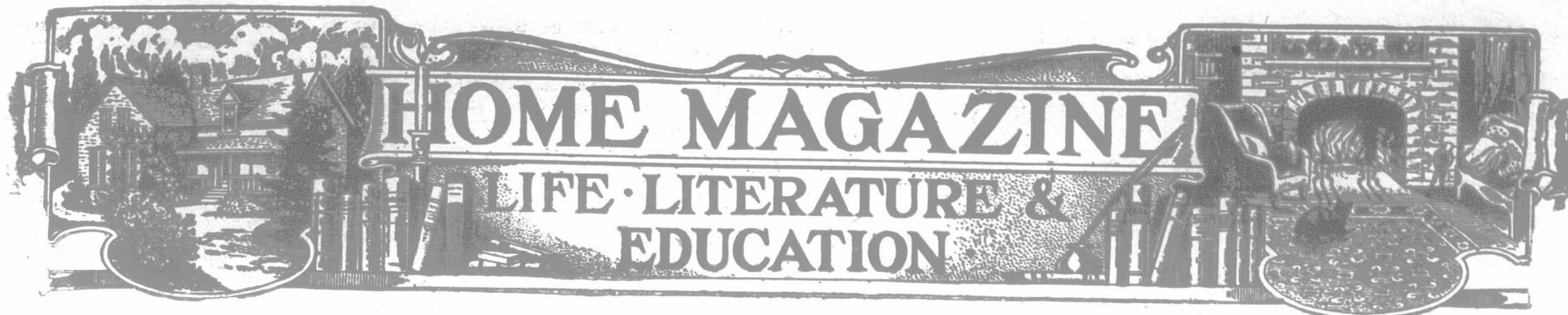
MAGAZINE.

Rural Po

BY MR. THOMA

MISSION OF C

[It is a rather
 do not always
 advantages with
 this is because
 understanding
 things that may
 or at the expend
 sometimes it is
 knowing about
 stance, it woul
 mark to say th
 Canada know
 ment at Ottawa
 forward not only
 velopment and
 The writer of
 heard in Toronto
 winter a most in
 ing lecture, wit
 by Mr. Thomas
 one of the staff
 ferred to. So
 marks of the sp
 districts, that
 subsequently wr
 similar lecture
 with especial a
 districts. His a
 cently, is as foll
 "I would not
 lectures in rural
 laps at annual
 should be glad
 slides and a writ
 tion to rural pa
 shown that there
 who would be l
 and lecture. W
 arrangement tha
 tributed in order
 only expense wh
 have to bear wo
 slides, and in m
 age for which th
 think some mu
 might be done i
 any rate you m
 there is likely t
 lecture along th
 We are please
 gestion, and tru
 are interested in
 rural planning w
 opportunity, and
 themselves into t
 Now that the hyc
 becoming so wide



The Plow.

I am a worker.
Sleep on and take your rest
Though my sharp coulter shows white
in the dawn
Beating through the wind and rain,
Furrowing hill and plain
Till twilight dims the West,
And I stand darkly against the night
sky.
I am a worker, I, the plow.

I feed the peoples.
Eagerly wait on me
High-born and low-born, pale children
of want:
Kingdoms may rise and wane,
War claim her tithe of slain,
Hands are outstretched to me,
Master of men am I, seeming a slave,
I feed the peoples, I, the plow.

I prove God's words true—
Toiling that earth may give
Fruit men shall gather with songs in
the sun.
Where sleeps the hidden grain
Corn-fields shall wave again;
Showing that while men live
Nor seed nor harvest-time ever will cease.
I prove God's words true, I, the plow.
—V. F. BOYSON, IN EVERYBODY'S
MAGAZINE.

Rural Possibilities After the War.

BY MR. THOMAS ADAMS, OF THE COMMISSION OF CONSERVATION, OTTAWA.

It is a rather pathetic truth that we do not always avail ourselves of the advantages within our reach. Sometimes this is because of carelessness or lack of understanding the real importance of things that may be had for the asking, or at the expenditure of a little initiative; sometimes it is due simply to our not knowing about these things. For instance, it would not be wide of the mark to say that very few farmers in Canada know that there is a department at Ottawa whose purpose is to forward not only city, but also rural development and improvement.

The writer of this preliminary note heard in Toronto, at the beginning of the winter a most illuminating and interesting lecture, with lantern views, given by Mr. Thomas Adams, "Town-planner," one of the staff of the department referred to. So frequently did the remarks of the speaker turn to the rural districts, that the Farmer's Advocate subsequently wrote to him, asking if a similar lecture had not been prepared with especial adaptation to the rural districts. His answer, which arrived recently, is as follows:

"I would not be in a position to give lectures in rural districts, unless perhaps at annual conferences, but I should be glad to prepare a series of slides and a written lecture for distribution to rural parts of Canada if it was shown that there was a sufficient number who would be likely to use the slides and lecture. We might make some arrangement that these would be distributed in order of application, and the only expense which the locality would have to bear would be in returning the slides, and in making good any breakage for which they were responsible. I think some mutual educational work might be done in this direction, and at any rate you might ascertain whether there is likely to be any demand for a lecture along these lines."

We are pleased to publish this suggestion, and trust that farm-folk who are interested in rural development and rural planning will be quick to see the opportunity, and not less quick to put themselves into touch with Mr. Adams. Now that the hydro-electric facilities are becoming so wide-spread, there should be

little difficulty in regard to the lantern-slides. May we say, in closing, that the illustrated lecture cannot too soon become a factor in rural life.

The following selection is from Mr. Adams' annual report, and gives an inkling of a few among many features in regard to the rural districts that may become realities, some in one district, some in another, after the war.—Ed.]

Our system of land development, both in town and country, is an artificial creation, and in so far as it has proved defective it requires to be remedied by artificial means. Compared with other countries, our natural advantages in Canada are exceptionally favorable to the development of both agriculture and manufactures, but our system of controlling the uses and development of the land has been a partial failure and greatly needs a remedy. It was so before the war, but the changed conditions which are being produced by the war make the imperfections of our system more evident, and the application of a remedy more urgent.

The remedy is needed not only for the benefit of posterity, but in directions which may be made immediately useful to us in connection with the struggle in which the Empire is engaged. In our cities and towns we want to study our system of local government and plan to avoid waste and secure a sounder basis than we have at present for civic and industrial efficiency during and after the war. We have to find out by what means we can cut down expenditure on local improvements without injury to local enterprises, how far we can improve the methods of raising money for public purposes so as to reduce heavy charges for interest, to what extent we can secure relief of the enormous burden for fire insurance in cities, what are the more economical and least harmful

the system of land division is partly responsible for the failure. Many different reforms have been suggested, and have sufficient plausibility to be worthy of being enquired into. We need rural planning as well as town planning.

Returned Soldiers.

The need for reform has been emphasized as a result of discussion of the problems likely to arise in connection with returned soldiers. They will want to earn a livelihood, and it has been suggested that many will desire to turn to farming for that purpose. If that desire should exist to any extensive degree, do we regard ourselves as being prepared to deal with it? In the Old Country they are considering schemes to develop small holdings for returned soldiers, but if men who return from the war want to get back to the land is it not likely that Canada can offer better attractions than any other country if we have the right system to make the most of the natural advantages we possess? If with the return of peace there is to be a great demand for land we need to have, not only the supply to meet that demand, but the right conditions to organize and distribute the supply. This is a problem which is closely connected with town development so that it is not remote from town planning, but it is also a problem which involves a certain amount of replanning of the agricultural areas themselves. Many people, including those accustomed to living in rural districts all their lives crave after the social attractions of the towns. A factor which makes people who are habituated to rural conditions migrate to the towns will be present in a stronger degree in connection with attempts to settle men who, like returning soldiers, have enjoyed the intercourse

solve the problem of rural depression. Consideration will have to be given to the provision of capital, the training of inexperienced men, the selection of suitable areas and the proper planning of agricultural colonies.

Planning and Rural Industries.

It is the last of these matters with which I am concerned, and it is not the least important of the matters requiring public attention. In properly organized agricultural colonies, such as those which exist in Belgium and Holland, it is essential to have indoor rural industries situated in the village centres, and such industries could provide employment for many men who are unsuited or unwilling to take up agricultural work. The establishment of rural industries in Canada is a matter which might very well receive encouragement, apart from the question of providing for returned soldiers, with a view to increasing the number of small towns in agricultural districts and lessening the congestion of the larger cities. That is another matter which interests the town planner. Decentralization of our manufacturing industries is as desirable in the interests of the healthy town as it is in the interests of agriculture. It is desirable that Canada should encourage new settlers to migrate to the small villages and towns rather than, as in the past, to provide attractions for them to congregate in large cities. The more widespread the population is the more healthy it will be, and the more it will help to solve many problems which have been created by our having thinly scattered agricultural population on the one hand and overcrowded cities on the other. The problem of providing for the returning soldiers, and for the anticipated increase in immigration would seem to provide the opportunity for making an experiment in linking up the amenities and facilities of town life with the healthy conditions of the country.

Indoor rural industries develop individual skill and taste and character. They offer work and social amenities which are more congenial to many of the sons and daughters of the farmers than the work and conditions of the farm. In such industries articles could be produced which would be wanted by the farmer, at the same time creating a population which would need part of the produce of the farm, thus providing an interchange of markets in close proximity to each other. In Belgium and Northern France the cultivation of the soil is only made profitable by reason of the work done and the money made in the homes during the winter. In the neighborhood of Caudry alone 36,000 people live on 30,000 acres engaged on the land in summer and in hand-embroidery, lace-making, iron mongery, brush making, wooden carving, etc., during the winter. The Canadian climate is peculiarly adapted for indoor winter work, and by proper planning, together with the employment of electricity for power, small village industries can be made as profitable as large city industries.

Some of the scientific methods and knowledge, which have helped to create the great railway system and manufacturing centres of Canada might very well be directed for a time in helping to build up a system of colonization which would make agricultural life more attractive and add immensely to the resources of the Dominion and utility of the railways themselves. We have seen in the past few years that mere growth of population is not in itself a means of increasing material wealth—it is only when that growth is properly directed and controlled that prosperity comes with the increase.

When the tide of immigration again



A Barbed Wire Entanglement in the Vosges.

The entanglement can be charged with electricity at will. Photo Underwood & Underwood

methods of dealing with unemployment if and when it occurs, how we should prepare to absorb in our cities or towns the returning soldiers who will prefer to settle in manufacturing centres and how we can manage the cultivation of idle land in suburban areas.

Need of Constructive Policy in Agricultural Areas.

In agricultural areas there is a crying need for a constructive policy to enable colonization to be carried on under conditions which will produce greater stability and ensure permanent settlement. Everyone is agreed that present methods are not satisfactory, and that

and facilities of town life. Such men are not likely to take kindly to living on isolated farms in districts remote from populated centres.

Need of Agricultural Colonies.

What is likely to be needed is the establishment of a few well-planned agricultural colonies on good and accessible land. They must be planned in such a way that there will not be an entire absence of facilities for social intercourse, co-operation, transportation and ready means of marketing. All these things are necessary in combination to make farming pay, and unless we can make farming pay we cannot

Let "THERMOGENE"
relieve and cure
your backache

DON'T suffer
pain needlessly.
Apply THERMOGENE.
It will bring swift relief
by setting up rays of com-
forting warmth that go
right to the affected part and dispel all inflam-
mation and pain.



*Thermogene Curative Wadding
as applied for the relief of
Backache, etc.*

THERMOGENE CURATIVE WADDING

THERMOGENE is a dry, fleecy wadding, scientifically prepared—the invention of Vandenbroeck, the Belgian chemist—and has brought relief and comfort to thousands of sufferers.

THE THERMOGENE CO., LIMITED, HAYWARDS HEATH, ENG.

Sales Agents for Canada:

HAROLD F. RITCHIE & CO., Ltd., McCaul St., Toronto

To introduce THERMOGENE we will mail anywhere in Canada a trial package. Write to-day to the Thermogene Bureau, Dept. M 10 McCaul St., Toronto, enclosing 10c. for packing and mailing. State your name and address clearly.

begins to flow it will be too late to devise means to properly direct it, and it would seem desirable that some steps should be taken in the near future to enable adequate consideration to be given to the problem of improved methods of colonization.

The importance of this problem has been brought home to me in studying municipal conditions for the purpose of preparing legislation to regulate land development in towns and rural districts. Great difficulties may confront us in any attempt to put these proposals to the test, but they are at least worthy of study and investigation.

It is our duty to apply all our schemes of planning and social readjustment so that the war will leave us richer and not poorer in regard to our economic conditions, the stability of our productive enterprises and the health of our people. We at least need not, if we choose, face a situation in which our industries are paralyzed because we have failed to prepare for peace, which is just as necessary as to prepare for war.

We have also to apply ourselves to the duty of raising sanitary and hygienic standards, both in town and country. As an eminent American writer visitor to Ottawa said the other day, the sanitarian can only truly succeed in his work in proportion as he recognizes the need of the relief of poverty, side by side with the application of sanitary science. True patriotism embraces the ideal of securing amelioration of social conditions, and we have to make these conditions worthy of the sacrifices now being made for them in precious human lives.

A scheme to successfully attain the desired objects must be so framed as to make the utmost use of individual enterprise, to attract the right kind of men with small capital and give some security of their success, to enable some financial support to be given to such men, to secure the utmost use of co-operative facilities in the making of purchases and distribution of produce, and to provide the necessary social and educational facilities within easy range of the homes of the settlers.

When a proper scheme is devised for dealing with land settlement it will probably be found that Government assistance of a financial kind will be needed to enable such a scheme to be effectively carried out. The giving of such assistance, however, will surely depend on the character of the scheme, and on whether the Government, whether Provincial or Federal, is convinced of its desirability and soundness. Hence the making of thorough investigation into the problem and the preparation of a sound scheme are the first things to be done.

Hope's Quiet Hour.

Uplifted and Uplifting.

I, if I be lifted up from the earth, will draw all men unto Me. This He said, signifying what death He should die.—St. John XII. 32, 33.

"He stooped to bless
And stooping, raised us,
And the tenderness
Which looked in pity on a world of sin
Long years ago,
Still waits in love to call the nations in,
Till all shall know
How man may rise in HIM to holiness
Because HE stooped so low."

It was a few days before the first Good Friday. The King of the Jews had been welcomed by rejoicing crowds, the people who had witnessed the awakening of the "sleeping" Lazarus were talking eagerly about the great power of JESUS, the Pharisees were hopelessly saying among themselves: "Perceive ye how ye prevail nothing? Behold the world is gone after Him." Even the Greeks sought an introduction, saying to one of the Apostles: "Sir, we would see Jesus." In spite of all this earthly admiration,—and even the approving voice from heaven which made the

amazed people exclaim: "An angel spake to Him,"—the words of our Lord were about His coming death. He knew how soon the fickle mob would be shouting "Crucify!" That very week He should indeed be proclaimed "King of the Jews," but in scorn and mockery. "The hour is come, that the Son of man should be glorified." He said, but it should be a glory won through dying—the glory of the seed-corn which falls into the ground and dies that it may bring forth much fruit. It was the glory of one who "hathet his life in this world that he may keep it unto life eternal."

Then He broke into words of anticipatory joy—words which revealed His certainty of final triumph: "I, if I be lifted up from the earth, will draw all men unto Me."

It was no selfish glory He sought, not even the hope of an eternal reward for a temporal sacrifice. He was willing to be lifted up on the awful Cross, because it was the only way of drawing the hearts and souls of all men to Himself.

The prophet Isaiah, foretelling the death of the Messiah, declared that He should see such a result of His work as should satisfy Him (Isa. 53: 11). The prophet Amos speaks of a shepherd who "taketh out of the mouth of the lion two legs, or a piece of an ear." "Do you think that the Good Shepherd could be "satisfied" with rescuing such a small remnant of His loved flock? "Satisfied!" would not such a pitiful return for His infinite outlay break that tender heart a second time?

He did not face failure when He set His face to go to Jerusalem. Death was the price He paid for the sins of the world, and He paid it willingly that He might draw "all men" unto Himself.

Before the Cross we kneel in wondering awe, for there God has written in letters which all races of men can read the great word "LOVE". Many thousands of men have been crucified—and forgotten. Let unbelievers explain, if they can, the fact that JESUS on His Cross is slowly but surely uplifting the world.

"That one Face far from vanish—
rather grows.
Becomes my universe that feels and
knows."

A man who was having a controversy about religious matters said: "How glad one would be to get out of it all! but there is that strange man on His Cross who drives me back again and again." I think he made a mistake, though, for Christ on His Cross does not "drive" but attract. His enemies were triumphant when they had put Him to death—but their triumph was shortlived. Many, since then, have laboured to prove that the Founder of Christianity was only a great leader and wise teacher. Their arguments may be very learned, but they cannot deceive one who has found the Living Christ, and who can say happily:

"I hear, and to myself I smile,
For Christ walks with me all the while."
There is a story of one who often fell asleep while speaking to Christ, and was sometimes heard talking in his sleep to the Friend he loved. How many millions of people fall asleep every night with the thought of His presence quieting excited nerves and throbbing heart! How many wake with His name on their lips, and take up the day's duty with patient courage in His strength? I ask the question, but only God can answer it.

Since writing that last sentence I visited a blind man and gave him a lesson in reading raised print. After slowly spelling out a verse or two in the Bible he said shyly: "A verse in a hymn we sang on Sunday was in my mind all last night. I seemed to be singing it in my sleep."

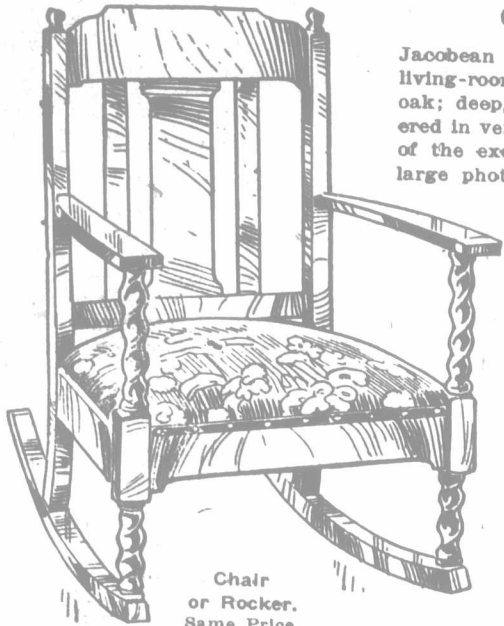
"What was the hymn?" I asked.
He answered, with a happy smile:

"Savior, more than life to me,
I am clinging close to Thee. . .
May thy tender love to me
Bind me closer, Lord, to Thee."

Thousands of men have been uplifted on crosses—can you tell me of any other man, who lived and died hundreds of years ago, and who has power to give real gladness to the afflicted—any other but JESUS, our Lord?

Let those who think He was "only a good man" devote a few months' to

This Handsome Rocker Only \$7.95



Jacobean design, immensely popular for living-rooms. Frames of selected fumed oak; deep, comfortable spring seats covered in very choice tapestry. An example of the excellent values contained in our large photo-illustrated

Catalogue No. 7

Hundreds of pieces of the best selected furniture and home furnishings are shown, all priced freight paid to any station in Ontario.

The Adams
Furniture Co.

Limited.

TORONTO - - ONTARIO.

Chair
or Rocker.
Same Price.

Established 1856

Our handsome Spring Catalogue now ready. A copy will be mailed free on request.

SOW SIMMERS' SEEDS

J. A. SIMMERS
Bulbs, Limited
SEEDS, Plants
Toronto, Ont.

m: "An angel
words of our Lord
ning death. He
le mob would be
That very week
proclaimed "King
orn and mockery.
that the Son of
ified." He said,
ry won through
seed-corn which
nd dies that it
fruit. It was the
th his life in this
eep it unto life

o words of an-
which revealed
l triumph: "I,
the earth, will
ory He sought,
an eternal reward
He was willing
awful Cross, be-
way of drawing
l men to Himself.
foretelling the
eclared that He
lt of His work
(Isa. 53: 11).
ks of a shepherd
e mouth of the
ece of an ear."
Good Shepherd
h rescuing such
is loved flock?
such a pitiful
utlay break that
me?

re when He set
rusalem. Death
for the sins of
it willingly that
" unto Himself.
eel in wondering
ritten in letters
can read the
Many thousands
cified—and for-
explain, if
JESUS on His
rely uplifting

from vanish—
that feels and
g a controversy
said: "How
out of it all!
e man on His
ack again and
ade a mistake,
His Cross does
His enemies
they had put
r triumph was
then, have
the Founder
a great leader
eir arguments
at they cannot
nd the Living
y happily:
mile,
all the while."
one who often
ng to Christ,
rd talking in
e loved. How
e fall asleep
ought of His
l nerves and
any wake with
d take up the
ourage in His
tion, but only

at sentence I
gave him a
print. After
se or two in
y: "A verse
unday was in
seemed to be

?" I asked.
appy smile:
e to me,
Thee. . .
to me
to Thee."
been uplifted
of any other
ed hundreds
as power to
afflicted—any
e was "only
w months" to

FIVE ROSES

FOR BREADS, CAKES, PUDDINGS, PASTRIES, ETC.

THE ONLY FLOUR PUBLICLY GUARANTEED — NOT BLEACHED — NOT BLEND.

When you want to save cooking a big meal — serve Pancakes.
When the appetite balks at meat, and fish becomes distasteful — serve Pancakes, — or Griddle Cakes — or Waffles.
But when you seek real nutrition in pancakes, dainty aroma and flavor, palatable richness and easy digestion — then, serve FIVE ROSES pancakes and griddle cakes.
Not only does FIVE ROSES flour bring the wonderful food value so plentifully stored in Manitoba's finest wheat but it

TO SERVE A VARIETY OF PANCAKES

The famous FIVE ROSES Cook Book gives 10 tested recipes and full directions. Also over 240 infallible cake recipes, and fully 50 directions and hints on bread-making. So indispensable to good house-keeping that already over 200,000 women couldn't do without it. To get a copy see panel opposite.

TO MAKE GRIDDLE CAKES and WAFFLES

A full chapter on these dainty cakes in the FIVE ROSES Cook Book. Together with notes and details on biscuits, fried cakes, rolls, buns, cookies, biscuits, etc. Do you want a copy of this popular 144-page cooking manual? Then send for the FIVE ROSES Cook Book. Mailed on receipt of 10 two-cent stamps. Address Dept. K.

Makes Pancakes Delightful and Digestible

Fried on pan or baked on griddle, no cake can ever disturb the most delicate stomach, if made from a FIVE ROSES batter.

Simply because FIVE ROSES is such a sturdy and glutinous flour that it resists the absorption of fat, merely taking enough to brown becomingly with a golden contrast, to crisp with crinkly, curly edges. Serve pancakes oftener, since FIVE ROSES renders them so palatable, nutritious, economical. And when you become intimate with its wonderful quality and versatility, you will eagerly use FIVE ROSES for all your baking.

LAKE OF THE WOOD MILLING CO., LIMITED, MONTREAL.



WHEN YOU THINK OF PANCAKES—THINK OF FIVE ROSES.

visiting the suffering and the dying. Then it will be seen that the king, in His Cross of agony, is to-day uplifting many who are called to enter into the fellowship of His sufferings.

Think of that first Good Friday. He who had declared Himself to be "The Life" went forward to battle with Death. Those who, with reverent haste, prepared that torn Body for burial must have despairingly thought that Death had conquered. But it is always a mistake to despair. We know that Good Friday was followed by Easter Day. The Savior of the world was uplifted on the Cross—as He had prophesied—and yet He was certain of victory, sure of obtaining His heart's desire—of drawing "all men" unto Himself.

Let us gain courage and hope from the old—yet ever new—story of the Cross. Death cannot hold the Life of

the world. No matter how black the outlook may be, there is the glory of coming victory to keep up our hearts. Evil must be fought to the death—those who love the Lord are warned to see to it that they hate the thing that is evil. They may seem to be beaten in the fight, but it is only "seeming", if they are faithful to the right—even Christ seemed to be vanquished.

Have you read the story of Father Finn, at Gallipoli? See that hero-priest leaping ashore, careless of the flying bullets! To those who would have held him back he calmly said: "A priest's place is beside the dying soldier." By the time he reached them he was literally riddled with shot.

Crawling from man to man he lifted his wounded right hand in blessing, until it was shot away. Then he lifted high his left hand until it also was shattered. His last words were: "Are our fellows

winning?" Did death conquer that gallant soul? I don't think we dare say that he was anything but a victor in the battle of life. God grant that we may also be victors when our time of trial comes.

"But the Dardanelles' campaign was a failure," you say. Was it? It may have been a disastrous mistake, as regards the people who planned it,—so was the charge of the Light Brigade, long ago. But the Australians, and others, who laid down their lives in unquestioning obedience, were victors. We in our turn, must grapple with Death. It may seem to be a losing battle, as each generation of men is laid low, but it is a mistake to judge on Good Friday. In fact, we can only grasp something of the meaning of the Cross when we look back to it from the Resurrection Day. If you had never known a harvest, would you think the

seed cast into the ground to decay, was wasted? In the light of the harvest you can see that it has borne much fruit.

To-day the world is in the shadow of the Cross, and out of that gloom we should come, chastened and purified, into the brightness that waits beyond. Perhaps you are, even now, standing in such thick darkness that you cannot see the love in the eyes of Him who died and is living for evermore. Then listen to the tender words which sound sweetly in the darkness: "Fear thou not; for I am with thee. . . for I the Lord thy God will hold thy right hand."

Our King willingly endured the Cross for the joy of drawing "all men" unto Himself. Let us trust Him and walk fearlessly through the darkness into light. It is never a dreadful darkness near the Light of the world.

"Follow where love shall lead thee. Fair love shall find the way

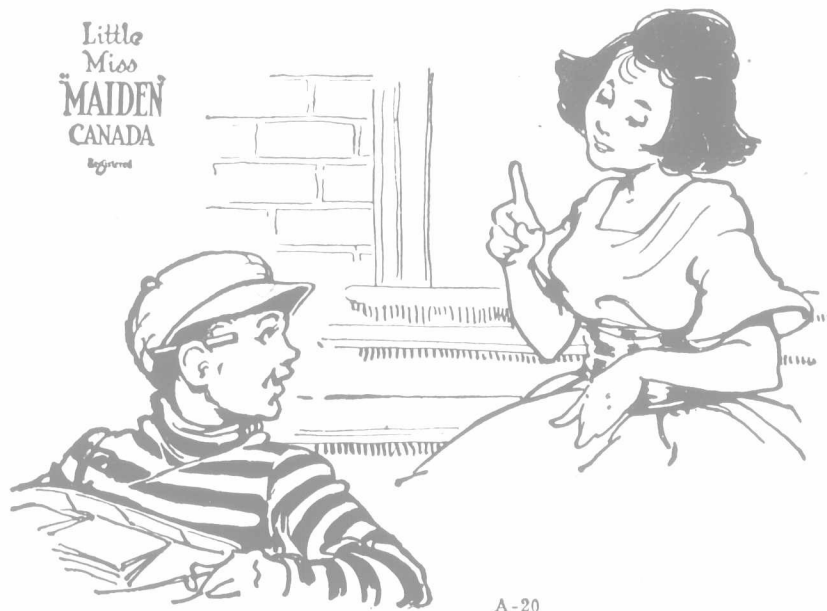
Now Remember!

When I ask for cocoa I want the best — and everyone knows that the best is

COWAN'S COCOA
"Perfection Brand"

It is a well-known fact that in every home where quality is appreciated, this delicious cocoa may be found. It is pure and wholesome and manufactured from the best cocoa beans procurable.

See that the boy brings it.



Little
Miss
MAIDEN
CANADA
Registered

A-20

RENNIE'S SEEDS

Everything
for the
Garden, Lawn
and Farm

OPENED
NEW STORE
TO - DAY

WRITE FOR CATALOGUE—FREE

King and Market Streets
TORONTO

ALSO AT MONTREAL, WINNIPEG AND VANCOUVER

2,000 lbs.
capacity
especially
adapted for
farm use.
Write us for
particulars.



See make a
specialty of
Farm Scales
Call or write for
particulars
C. Wilson & Son
45 Esplanade St.
E. Toronto

DYER AT IT AGAIN

Get the special prices on
Fence and Gates

Write

DYER, "THE FENCE MAN"

47A East Wellington St. Toronto, Ont.

Through ever-shifting shadow to ever-deepening day.
Lo! as the morning glory unfolds the altar-throne,
Love's Easter quest is ended. The Lord is with His own."

DORA FARNCOMB.

The Ingle Nook.

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

At House-cleaning Time.

Housecleaning in spring is never exactly easy, even in its much simplified form that has arrived with the vacuum cleaner and substitution of rugs for carpets, both of which help to do away with the old-time spring upheaval, to a great extent, simply by preventing the accumulation of dust. Walls and curtains that are gone over frequently with a good vacuum cleaner are comparatively dustless when spring arrives; so are floors supplied with rugs that can be easily removed whenever necessary. Nevertheless the periodical general cleaning, spring and fall, brings plenty of extra things to do, and in spring it is well to get it all over before garden-making time arrives. There are last summer's clothes to be got out and put in order, bureau drawers and chests to be arranged, blankets to be washed and put away, and the whole house from attic to cellar to be gone over with broom and brush. If papering and painting are to be done the operation becomes more complicated. It really seems hard to simplify anywhere, yet there are always "best" ways for doing things. The following hints are a collection from various sources.

Doing Up Lace Curtains.

Lace curtains are, thanks be, rapidly becoming a thing of the past, except in the very best quality, for elaborately furnished rooms. The cheap ones were never pretty, and always hard to do up, much harder than the heavy net, linen, scrim, voile, etc., so much used nowadays, which simply need to be washed and ironed. Good lace curtains, however, will always keep their place in some homes, and, to look their best, should be very carefully handled at laundry time. A very good way is the following: Shake and brush the curtains well, then soak over night in good, warm suds made with a pure white soap. In the morning work the curtains gently up and down and squeeze between the hands to get the dirt out. Put into clean warm suds to which a little ammonia has been added, and repeat, changing the water until the curtains are clean, then rinse. Never wring curtains with the hands; lay them on a cloth and put carefully through the wringer. Pin each point carefully to the stretcher and dry quickly. If you have not stretchers use quilting-frames, or pin the curtains to sheets and put out of doors. If you choose you may put lace curtains through a very thin boiled starch, but they should always be flimsy enough to hang gracefully. To make them cream use a coloring stick, or add a little yellow ochre to the starch. If the curtains seem almost too far gone for use they may be used to serve another season by putting them in a white mosquito-netting bag before washing. While still damp put damp net or sold lace over the holes and fasten with fine thread.

Rugs.

To clean rugs take them out of doors and beat and sweep well. Finally sprinkle with cornmeal moistened with clean suds or weak ammonia water, leave for a few minutes, then sweep off. Faded carpets may sometimes be freshened greatly by rubbing them well with a cloth wrung out of vinegar and water, a cupful of vinegar to a pail of warm water. This should not be used on green rugs, as the acid has a tendency to rot them. Dark carpets may be brightened by going over them with a cloth wrung out of a half pail of tepid water to which has been added ½ cup

camphor and 3 or 4 tablespoonfuls of ammonia. Another method is to wipe with a cloth wrung from soapsuds to which turpentine has been added, a tablespoonful to each gallon. Change the water, in each case, frequently.

Cleaning Walls.

The very best way to clean soiled walls is to go over them with one of the wall-paper cleaning mixtures now sold for the purpose. These do the work very thoroughly, at a cost of about 15 cents for each room. If one cannot get these a good method is to go over the walls with a cheesecloth mop dipped into a mixture of cornstarch, whiting and powdered fuller's earth. If there are grease spots make a paste of fuller's earth and ammonia and apply, let dry, then brush off. For very delicately colored paper spread a piece of gauze with French chalk, place on the spot and press with a hot iron, or apply a paste of pipe-clay, let stand 4 hours, then brush off.

To Clean Windows.

Many very good preparations for cleaning windows are sold at the shops. If these are not at hand one of the following methods may be of use: (1) Take a pad of cotton rag soaked in glycerine and rub the glass well, then polish with dry clean rag, and the glass will glitter. (2) Have plenty of dry clean cloths on hand. Take a half pail of hot water and add to it ½ cup coal oil. Next wring a sponge out of this as dry as possible and go over the glass, polishing finally with the cloths. Never use soap on windows, and do the work early in the morning, or on a day when the sun does not shine. Hot sunshine is likely to dry the glass too quickly and make it streaky. If there are paint or putty spots on the glass wet them with hot vinegar and rub with a penny. If old putty must be removed from a sash in order that a new pane may be inserted, heat an iron rod or soldering iron and pass it slowly over the putty, which will be rendered soft so that it can be removed.

To Clean Woodwork.

To clean varnished woodwork use milk and water in the proportion of 1 pint milk to a gallon of water, and rub well until dry. If the woodwork is very dirty rub with coal oil, polishing dry at once, and doing only a little at a time. Use old soft flannel or flannelette for polishing. To clean white painted woodwork use whiting. Dip a soft flannel in clear water, squeeze nearly dry and dip in the whiting, rub the woodwork well with this, then wash with clean, warm water and dry well.

From a Garden Devotee.

Dear Junia and Nookers,—How well the subjects for discussion have been responded to! The letters were all interesting, and I am sure have done credit to the "Circle." I should have liked very much to have taken part in the last list, but was away from home at the time. We also enjoyed Lallie's letters. Do write again Lallie.

The topic that interested me most was gardens, because gardening is my hobby or hobbies. Not that I am such a capital gardener, or that my flowers are always a howling success, but I derive more pure enjoyment from them than anything else.

My first garden was a triumph as to bloom, but I am afraid "Elizabeth" and Mr. Powell would have gazed at it in horror. It resembled an old fashioned grave yard more than anything else. The handy man dug the beds while I stood by and dictated. First there was to be a heart in the centre surrounded by diamonds and oblongs. The handy man balked at the heart, that was beyond him, so it had to be changed to a triangle. The rest were of the oblong variety. No less than twelve of them would satisfy me. The suggestion was made that perhaps it would be better to just have three or four to begin with, but I flatly refused to have anything to do with so small a garden. The beds must be built up good and high, the higher the better. I was told that was not the way nowadays, but I thought the flowers would not be seen from the road if planted on the level.



McCormick's Sodas

JERSEY CREAM So good that butter seems unnecessary.

Crackers and milk! "My goodness," you say, "it's a long time since I have enjoyed anything like that." But of course you remember how good it used to taste—the crisp, crackly bits of golden-brown biscuit floating in a bowl of sweet country milk. And it was nourishing. Children thrive and have always

thrived on it, because it is a natural pure food.

What is good for wee folk will, as a rule, be found good for grown-ups, too.

The condition of scrupulous cleanliness under which these biscuits are baked corresponds in effect to the cleanliness of your home kitchen.

THE McCORMICK MANUFACTURING CO., LIMITED

General Offices and Factory: London, Canada. Branch Warehouses: Montreal, Ottawa, Hamilton, Kingston, Winnipeg, Calgary, Port Arthur, St. John, N.B.

Makers also of McCormick's Fancy Biscuits



Homeseekers Excursions

Every Tuesday, March to October "All Rail"

Every Wednesday During Season Navigation "Great Lakes Route"

Remember out on the prairies where last year Canada's Greatest Wheat Crop was produced there is a home waiting for you. The

CANADIAN PACIFIC

will take you there, give you all the information about the best places, and help you to succeed.

Particulars from any Canadian Pacific Ticket Agent, or write W. R. Howard, District Passenger Agent, Toronto.

The paths between the beds had to be scraped and packed down hard. I had read of "well-trodden paths," hence my idea. There was considerable rain the early part of the summer, and it kept washing the sides of the beds until even I thought it a little too suggestive. I knew nothing of the nature of the flowers I chose, except the pictures on the packets. Of course, I had to have something rare and different from any I had ever seen. I put as many kinds as I could in one bed regardless of height, color or habit. The result was that the dwarf kinds were all in the centre surrounded by the tallest varieties, with here and there a trailing plant creeping among them. The only bed that had one kind was mignonette, and that was due to the fact that I had "such a much" seeds. Sweet peas bounded this creation on two sides, and were in themselves a joy forever. I chose one plant just by the name, "Love Lies Bleeding," because it sounded so romantic. The name was ill chosen, for, like Mr. Finney's turnip, it grew and it grew and it grew 'til it couldn't grow any longer. It spread over half the garden and smothered everything in its path. I loved my garden, poorly planned as it was, and although there have been many since, none have been more tenderly cared for or more eagerly watched than that first old garden. My advice to beginners is to get a catalogue from a good firm and study it thoroughly so that you will know the habits and peculiarities of the flowers you choose. The catalogues that are got out now are an education in themselves. Do not trust to the seeds in the little store around the corner unless you are perfectly sure of what you are buying.

Everybody has had trials with hens scratching out seeds and young plants, and some times a stray cow out for a stroll, but it is still more provoking to have full-grown plants dug or trodden down. One day "the man of wrath" heard a great commotion in the flower garden, and on investigating found a neighbor boy making our dog jump back and forth over the climbing nasturtiums. Of course the dog, not being very well trained to take hurdles, more often jumped into them than over. Between the dog's jumps the boy would jump at the same time, letting a war-hoop out of him. The dog would join in the chorus accompanied by the hens' treble. There was a place where the flowers grew a little taller and thicker, and, as was expected, that was the particular spot where the hurdle practice was going on.

We have done away with the beds now and plant in borders and groups. It saves a lot of weeding and is much cleaner, and easier to kneel on sod. Last year sister and I dug our own trenches, in fact did all the work ourselves. Of course there were aching bones and strained muscles, but there is much satisfaction in the thought that it is your own work from start to finish. There is not half the joy of a garden if someone else plants it and does the weeding and you only pick the flowers. For the first time in our lives we planted the vegetable garden, and I never enjoyed gathering vegetables so much in my life, because I had had a share in the caring for them. By the way, did you ever use carrot tops with flowers? They make a good substitute for ferns and smilax. Flowers seem to call birds as much as trees do. Each year I notice we have more kinds around the flowers. The humming birds seem to be particularly fond of nasturtiums.

Why do not more people plant sunflowers? Those who have written books on gardening seldom, if ever, consider sunflowers. I do not mean to have them right among the other flowers, but it seems to me every back-yard should have some. They are pretty as well as practical. They show to much better advantage if planted in groups, I think. Their big yellow heads nodding on long necks and with clusters of bright green leaves are surely a pleasing sight. The seeds are very good for hens, and those who have parrots will find that their pets like them much better than corn. I should like very much to see the new red variety, and shall try some day to grow some.

We have read with interest the extracts from Mr. Powell's book, "The

Country Home." Anything pertaining to gardening is eagerly devoured, even advertisements. I think like "Aunt Jane From Kentucky," I will not be perfectly happy in heaven if there is no garden for me to take care of.

Iberville Co., Que. "VIOLETTE"

You see, Violette, you learned by your mistakes. After all, isn't that the way we learn a great many things? Like you, I am particularly fond of sunflowers. They are fine for filling up out-of-the-way corners and screening ugly walls; then how perfectly splendid they are on dull, gloomy days.

Seasonable Cookery.

French Poached Eggs: Cook one egg at a time. Have a small, deep saucepan

Highest Price For Cream

The T. Eaton Co. wants your cream for butter-making purposes. We furnish the cans and pay express charges within a radius of 250 miles of Toronto. Drop us a card and we shall be pleased to furnish you with any further information you may require.

The T. EATON COMPANY, LIMITED
TORONTO, CANADA

CURE YOUR COWS OF CAKED UDDERS



3 APPLICATIONS GUARANTEED
For Sale Everywhere
Write for free sample.
DOUGLAS & CO., NAPANEE, ONTARIO

GRAND TRUNK RAILWAY SYSTEM

Easter Excursions

SINGLE FARE

Good going April 21st and returning same day.

FARE AND ONE THIRD

Good going April 20, 21, 22, 23. Return limit April 25th.

Return tickets will be issued between all stations in Canada east of Port Arthur and to Detroit and Fort Huron, Mich., Buffalo, Black Rock, Niagara Falls and Suspension Bridge, N. Y.

Tickets and further particulars at Grand Trunk ticket offices.

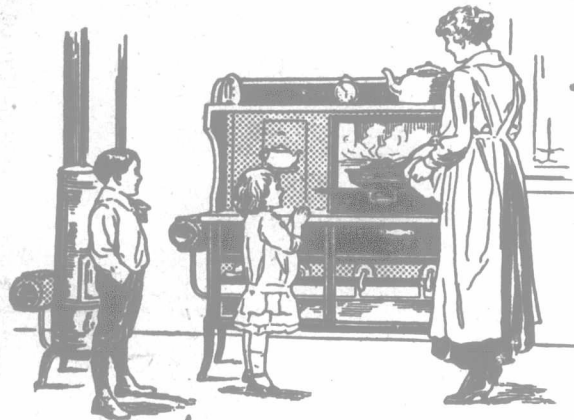
Farmer's Building Guide

Mr. Dolph, President of the Metal Shingle & Siding Co., Limited, Preston, Ont., has made a special study of improved barn construction for Canadian farmers, and has just issued a handsome book on this subject. It tells how to build the right kind of a barn from foundation to roof, and is illustrated with details, plans and cuts of barns.

A letter or a card to him at the above address, giving him the approximate size of the building you intend erecting, will bring you a copy of this booklet FREE of charge.

"Nothing But Leaves"
**Not Tea Leaves intermixed with Dust,
 Dirt and Stems but all Virgin Leaves.**
"SALADA"

has the reputation of being the cleanest,
 and most perfect tea sold. **E 147**
BLACK, GREEN OR MIXED. SEALED PACKETS ONLY.



**The
 "Florence
 Kitchen"**

Makes the
 happy family.
 McClary's
 Florence Blue
 Flame Oil
 Stoves sim-

plify your cooking. Easy to use, clean, safe, economical,
 and reliable—an ornament to any kitchen.

**McClary's
 FLORENCE
 OIL COOK STOVES** *Wickless, Valveless,
 Blue Flame, Automatic*

No hot summer kitchens. The Florence is ALWAYS ready with AS MUCH heat as you want, right WHERE you want it—IN the cooking, and NOT out in the room. Costs less than a cent an hour per burner.

You can keep one—or four—burners at an intensely hot flame, or merely simmering. To regulate the heat, you

simply turn the lever according to the dial.

There are no wicks to trim, nor valves to leak. The oil supply is automatically constant. All Florence stoves and ovens are fully guaranteed.

Ask your dealer to show you the Florence. If he cannot supply it write to our nearest branch.

London Toronto Winnipeg Vancouver St. John, N. B.
 Montreal Hamilton Calgary Edmonton Saskatoon 825

**LEARN ALL THE ADVANTAGES
 OF BUYING PAINT DIRECT
 FROM FACTORY**



D. P. W. PAINTS

Direct From Our Plant to You
At Factory Prices

Our new paint folio is prepared with your requirements in mind. You will find it interesting. It explains the economy and satisfaction of buying from us—not from stock—right from the mill.

This folio is yours without cost.

Send us a postal asking for folio No. D11

DOMINION PAINT WORKS, Limited,
 OF WALKERVILLE,
 ONTARIO

FRESH PAINT

nearly full of boiling water to which has been added a little salt and a tablespoon of vinegar. When the water is rapidly boiling, stir round and round with a spoon until the water is in a whirl, and then in the center of the whirl drop the egg. Cook 3 minutes, remove carefully, trim neatly and keep hot until enough eggs are cooked. Serve each on buttered toast. Pour cream or vinegar sauce over, if you choose, and serve hot with four boiled asparagus tips on each plate.

Maple Cookies:—Melt 1 cup butter with 2½ cups maple syrup. Remove from the fire, add the well-beaten yolks of 4 eggs, 1 cup milk, and, finally, enough flour into which 2 teaspoons baking powder have been sifted, to roll into a soft dough. Add the stiffly beaten whites of the eggs before putting in the last half of the flour. Roll out, cut and bake.

Maple Sauce for Puddings:—¾ cup syrup, ½ cup whipped cream, 2 yolks of eggs. Beat the yolks until thick, add the maple syrup and cook until it thickens. Do not let it boil. Remove from the fire, add the whipped cream, chill and serve.

Mock Pineapple Salad:—Take 3 large oranges, peel and remove all the white skin and cut into thick slices. Pare 2 apples and slice thin. Alternate the slices in a deep glass dish. Sprinkle with sugar and the juice of a lemon. Chill for 2 hours.

Hamburg Roast:—2 lbs. beef, (top of round), ½ cup crumbs, 1 beaten egg, 1 teaspoon onion juice, salt, 1 tablespoon chopped parsley, 1 tablespoon chopped green or red pepper or ½ teaspoon paprika (black pepper will do). Mix all well and shape into a firm roll, then put in a baking pan with a slice of salt pork on top. Bake 30 to 40 minutes, basting frequently.

**The Scrap Bag.
 Garden Borders.**

For most lawns and gardens, borders with irregular edges, running into curves and "bays" are more attractive than those with straight edges. In planting them be careful to put the tallest plants at the back, graduating down to the low border of sweet alyssum, feverfew, etc. Massed planting is most effective for most species of flowers—this is Nature's way—yet care must be taken to have such a distribution that there are no great gaps without flowers for any considerable time during the summer. The best seed catalogues give the time for blooming of each species.

Value of Wood Ashes.

Do not waste a spoonful of wood-ashes. It is valuable as a fertilizer, for orchard, vegetable-garden or flower-garden. It is particularly good for a top-dressing mixed with the soil about asters and will help to drive the destroying beetle away.

Curtains and Carpets.

If new curtains have to be bought this year there is chance for choice among many delightful materials, including curtain linen and silk, voile, heavy fish net, Swiss muslins, and scrim. For inside curtains, when these are desired are shown shadow chintz, art denim, curtain rep, casement cloth and Monk's cloth. These are all suitable for cushion coverings. If rugs must also be replaced Axminster and Wilton squares, or Scotch wool squares give very good satisfaction, with Crex rugs, or woven hemp and Japanese matting as a more summery substitute. Rag rugs, also, are quite as much in favor as they have been, and are now woven in beautifully fine and even quality.

Food Combinations.

It is not sufficient to be able to cook well, the really efficient cook must look to the combinations which she serves at a single meal. For instance compounds that are likely to quarrel in the stomach, such as tomatoes or grape-fruit (both containing acid) and milk should not be served together. If grape-fruit is served at breakfast, followed by a cereal, cream, not milk, should accompany the cereal. Pickles, as a rule, are not attractive with hot meat: they should be served with cold meat. Again a heavy cream or milk soup, nutritious in itself, should be reserved for luncheon or supper, never brought on as the



**New Strength for the
 Weak and Ill.**

TO increase your strength and energy, to invigorate your nervous system, to renew your health in the shortest possible time — there is nothing so efficacious as a "course" of Sanatogen.

Thousands of men and women have gratefully acknowledged this fact. For example, Sir Gilbert Parker, M.P., the Canadian-born novelist and statesman, writes:—"I have used Sanatogen with extraordinary benefit. It is a true tonic-food, feeding the nerves, increasing the energy, and giving fresh vigour to the overworked body and mind." And Mr. Arnold Bennett, whose novels and plays have brought him world-wide fame, writes: "The tonic effect of Sanatogen on me is simply wonderful!"

**Sanatogen
 THE FOOD-TONIC**

Sanatogen is no secret remedy; its composition—albumin and phosphorus in true organic union—is known and approved by every doctor in the world; and it produces no reaction or other ill effects.

Why not commence a "course" of Sanatogen now? You can buy it at any Druggist's, from \$1.00 per tin, and it is entirely British made by British labour. Send this coupon for a Free Booklet, which fully describes the nature and uses of Sanatogen, and gives much valuable information about health topics.

FREE BOOKLET.

The Sanatogen Co.,
 P.O. Box 2622, Montreal.

Please send me a Free Booklet.

Name

Address

S. 29/663.

**Harab-Davies
 Fertilizers** **Yield
 Big
 Results**

Write for Booklet.
THE ONTARIO FERTILIZERS, LTD.
 West Toronto

FOR SALE

The pure-bred Imp. Clydesdale stallion Royal Donald (8112) [13691], a sire of prize-winners. Reason for selling: I have had him here for seven years. Eleven years old. Apply to:—

J. B. CALDER
 GLANFORD STA. R.R. 3. ONTARIO



Another year of this?

LUGGING in wood. Huddling over stoves. So much work—so little cheer.

Be thankful the winter is over, and plan NOW for next winter's siege of zero weather. Why should you endure pioneer-day hardships? Comfort is just around the corner. Your home, no matter how it is built, can be made as warm and cheery as a modern city house.

HECLA A Clare Bros. FURNACE

Hecla Heating is Not Costly

Decide to have it—TO-DAY, Mother will agree to it. The best news you could bring her would be that you had ordered a Hecla Furnace, and that next winter your whole house would be warm. There is a deal you can make in happiness, that will pay you and all your family, dividends of joy every winter for the rest of your lives.

Because, with the Hecla Furnace you buy warmth guaranteed. No man need hesitate for a minute. There is no risk. We will plan your heating system, put it in, and guarantee that it will keep your home heated to your satisfaction. Once you instruct us to go ahead, the responsibility of making your home comfortable is ours.

\$90 to \$150

To make your home a real HOME, winter as well as summer, costs what? Anywhere from \$90 to \$150, depending on the size and style of your house. That is all that stands between winter chill and winter cheer. That will make a bright, healthy home where mother can spend the long winter enjoyably. That will give you early morning and day-long comfort. That will bring your friends and your family to look on your home as the best spot on earth. That will make you rightly proud of your home.

Hecla Burns Wood as Well as Coal.

Hecla heating, you have likely heard, is economical. Spring and fall you can burn wood in the Hecla. It is made especially for the purpose. The Hecla has the patented STEEL-RIBBED Fire-pot, with its triple heating surface. That is the feature that saves one ton of coal in seven.

Hecla Warm Air is Mellow

Dust or gas can never escape from the Hecla. This is another exclusive Hecla feature. FUSED JOINTS—our patent—never leak. We guarantee that for the life of the furnace.

The moisture supply in the Hecla is so liberal that dryness in the air is unknown.

Hecla Avoids Waste

The Hecla can be checked down to hold the fire for hours without waste. That is because of good tight workmanship. The fire is shaken down with four separate grate bars. Live fire need never be dropped with the ashes. Waste of coal is guarded against at every point.

CLARE BROS. & CO., LIMITED
PRESTON, ONTARIO

Any one who would like to plan now for the day when he will install a heating system in his home is welcome to the help of our heating experts.

Without cost, and without obligating yourself to buy, you may have full information on the whole subject. If you wish, we will send you specifications, plans and estimates of the cost. You will be supplied with literature about heating to study out at your leisure.

The Hecla Furnace will be described fully and in a very interesting way.

You will be told where you can see the Hecla and examine its patented features.

You will be given the names of neighbors of yours who have Hecla Furnaces in their homes.

You will have in very complete form all the information that you require to plan ahead for next winter, or a year or so hence, when you will be ready to modernize your home.

This will be sent to you immediately on receipt of your letter asking for it.

Penniless Old Men

You know many of them—men who in their prime made plenty of money, but who spent as freely as they earned. Old age finds them in a sorry plight.

You don't expect to be without means of support when you grow old, do you? Neither did they. But you can escape their bitter experience if you will.

A few dollars saved each year and invested in an Imperial Endowment Policy will provide the means to keep you in comfort in your old age. Or it will take care of your family should death call you early.

Fill out and return the coupon below and we'll send you full information free.

Name.....Age.....

Address.....

Occupation.....
Married?.....
Single?.....

THE IMPERIAL LIFE Assurance Company of Canada
HEAD OFFICE - TORONTO

Branches and Agents in all important centres

Copyright



OUR IDEAL

MANGEL "OUR IDEAL"

Yellow Flesh LEADS THE WAY. BEATS EVERYTHING. For Feeding. For Cropping. But be sure it is "OUR IDEAL."

Try one pound CANADIAN GROWN Seed 45c. P. Free.

Other Leaders
"Waterloo Giant White Sugar." The best Sugar Mangel 40c. per lb. Post Free.
"Waterloo Giant Yellow Intermediate." Our SPECIAL Selection 40c. per lb. Post Free.

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

A Trial is All We Ask.

Finest HOME GROWN and Imported Seeds. None Better. Few as good. CATALOGUE POST FREE ON APPLICATION.

Special Collections (extra value) Vegetable and Flour Seeds. 12 packets 25c. 18 packets 50c. 32 packets \$1.00. All Post Free.

ONTARIO SEED CO. Successors, WATERLOO, ONTARIO. DEPT. A.

FERTILE LIME SOIL DRESSING for ALFALFA

A good yield of Alfalfa gives practically more feed units per acre than does any other crop. This means cheap feed.

—ALFALFA NEEDS SWEET SOIL—

FERTILE LIME SOIL DRESSING Sweetens Soils

It also helps in the development of the nodules of the alfalfa roots. These are essential. Write for free of charge

FERTILE LIME BOOK

Stinson-Reeb Builders Supply Co., Limited
READ BUILDING PHONE, MAIN 402 MONTREAL

Seed Corn—Prize-winning Wisconsin No. 7 and Longtellow, the best for the silo.
GEORGE R. WEST & SONS
Northwood, R. R. No. 3, Ontario

Strawberry Plants that grow—varieties you want to buy, at prices you want to pay. List free.
ONTARIO NURSERY COMPANY
Wellington, Ontario



Makes
Fine Bread

EVERYONE who bakes bread should know about Cream of the West Flour. It is without a peer as a bread flour. With every four 98 lb. bags of Cream of the West Flour and our other guaranteed flours we give an interesting war book or cook book free. Make out your order now.

Cream of the West Flour

the hard wheat flour guaranteed for bread

GUARANTEED FLOURS.

	Per 98-lb. bag.
Cream of the West Flour (for bread)	\$3.50
Toronto's Pride (for bread)	3.30
Queen City Flour (blended for all purposes)	3.00
Monarch Flour (makes delicious pastry)	2.95

CEREALS.

Cream of the West Wheatlets (per 6-lb. bag)	.30
Norwegian Rolled Oats (per 90-lb. bag)	3.00
Bob-o-link Cornmeal (per 98-lb. bag)	2.70

FEEDS.

	Per 100-lb. bag.
"Bullrush" Bran	\$1.35
"Bullrush" Middlings	1.45
Extra White Middlings	1.60
"Tower" Feed Flour	1.75
Whole Manitoba Oats	1.80
"Bullrush" Crushed Oats	1.90
Sunset Crushed Oats	1.80
Manitoba Feed Barley	1.80
Barley Meal	1.85
Geneva Feed (crushed corn, oats and barley)	1.90
Oil Cake Meal (old process, ground fine or nutted)	2.20
Chopped Oats	1.90
Feed Wheat	2.25
Whole Corn	1.90
Cracked Corn	2.00
Feed Corn Meal	1.90
Monarch Scratch Feed	2.30
Monarch Laying Mash	2.25
Monarch Chick Food	2.60

Prices on Ton Lots: We cannot make any reduction on above prices, even if you purchase five or ten tons. The only reduction from the above prices would be on carload orders.

Terms Cash with Order: Orders may be assorted as desired. On shipments up to five bags, buyer pays freight charges. On shipments over five bags we will prepay freight to any station in Ontario, east of Sudbury and south of North Bay. West of Sudbury and New Ontario, add 15 cents per bag. Prices are subject to market change.

LIST OF BOOKS

Tale of Two Cities, by Dickens.	The Woman in White, by Collins.
David Copperfield, by Dickens.	The Pathfinder, by Cooper.
Oliver Twist, by Dickens.	Never Too Late to Mend, by Reade.
The Talisman, by Scott.	The Scarlet Letter, by Hawthorne.
Waverley, by Scott.	Poems, by Longfellow.
Last Days of Pompeii, by Lytton.	Poems, by Tennyson.
Last of the Barons, by Lytton.	Airship Andy, by Webster.
Three Musketeers, by Dumas.	Tom Fairfield at Sea, by Chapman.
Vanity Fair, by Thackeray.	Ruth Fielding at Snow Camp, by A. B. Emerson.
Cranford, by Gaskell.	

Ye Olde Miller's Household Book.—Over 1,000 tested recipes, and large medical section. Enclose 10 cents to pay postage and packing on this book. No postage asked for on other books. No book forwarded unless an order for four or more bags of flour is received.

The Campbell Flour Mills Company

LIMITED
(WEST) TORONTO, ONTARIO.

Sarnia Creamery

Pays express, furnishes cans, and remits weekly
Pays Highest Price

Write for particulars.

Sarnia Creamery Co., Limited
SARNIA, ONTARIO

Brant Creamery

Brantford, Ontario
Guarantees to you a high-priced market for cream every day of the year.

Write for our book.
Reference: Bank of Nova Scotia

CREAM WANTED

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

Ontario Creameries Limited
London, Ont.

WANTED:—By the Farmers' Club of Cleveland, one Pure Bred Registered Dairy

SHORTHORN BULL

One whose dam is recorded in the R.O.P. test preferred. Must be two years old or upwards, reply at once stating price. Address: MR. C. C. HEALY Secretary - Treasurer RICHMOND, Quebec

preliminary to a substantial dinner, for which a simple broth or consomme should be the prelude.

An important consideration is that if the main dish at a meal be rich in proteid properties—a roast, or fowl, for example—the dessert should not also be rich in protein. For this reason plum pudding at a Christmas dinner is always a mistake, as are also mince pies. A lighter pudding would be much better. Nor is macaroni advisable with a meat dinner.

Variety is also to be considered. If tomato soup begins a supper, do not follow it with tomatoes in any other form. Similarly do not let chicken soup precede a chicken dinner, nor serve a soft tapioca pudding after a stew or a fruit pie after a meat pie.

Macaroni with cheese and tomato, a dish rich in both proteid and carbohydrate elements, may very well form the chief dish for a supper, especially if a little butter be added to supply the necessary fat.

As a rule serve green vegetables, such as lettuce, cress or celery with rich and oily dishes. With white-meated fowl, such as the breast of young chicken, which is deficient in fat, salad with a rich mayonnaise dressing is in order. With red meat game, which contains more fat, a tart fruit salad will be found appetizing. Cranberry sauce is always liked with rich roasts of meat or poultry, and apple-sauce is a very proper accompaniment to roast goose or pork.

Another dish which is recommended as the chief dish for luncheon or supper is a salad of cheese-balls, or beans (Lima or Kidney) on lettuce with salad-dressing in which cream or oil has been incorporated. Such salads need no other accompaniment than crackers, bread or biscuits.

Serve, then, with a roast, says American Cookery, one starchy vegetable, and a plain green salad. With fish serve cauliflower or onions in cream sauce, cheese, toasted crackers and coffee. Fruit sherbet, rather than ice-cream, may follow roast pork or goose; the ice-cream is already rich in fat. Quite a complete meal may consist of baked beans with pork, bread, and a green vegetable salad with acid dressing. Tomatoes, cabbage, celery, cucumbers or lettuce will meet the requirements.

Enameled Iron Bedsteads.

Enameled iron bedsteads may be cleaned with coal oil. Rub on a little at a time and polish with clean cloths. Use just a little oil.

Japanese Matting.

Never use soap on Japanese matting as it yellows it; use salty water. To remove grease spots cover them with chalk and sprinkle with benzine or gasoline. Leave until dry and brush off. Do this work out of doors away from fires and lights to prevent danger of explosion.

Laundering Bedding.

The brightest of bright days should be chosen for laundering the blankets and comforters before putting them away for the summer.

The problem in washing blankets is to keep them soft and woolly, and prevent them from thickening up, hard and felt-like. One method, highly recommended, is the following: Use plenty of clean soft water and make a strong suds with a good soap, free from resin, which is sure to harden the fibres. First shake all the dust out of the blankets then plunge them into the suds and work them with the hands. Never rub soap directly on them, nor use a wash-board. Finally rinse through several waters, soft water and each hotter than the last. The heat expands the wool and keeps it soft. Shake out well, pull the edges straight and dry quickly in the sun. Some use pearline instead of soap for washing blankets and some, when making the suds, add to them a tablespoonful of borax and two of ammonia.

To wash an eiderdown comforter, first make a lather of hot water and soap jelly, adding a little ammonia. Soak the coverlid about in this, then through another suds prepared the same way. Rinse in two lots of clear, warm soft water to which a little ammonia has been added. Finally hang on the line, without wringing, and let dry. The line should be in a windy place. As it dries shake frequently.

Cheery Walls Make Happy Homes



YOU feel their restful comeliness at once—inviting you to slip into cosy slippers, pull up your own chair to the fire, and find a new friendliness in home's attachments.

PEDLAR'S PERFECT METAL CEILING AND WALLS

quickly change dull, dreary rooms to ones you like to linger in. Whether you prefer plainness or a touch of ornament, you will find many to please you in the 2,000 styles and Period designs to choose from. Easy to put on over plaster or wood, the joints fit in snug so they cannot show or come away. Last without repair as long as your house. Shall we send you the complete Ceiling Catalogue I. F.

Write for it!

THE PEDLAR PEOPLE LIMITED

(Established 1861)

Executive Office and Factories: OSHAWA, ONT.

Branches: Montreal, Ottawa, Toronto, London, Winnipeg.



Your Way To Good Looks

Should be the way of the Hiscott treatments and preparations. The test of years—24 years' practice and experience is behind the

HISCOTT WAY

You can make your skin what you would love to have it—you can subdue those wrinkles, remove those lines, make yourself look younger and fresher.

Use Princess Skin Food

It has had the approval of particular women for nearly a quarter of a century. It will make your complexion clear and soft and fine. Write to-day for free booklet F. It will tell you all about the care of the skin, scalp and hair, and will tell you how we permanently remove SUPERFLUOUS HAIR, MOLES, WARTS, ETC. We invite correspondence.

HISCOTT INSTITUTE

61A COLLEGE STREET, TORONTO

The Perfect Piano for the Home.

NEW SCALE
WILLIAMS
The choice of the World's Great Artists
THE WILLIAMS PIANO CO. Limited
Oshawa, Ontario.

Write TO-DAY for FREE BOOK on SILO CONSTRUCTION



Any farmer can erect this silo without outside help—the best silo on the market to-day. Can be put up in 10 to 15 hours absolutely without scaffolding. In the

BURLINGTON PERFECT SILO

2 x 6 inch Norway pine, selected dry stock, is used, with air-tight adjustable doors, all treated with special preservative, and painted dark red. Our patent galvanized steel cable bands are stronger than iron bands, and have many other advantages over iron rods, having sufficient elasticity to permit of the expansion and contraction due to change of seasons, keeping the silo tight at all times. You will be surprised, not only at the low cost of the Burlington Silo, but at the easy way it is erected. The book tells all about it. Write to-day, using the coupon below.

THE NICHOLSON LUMBER COMPANY, LIMITED BURLINGTON, ONTARIO

Please send me your FREE BOOK on SILO CONSTRUCTION

Name
Address

See this Bow Lever



Light rigid steel frame. Bolted iron rollers. Roller bearings. Best finish throughout

THIS is a special feature of the Maxwell "Favorite" Churn. No other churn has it. You can adjust the handle to centre, right or left, whichever is easiest for driving.

Maxwell

"FAVORITE" CHURN (with Bow Lever)

—makes churning a pleasure. It's so simple to drive—requires so little effort to produce the butter. Agricultural Colleges and Government Inspectors recommend it. Used in Denmark, Australia, New Zealand, S. Africa, and all over Canada.

Call at your dealer's and let him show you the splendid unique features of the Maxwell "FAVORITE." Sold in eight sizes.

MAXWELLS LIMITED

St. MARY'S, ONTARIO

WANTED FOR SALE

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

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

COLLIE PUPS FOR SALE. A. T. McPherson, R. R. 6, St. Thomas, Ont.

DAIRY BUTTER WANTED.—WANTED about 150 lbs. of good dairy butter (in pound prints) every month, state price and particulars. Brindale Farms Ltd., Brindale, Ont.

WANTED.—INTELLIGENT YOUNG MEN to learn shipbuilding at good wages. Many ships needed in future. Apply Collingwood Shipbuilding Company, Limited, Collingwood, Ontario.

O. A. C. 72 AND REG. BANNER OATS, and O. A. C. 21 Barley for sale. Out of 1st-prize standing crop and grown from 1st-prize seed. GEO. D. FLETCHER, R. R. 1, Erin, Ontario.

PATENTS AND LEGAL. FETHERSTONHAUGH & CO., PATENTS Solicitors The Old Established Firm, Head Office Royal Bank Building, Toronto, and 5 Elgin St., Ottawa, and other principal cities.

WHITE WYANDOTTES—I have a very choice lot bred from high-class stock. The kind that produces both eggs and meat. Eggs one dollar per setting.

Herbert German, Box 141, St. George, Ont.

RACK CURED SEED CORN—All varieties. Write us before placing your order for seed corn. We have quantity and quality. Our seed corn is all hand selected and thoroughly rack-cured.

ST. JOACHIM CORN GROWERS' CLUB, Box No. 4, St. Joachim, Ont.

Registered Clydesdale Stallion For Sale. Will consider Real Estate or Ford Motor Car. Give or take cash difference. Address: V.S. TOTTENHAM, ONT.



To insure vigorous, healthy chicks, feed only Purina Baby Chick Feed

Followed by PURINA CHICKEN CHOWDER Write us for Free Purina Booklet and feeding instructions, giving name of your dealer.

The Chisholm Milling Co., Limited TORONTO

COLLIN'S HATCHER AND BROODER

\$8.50 Follows nature—hatches more eggs—each machine holds 50 eggs—has outside thermometer—can be used any place in home or buildings—guaranteed money back if you don't like it—send at once.



Free COLLINS MFG. COMPANY, Catalogue 417 Symington Ave., Toronto

J. VICAR MUNRO, Architect Designs Churches, Homes and Schools. Reasonable charges—no extras. 54 Bank of Toronto, London, Canada

To Renovate Pillows: Wet the pillow so that the feathers will not fly, then take out the feathers into a good soap-suds to which a little borax has been added. Lift the feathers into a colander and rinse with warm soft water. Finally drop them into large cheese-cloth bags and hang in an airy place, turning and tossing them often to fluff the feathers out. Keep the bags in a windy place, but not in hot sunshine, which has a tendency to draw the oil out of the feathers. In the meantime have the ticks washed, and finally return the feathers.

Another way is to open the pillow a short way, baste on to the bag, shake the feathers from the one to the other, then wash and dry. In either case baste the clean tick to the bag when returning the feathers.

News of the Week

Nearly 300,000 men in all have enlisted in Canada. Over 400 from the O. A. C. at Guelph are in uniform, at the front and in training.

The Ontario Legislature is to take active steps for helping the settlers in New Ontario.

The Prohibition Bill in Ontario will go into effect on Sept. 16. A referendum will be taken in June 1919.

The most important news of the past week up to time of going to press has been reported from the Tigris River in Mesopotamia, where General Lake reports, the British forces under Generals Goringe and Keary have gained two signal victories, at Umm-el-Henna and Felahie, and so made perceptible advance towards the relief of the 10,000 men under General Townshend who have been so long shut up in Kut-el-Amara.

In France heavy fighting has again taken place in the vicinity of Verdun, at Haucourt and Bethincourt, and the slaughter has been fearful. Fighting has also occurred at St. Eloi, near Ypres, where Canadians were engaged and acquitted themselves creditably, although one crater was lost to the British. At the present time there are said to be 420,000 Germans about Verdun and 476,000 opposing General Haig's lines in Flanders and Northern France. In East Africa the British under Gen. Smuts continue to make gains. Notwithstanding the fierceness of the conflict that is still being waged, and the certainty that it must continue for some time to come there are persistent rumors from various quarters that the Teutons and their allies are becoming sick of the long struggle. German bankers are said to have gone to Switzerland with capital, intending to go to the United States if necessary; and Petrograd announces that the Young Turks are sending a former Premier to Paris and London to learn if the Turks have any chance of making a separate peace. With her commerce ruined, it seems that Germany must be feeling more, every day, the strain of keeping up supplies.

In Caen France, women are supplying the place of soldiers in the auxiliary service and doing it well. The Minister of War suggests that in other garrisons women be employed in the same capacity.

Points to Consider When Purchasing a Railway Ticket.

A Canadian Pacific Railway ticket does not represent merely a means of transportation between given points. It, in addition, provides the traveller with every comfort and convenience, developed by modern railway science, "Safety First," with up-to-date equipment, unexcelled dining car service, palatial sleeping cars, in a word, everything that a railway can provide for the comfortable transportation of its passengers, including courtesy.

Lochabar Poultry Yards

Is prepared to fill orders for eggs from prize-winning and selected birds of the following varieties:—B. R. Rocks, W. C. Bants, White and Black Leg horns at \$2 per 15. Rouen ducks eggs 15 cent each, M. Bronze Turkeys 40 cents each. Express prepaid on all orders over \$4 in Ont.

D. A. Graham, Wvoming, Ont.

Do you want to be a doctor, lawyer, minister, dentist, druggist, civil or mining or electrical engineer; to take a university or college course. Then you need Matriculation. We teach you at home. Write Canadian Correspondence College, Limited, Dept. E.E., Toronto Canada.

POULTRY AND EGGS

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

A FEW NICE GOLDEN AND SILVER-Laced Wyandotte cockerels for sale. Winners at Mitchel and Goderich Winter Shows; prices right. Peter Daley, Box 12, Seaforth, Ont.

ARE YOU INTERESTED?—EGGS FROM winners at Panama Pacific Exposition, Madison Square Garden, Guelph, Ottawa. Brahmas, Spanish, Partridge Rocks, Partridge Wyandotte, White Leghorns, Barred Rocks (Ontario Agricultural College strain), Indian Runners, Pekin ducks. War Prices. John Annesser, Tilbury, Ont.

BRED-TO-LAY BARRED ROCKS. O. A. C. and Guild's strains, unexcelled winter layers. Eggs one dollar per fifteen. Also limited number settings of world record Tom Barron strain White Leghorns, imported direct. Two dollars per fifteen, satisfaction guaranteed. L. A. Pearson, No. 1, Thamesford, Ont.

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

BARRED ROCKS AND S. C. WHITE LEG-horn eggs from large, vigorous, bred-to-lay strains, \$1.50 per 15; \$7.00 per 100. Satisfaction guaranteed. L. J. Gibbons, Iroquois, Ont.

BROWN'S SICILIAN BUTTERCUPS AND D. W. Young's S. C. W. Leghorns. The best strains of these breeds in Canada. \$2.00 and \$3.00 per setting of 15 eggs J. Viktor Hews, Webbwood, Ontario.

CLARK'S ORPINGTONS, BUFF AND WHITE exhibition and laying strains. Hatching eggs, exhibition \$5 per 15, others \$1 and \$2 per 15, 9 chicks guaranteed; \$6 per 100. A few good cockerels at \$2 and \$3 each. Catalogue free. J. W. Clark, Cedar Row Farm, Cainsville, Ont.

DOUBLE YOUR POULTRY PROFITS NEXT year by investing a few dollars now in eggs for hatching from our extra heavy laying strains of Barred Rocks, White Wyandottes and Buff Leghorns. For fifteen years we have been breeding heavy egg producers combined with superior quality. Our stock, raised on free range, produce large, vigorous chicks and the early laying kind. Eggs \$1.25 fifteen, \$6.50 hundred. Safe delivery and satisfaction guaranteed. Catalogue free. Charles Watson, Londesboro, Ont.

EGGS FROM CHOICE BRED-TO-LAY Indian Runner ducks, at 75c. per eleven. George Buttery, Strathroy, Ont.

EGGS FOR HATCHING FROM SINGLE Comb White Leghorns, Rose Comb Brown Leghorns, Rose Comb Reds, White Wyandottes and Barred Rocks with world record, \$1.50 for 15. Satisfaction guaranteed. Write for particulars, Nelson Smith, Jerseyville, Ontario.

EGGS FROM IMPORTED SINGLE-COMB Brown Leghorns, persistent winter layers, 140 eggs daily from 190 hens; mated with choice, vigorous cockerels. Price \$1.00 per 15, \$2.00 per 40, \$4.50 per 100. W. C. Shearer, Bright, Ont.

FOR SALE—MAMMOTH PEKIN DUCKS, no drakes. Prices reasonable. John Beckton, Glencoe, Ont.

FAWN AND WHITE INDIAN RUNNER and Rouen duck eggs \$1.00 per 12. Ernest Howell, St. George, Ontario.

ORDER YOUR DAY OLD CHICKS NOW from the best strain of bred-to-lay S. C. White Leghorns in Canada. Utility Poultry Farm, Stratford, Ont., Thos. G. Delamere, Prop. PURE-BRED GREAT WINTER LAYING Single Comb White Leghorns, hatching eggs, fifteen \$1.00, hundred \$4.00; safe delivery and satisfaction guaranteed. Henry McIntyre, R. R. No. 3, Eganville, Ont.

PURE-BRED BARRED ROCKS; GOOD LAY-ing strain. Eggs \$1.00 per dozen. Chas. Needham, Ilderton, Ont.

PEKIN, ROUEN, INDIAN RUNNER DUCKS. Wyandottes, R. I. Reds, and Black Minorcas, one-fifty per sitting. Prize stock. S. R. Copland, R. 1, Harriston, Ont.

ROSE COMB RHODE ISLAND REDS, 240-egg-strain, Martins or Guilds, 200 egg-strain. White Wyandottes, Single Comb White Leghorns, fifteen eggs, \$1.25. Special pen reds, eggs \$3. Wesley Shanklin, Ilderton, Ont.

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

S. C. RHODE ISLAND REDS.—WINNERS Hanover, Owens Farm Strain, \$2.00 per setting; 3 settings \$5.00. J. W. Wettlaufer, Bright, Ont.

S. C. BLACK MINORCAS, WINNERS STRAT-ford, Galt, Brantford, Hanover. Pen 1, \$2.00; pen 2, \$1.50; 3 settings \$4.00. J. W. Wettlaufer, Bright, Ont.

SELECTED PEN PURE-BRED SILVER-Laced Wyandottes. Eggs for hatching, \$1.00 per 15. S. H. Gunby, Campbellville, R. R. 3, Ont.

SINGLE COMB BLACK MINORCA EGGS one-fifty; also O. A. C. oats. Fred Reekie, Camperdown, Ont.

S. C. WHITE LEGHORNS, BRED FROM pedigreed stock with heavy laying records Eggs \$1.00 per 15. A hatch guaranteed. Geo. D. Fletcher, Erin, Ont., R. R. 1.

TRAP-NESTED WHITE LEGHORNS Certified eggs, record with every bird. Eggs chicks for sale. Welland View Poultry Farm Welland, Ont.

WHITE INDIAN RUNNER DUCKS, EGGS \$2.50 for 13; English Red Caps, \$2.00 a setting H. Raison, 5 Duke St., Phone 3570, London, Ont

KEITH'S SEEDS
THE FARMER'S SEEDSMAN FIFTY YEARS SERVICE
 1866 1916

Order now, and get the first choice of our stock.
 We pay railway freight on all orders \$25 or over in Ontario and Quebec
 Our Golden Jubilee Catalogue is at your service.
 Write for one to-day. It is FREE.

GOV'T. STANDARD	Bus.	SEED CORN. Bags Free.	
No. 1 Red Clover		1914 and 1915	Per bus.
Almost Extra No. 1 for Purity	\$17.00	growth.	(70 lbs.) on cob.
No. 1 Red Clover	16.00		
No. 2 "	15.25	In crates	In bags
No. 1 Alsike	13.00	Wisconsin No. 7	3.00 \$1.80
No. 2 "	11.00	Golden Glow	3.00 1.75
No. 1 Timothy		Bailey	3.00 1.75
(Almost Extra No. 1 for purity)	6.00	Leaming	3.00 1.75
No. 1 Timothy	5.75	White Cap	3.00 1.75
No. 2 Timothy		Longfellow	3.00 1.90
Slightly hulled, but Extra No. 1 for purity (bargain)	5.65	N. Dakota	1.90
No. 2 Timothy	5.25	Comptons	1.90
Sweet Clover (white blossom) per bushel	12.00		
ALFALFA	Per bus.	GRAIN—Sacks Free	Per bus.
Ontario Variegated No. 1	\$25.00	O. A. C. No. 72 Oats Registered	\$ 1.40
No. 2 for purity	21.00	O. A. C. No. 72 Oats Unregistered	1.00
Montana (Northern grown)		O. A. C. No. 3 Oats	2.25
No. 1	17.00	American Banner registered (In sealed bags of 2 3/4 bus.)	1.25
Lyman's Grimm No. 1	lb. .75	American Banner unregistered	.83
Alberta Grimm No. 1	lb. .75	Siberian Oats	.83
NorthWestern Grimm No. 2 lb.	.65	O. A. C. No. 21 Barley, registered	1.40
Allow 30c. for each cotton bag required—Clover and Timothy.		O. A. C. No. 21 Barley, unregistered	1.10
Mangel Seed		Marquis Spring Wheat	1.65
PRIZETAKER SLUSTRUP & LEVIATHAN		Golden Vine Peas	\$2.15 and 2.50
1 lb. Packages Postpaid at 30c. lb. Express or freight collect 22c. lb. In bulk, if 5 lbs. or more ordered, of one variety 20c. lb. Same postpaid, 25c. lb. Yellow Intermediate, Mammoth Long Red, Giant Half Sugar, 2c. per lb. lower than above prices. White Intermediate Carrot, 60c. per lb.		Canadian Beauty Peas	\$2.15 and 2.50
		Spring Rye	1.70
		Rape (Dwarf Essex)	per lb. .10
		Amber Sugar Cane	per 100 lbs. 5.00
		Dutch Sets	per 100 lbs. 10.00

Ask For Complete Catalogue

GEO. KEITH & SONS SEEDS 124 KING ST. E TORONTO

Let us help you raise your Chicks.

With Pratts to help, the beginner can raise his first hatch of chicks as well as an old-timer. No need to worry about the feed. You have everything a chick needs, in the right form for easy digestion, in Pratts Baby Chick Food. Big Poultrymen who raise thousands of chicks buy Pratts Baby Chick Food by the ton. They know this completely solves the feeding problem for the first three weeks.

Pratts Baby Chick Food

25c. packages and larger money-saving sizes up to 100 lb. bags. Sold at all dealers, on our Money Back Guarantee.

White Diarrhea—comes to chicks from the mother hen. Guard your flock with Pratts White Diarrhea Remedy—an effective preventive.

Keep Lice Away.—Don't let the chicks get a set-back. Dust them often with Pratts Powdered Lice Killer.

Do not expose young chicks to disease germs. Use Pratts Disinfectant in pens, brooders, coops, and incubators. It's money and time well spent.

FREE—64-page "Poultry Wrinkles," a book of daily assistance to Poultrymen.

Pratt Food Co. of Canada Limited
 68C Claremont Street, Toronto

PORTER'S SEED POTATOES

Behind Every Bag is the Reputation of the Largest Potato Dealer in Canada Backed by the Strongest Organization Procurable. In fact Porter's seed potatoes are selected with as much care as you would use yourself. They are safe.

PORTER, MANZER, Limited, PERTH, N.B.
 Ontario Sales Office:—A. Mallinson, 43 Victoria Street, Toronto.

The Dollar Chain

A fund maintained by readers of the Farmer's Advocate and Home Magazine for (1) Red Cross Supplies. (2) Soldiers' Comforts. (3) Belgian Relief. (4) Serbian Relief.

Contributions from March 31st to April 7th:

"Scotia", London, Ont., \$1.00; "X", \$1.00; David Patterson, Caledonia, Ont., \$1.00; Maggie Patterson, Caledonia River Road, \$5.00; A Knight of Honor, L'Original, Ont., \$2.00; Gustin Abell, R. 1, Aylmer, Ont., \$2.00.

Amount previously acknowledged \$2,188.85
 Total to April 7th \$2,209.85

IF YOU CAN'T GO TO THE FRONT, GIVE.

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

Our Serial Story

The Road of Living Men.

BY WILL LEVINGTON COMFORT.

Author of "Down Among Men," "Fate Knocks at the Door," "Red Fleece," "Routledge Rides Alone," "Midstream," "The Child and the Country," etc.

Serial Rights Secured.

VII.


Stronger than ever before, it crept upon me that afternoon—the sense of having lived. I was humble, too, for uncovering the nobility of my countryman. Huntoon was so natural in his open, out-and-out decency that he didn't know of its existence. He breathed effects. They were of him, as Jane Forbes was feminine, as a real artist is finished without being self-conscious. A spiritual replenishment, too, had come from that meeting of lovers. The handiwork of Jane Forbes was in the very life of Liu chuan, like a delicate, but strong bit of needle-work upon an ancient fabric. My life seemed better ordered for knowing her.

And Mary Romany—I would look up the river such a little way. My mind held for a space to the mystery of three lives—then the beauty of Mary Romany would rush back, like the fragrance upon a waking, of a flower that brings back memories of a perfect night. It was a time of queer indefinite experiences. Crossing the river early, to be alone with Yuan when he came, I took a seat well forward in the junk, and fell to staring down upon the green coiling stream. The light and depths must have lured me to that crossing between sleep and waking, where the psychic visitants are surprised (as from the tail of an eye) by the everyday brain. The sense of Mary Romany's presence came to me in a poignant way. She was in a music-room of my own making, and had turned from the piano to smile at me. Her words reached me as a ball that breaks open—the sentence as a single syllable—"Sometime we shall work together here." There was an actual contact to it—a flutter in my breast, as of a swift homing flashing into its cote.

I came well to know that music-room—a cool dim place in a country of solitude. The windows were narrow and long, from floor to high ceiling, and hung like the walls in some misty white, softly woven. The woods of the room were dark, rich from age, their subdued shining like the piano and the woman's eyes. Great trees shaded the windows and whispered, and through their branches could be seen a lake, or a river, or the sea. How clearly are all these the properties of a sentimentalist.

Yuan came across in the dusk and found me in his rose-gardens. There was one kind of small red rose, that gave up its soul when the dews fell—a fragrance delicious, and almost sharp. It made me

It'll Take You But a Minute



to fill up the coupon at the bottom of this advertisement. Then by return mail you'll receive one of our 1916 style books and 72 pattern pieces of cloth, and simple self-measurement chart.

You know clothes cost only half as much in England as they do in Canada, and in these times it's good policy for you to buy in the best market. Therefore, when you can get a suit from us for about half of what it costs at your local dealer's, it's a chance you shouldn't miss.

What's more, we guarantee you perfect fit and satisfaction, or we'll give you your money back. You can get no guarantee from your local dealer.

At the back of us is our reputation of being the largest mail-order clothiers in the British Empire. We have been doing business in Canada for the last seven years, and during that time have made many thousands of suits for men on this side of the water. The patterns we send are woven in our own looms; and not obtainable elsewhere in Canada. The suits are of the very latest style.

We pay all duty and express charges.

Ten days after we receive your order in London your suit is mailed to you.

Fill in the coupon now, in order that the best pieces of cloth won't all be gone.

Catesbys Limited
 (of Tottenham Court Rd., London, England)
 119 Wellington St. W., Toronto

MESSRS. CATESBYS LIMITED
 Dept. 1 (of London, England)
 119 West Wellington Street, Toronto

Please send me your new season's Style Book and 72 pattern pieces. I am thinking of buying a suit.

Full Name

Full Address

FISH NETS



GUNS, TRAPS, SPORTING GOODS
JOHN HALLAM, Limited
 400 HALLAM BUILDING - TORONTO

Mallory's Strawberry Plants for Satisfaction and Profit.

Leading varieties \$4.00 per 1,000. Fifty plants each of four choice varieties, early and late for \$1.00. Send for price list.

N.E. Mallory, Blenheim, Ont.

Strawberry and Raspberry Plants

We are the most extensive growers of strawberries on the north shore of Lake Erie. This season we have a large stock of the best standard and ever-bearing varieties, also red and black raspberry plants. All nursery stock offered for sale is grown on our farm. Write for catalogue.

Wm. Walker, Port Burwell, Ont.

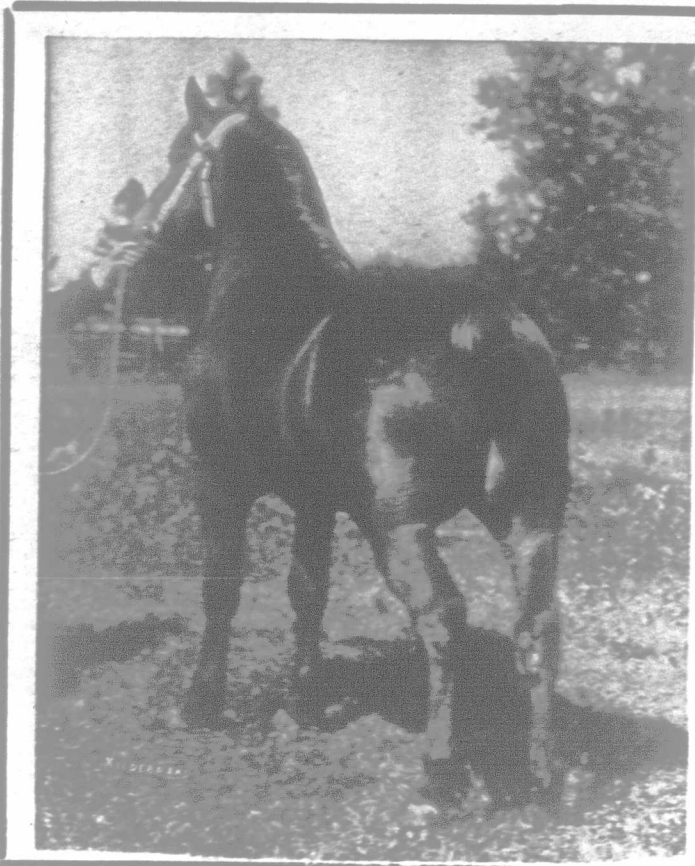
RAW FURS

Highest cash price paid for raw furs. Oldest in trade. Write for price list and tags—FREE.

C. H. ROGERS, WALKERTON, ONT.

Strawberries seed potatoes, etc.—50 standard varieties strawberries, including Fall-bearing, St. Regis, Everbearing and other raspberries. Blackberries, currants, gooseberries, grapes, asparagus, Cobbler and Green Mountain potatoes. Catalogue free.

H. L. McCONNELL & SON, Port Burwell, Ont.



IMPORTED Percheron Stallions

From three to seven years of age. Every one a prominent prizewinner.

Clydesdale Stallions

Imported, from four to seven years of age. Every stallion No. 1 Government Inspected and Approved, and are guaranteed foal-getters. Prices right, and terms easy. We have also a limited number of both Percheron and Clydesdale mares at attractive prices.

Catalogues on application.

HODGKINSON & TISDALE,
Beaverton, Ont.

What a Difference C. P. Makes

How much better a freshly painted house appears beside a shabby one next to it. And a year later how much better appears the house on which Canada Paint is used when compared with those coated with cheap paints. It's the high quality of the material used in

Canada Paint

that makes this difference—It's the best paint that you can buy at any price. The "C. P." on every can is your assurance of full value.

Use Canada Paint this spring and you will see "what a difference C. P. makes" in the appearance of your house and your pocketbook next spring—as well as seeing the economy of using only the best paint regardless of first cost.

The CANADA PAINT CO., Limited
5, 0 William Street, Montreal.

"Sun Varnish Stain" makes
old woodwork like new.

What-When
and How
to Paint
—
Canada Paint Co.
Limited

We have a valuable booklet
"What, when and How to
Paint" that tells the complete
C. P. story. Send for
your free copy today.

RENNIES SEEDS

EVERYTHING NEW
FRESH—PURE
RELIABLE

Ask your dealer or write
RENNIE'S — TORONTO

ALSO AT
MONTREAL WINNIPEG VANCOUVER

think of a singing skylark, such an outpouring, as if its petals must fly a part from rapturous giving. And it tempered the cloying sweetness of lilies and hyacinths. There was in the bloom and perfume of these old beds, the perfection of ancient vineyards, where from long culture the soil itself seemed to have caught the spirit of its product, like the grapes of Madeira, the pomegranates of Persia, the honey flowers of Hymettus. At last I found the yellow rose.

"That's the Emperor," said Yuan "Look at the thick stalk for such a fragile bloom. There is in the making of that flower the alment, the strength of soil, of a dozen of those red ones. And that one is the life-work of a gardener. Only we in China have the patience to perfect a flower like that. It is just as rich in full noon-day, as those red ones are now in the humid dusk. You can put one in a large room, and get a different perfume at every window. Kneel now and breathe it—"

I obeyed. The rose was creative in its loveliness—yet the very attar of sensuousness. The fragrance close to the petals was not potent, but the oil of the earth itself, sublimate of all flavors. The beauty awed me, yet thrillingly of the earth, like a nude princess asleep in a bower.

As I lifted my head, Yuan was bending close in the twilight, his slanting eyes queerly intent upon my face.

"I thought you would feel it," he said "It made you blush. To a woman its beauty is masculine. If I were sending roses across the river—they would be red roses."

It was so that Yuan occasionally startled me.

There was silence in which the night came, and then Yuan said: "It's like a great human soul—that Emperor rose. It has its prodigious devilry, too. It has expressed the mystery of the soil, as a great human spirit expresses the mystic harmony of the planetary forces. Decades and thousands of failures were required to evolve that rose. Milleniums and whole races of failures are required to evolve a great human soul. But one bloom makes glorious a thousand failures; as one great human spirit redeems a whole race. And look, too: the essence of some other perfect yellow rose touching the anthers of this will make another more glorious Emperor. What a crucial instant in its evolution—"

"And what a crucial hour in the evolution of a great human spirit," I added "when the destined lover appears."

This was as near as we came to discussing the episode of the day. It was like Yuan not to speak of that illuminating time. . . . The hour after sunset was the interval of bathing and relaxation in his house. Close to the ground were these ancient arrangements, beginning with a cave of steam, and ending with a cool fountain, perfumed from the garden. Afterward, dinner time, and we sat side-by-side on padded matting, the displaced before us on the tiles. An interminable dining in its richness and variety—one composite after another of fish or flesh or fruit—until we were weary of the place and the sitting. It was very clear to me that the servants would continue this performance until we came again—a sort of endless producing of culinary preludes, etudes and fantasies. As it was, they followed us to the end of the lanterns with coffee and sweets. To Yuan all this was a matter of course. I reflected that one must become used to these superlative comforts of a Chinese house, in order to lift his thoughts from his bodily well-being.

There were long minutes that evening when I did not hear what Yuan was saying; and yet he was at his best. The Oriental tale-teller was in him, a low unfolding, easy as breathing, and belonging to the classic years when shepherds gathered about night-fires on herd-strewn hills and talked of Gods and fates and dragons. It had come upon me since the dusk, a passion that proved irresistible, to walk the thirty miles upstream to the mining operations of Nicholas Romany, to see the place where the woman lived and moved. I would not make myself known, but possibly, from afar off—

Hope farther than this was not to be tolerated. It would be a pilgrimage to the place where she lived. . . . Very little had come to me about the Romany in China. Romany was operating for gold in the bed of the Hsi kiang, a canyon tributary of the Yang tse, emptying into the greater gorge at Hsi tin lin. A hundred or more natives were employed. Romany had re-galvanized the old district.



Seve

ANY
penn
have for
the right
of a tim
exposed
a ready

We can
have no

ARE y
Perk
vermin.
horses w
And you
pails are
hens—m
gallons o
economic



YOU
Ever
building
And the
roof wit
durable



Roofing
Very att
Whereve
made in
ment in

HERE
H Gra

Bar
Gr
Creos

HERE
pern
hesive, e
have gut
cornices
flashings
Cheap, e

Send for

THE P
M
THE CA
S

Full measure of value
in quality and
economy.

PURITY FLOUR
"More Bread and Better Bread"

Barrett
Made in Canada
**Money Savers
for Farmers**

Seven short appeals to "horse sense"

ANY man can make money by judicious saving. "A penny saved is a penny earned." Think it over. There are certain things you ought to have for farm maintenance. But don't buy the wrong thing at any price or the right thing at the wrong price. Perhaps right now you are in need of a timber preservative, a lice or fly killer, a durable paint for metal and exposed wood surfaces, a satisfactory cement for quick everyday repairs, a ready roofing that is wear-proof, easy to lay and cheap.

We can fit you out perfectly in these things. The Barrett Money Savers have no superiors. Just glance over the products shown below:

ARE you getting all you should from your live stock? Perhaps they are being pestered by insects—flies, lice, vermin. They must be kept clean. Spray your cows and horses with Creonoid. Keep them from insect annoyance. And your hogs will be better if the rubbing posts and swill pails are Creonized. A boon in the poultry house—better hens—more eggs. Creonoid comes in cans of 1, 5 or 10 gallons or in half barrels and barrels. And it's the most economical you can buy. Follow directions carefully.



DO your implements rust? If so, they are decreasing in value. Coat your implements and iron work with Everjet Elastic Paint. You know that carbon paint is best for such purposes. Well, Everjet is the best carbon paint made. Never cracks or peels. Wears like iron. Has a large covering capacity and is extremely economical. Has no equal as a roof paint.



YOU will be glad for the day when you meet Everlastic Roofing. Just the thing for all farm buildings. The best "Rubber Roofing" at the price. And the price is low. No excuse for a leak in your roof with Everlastic at your service. It is tough, durable and easy to lay.

**EVERLASTIC
ROOFING**

CARBONOL is a household wonder. It cleans, heals, disinfects, purifies. If you cut your hand, apply Carbonol in weakened solution. If your live stock get bruised, Carbonol will fix them up. If your house, barn or poultry house needs disinfecting, there is nothing like Carbonol. And it is wonderfully effective as a destroyer of vermin. Carbonol belongs on every farm in Canada.



HERE is a ready roofing that needs no painting or other attention to keep it watertight. Amatite Roofing has a mineral surface that laughs at wind and weather. Very attractive because of its bright sparkling appearance. Wherever you have steep roofs, you need Amatite. Amatite is made in rolls of 110 square feet with galvanized nails and cement in center. Try it!



HERE is a product you should never be without—Barrett's Grade One Creosote Oil. It is the most effective wood preservative on the market. Actual tests have proved that it penetrates deeper and lasts longer than any similar product. A good fence post will last 20 years if painted with Barrett's Grade One Creosote Oil. Use Grade One Creosote Oil and add to the life of all your exposed woodwork.

**Barrett's
Grade One
Creosote Oil**

HERE is the way to make everyday repairs quickly, permanently and cheaply—use Elastigum, the adhesive, elastic and waterproof cement. Whenever you have gutters to join or reline, leaks or joints to seal, cornices to stuff, greenhouse glasses to put in or chimney flashings to renew, Elastigum will be your unfailing friend. Cheap, easy to use and always on the job.



Send for illustrated booklet describing Barrett Money Savers in detail. Address nearest office. For sale by good dealers everywhere.

THE PATERSON MANUFACTURING COMPANY., LIMITED
MONTREAL TORONTO WINNIPEG VANCOUVER
THE CARRITTE - PATERSON MANUFACTURING CO., LIMITED
ST. JOHN, N. B. HALIFAX, N. S. SYDNEY, N. S.

Yuan declared. His recent journey to Hong Kong was to arrange for a big outlay in modern mining machinery which would require many months to deliver and install. Yuan also informed me that Nicholas Romany was a mighty plunger in Far Eastern affairs; a man who might loot a nation on occasion, but who was square with his men.

I refrained from telling Yuan of my impetuous desire. Positively he would be against a white man taking such a venture at this distance interior—and I wanted to go alone. Yuan would have made clear the necessity of a boat or a palanquin. . .

Mary Romany had not asked me to come. I was peculiarly aware of what she had said—"when we have both done our work." She did not believe in my semi-studious and non-productive world-wandering. She had not seen conquest in my face, to make indubitable my conquest of her. Many deep intimations made this clear to me. . . I should see her place—then go my way to find my work.

Yuan and I separated for the night. His chamber adjoined the one accorded to me. He would not be greatly surprised to find me gone in the morning; would think I had crossed the river. In his house there was that consummate hospitality which never intrudes upon the delicacy of going, and yet makes each repeated coming more memorable.

I slept not at all, but lay under the swaying punkahs, held in that deeply wearing tension of lover awaiting the moment to arise and go to his lady—a lover not sure of her smile.

In the first gray of dawn I was softly astrid. On tip-toe I peered over the screen into Yuan's room. He was not in the bed. In the faint infusion of dawn, beyond the ghostly swinging of the white punkahs, I saw him in native garments sitting by the window. So Yuan, too, had not slept.

I moved far around the rose gardens so as not to pass his window on the way to the gate. Perhaps he would not have called, had he seen me. . . It was no part of my plan to cross the river to Liu chuan. The mining operations, I had ascertained, were on this bank, and this side of the Hsi tributary. . . I had money, good shoes, comfortable clothing—but was not armed. I reached the high rocky road along the river, and my quest loomed more perilous in the gray hour.

VIII.

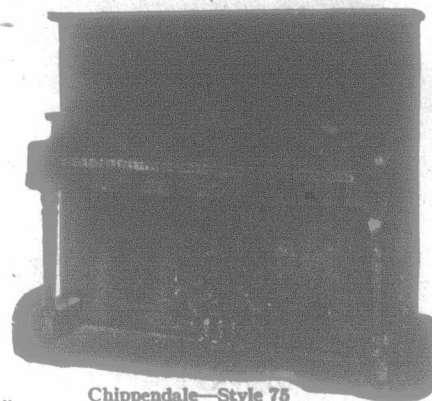
Always I felt someone behind me, toward the end of that journey. The country was wilder, the distance faintly contoured with peaks not visible from Liu chuan. The big river narrowed, and though not in flood, a sullen monotone was borne up from its rushing. At times there was a queer stress to the strangeness, the withdrawal of a certain property from one's natural element, which brought back to mind lonely days of Tibetan travel. It was not fear, but the pressure of alien nature.

At noon I rested for three hours by a roadway hut. A hideously dirty native wrapped a fish in leaves, roasted it in the ground with heated stones, and served it with rice and tea. The offering would have been delicious, and I was hungry as well, had I not seen the hands and the performance. There were children about, whose bodies and clothing had not touched the river, nor any drawing from it.

China is alien always. One may become scornfully familiar with Japan, and enjoy a temperamental intimacy with India, but China is ever aloof. On certain Sunday afternoons in America I have seen the quality of sunlight that is China's. Perhaps the effect is one of atmosphere (in the artistic rather than the literal sense) a matter of temperament rather than of eye. As the light is different, so the surface of the land to me, the profile of hill-ranges, sounds, scents and clouds. Is it a film that China has for my eyes, or a drug all her own for the brain? In any event, I see her through tinted shadow and move in her dream.

Mid-afternoon, I climbed the hills above Hsi tin lin, and sat down, very weary, in what seemed an isolated covert, to study the settlement. An animation, suppressed and unseen, reached my ears from behind. . . Thirty rocky elongated miles I had traveled: Ahead the roiled tributary, Hai kiang, joined the Yang tse, and in the crotch were smoking go-downs and silent labor. Farther up, among the rocks, the town was sprawled, spiritless and near to death.

Not alone the journey had worn me, but the intensity of thinking and fearing.



Chippendale—Style 75

**Proof of
\$100 Saving**

We believe that if we can put into your hands positive proof of our ability to save you \$100 on the price of a piano, you will be interested.

Here is our plain statement:

The
Sherlock - Manning
20th Century Piano
"Canada's Biggest
Piano Value"

is the height of achievement in case, tone, finish, workmanship, durability, action, hammers, strings—any and every part; and you get it for \$100 less, backed by a ten-year guarantee.

WRITE FOR THE PROOF

Write Department 4 for our handsome Art Catalogue "L" and it comes to you by return mail, with satisfactory proof of every claim we make.

THE
Sherlock-Manning Piano Co.,
London, Canada
(No street address necessary) 71



Your Attractive Straw Hat

Can be made to last another year
—can be made as fresh and
dainty as new—by using

Colorite

Colors Old and New Straw Hats

It is the fountain of youth for straw hats. It is a liquid—sold in bottles with a brush for applying. Waterproof and durable. There are thirteen colors—Jet Black, Dull Black, Cardinal Red, Yellow, Navy Blue, Cadet Blue, Sage Green, Cerise, Burnt Straw, Brown, Violet, Lavender and Natural. Anybody can apply it—it dries in 30 minutes. Also used for coloring Satin, Silk and Canvas Slippers and Basketry. Sold by drug and department stores throughout Canada.

If your dealer cannot supply you

Let Us Send You

a full size bottle of Colorite and Ekin Wallick's new instructive book "The Attractive Home." This book is worth one dollar, and the Colorite sells for 25 cents. We will send you both—\$1.25 worth for forty-five (45) cents in stamps. Mr. Wallick is a national authority on home decoration. He tells all about rugs, wall covering, lighting, pictures, etc. Every woman ought to own this book. Write today giving the name of nearest drug or department store—and be sure to mention shade of Colorite desired.

Carpenter-Morton Co.

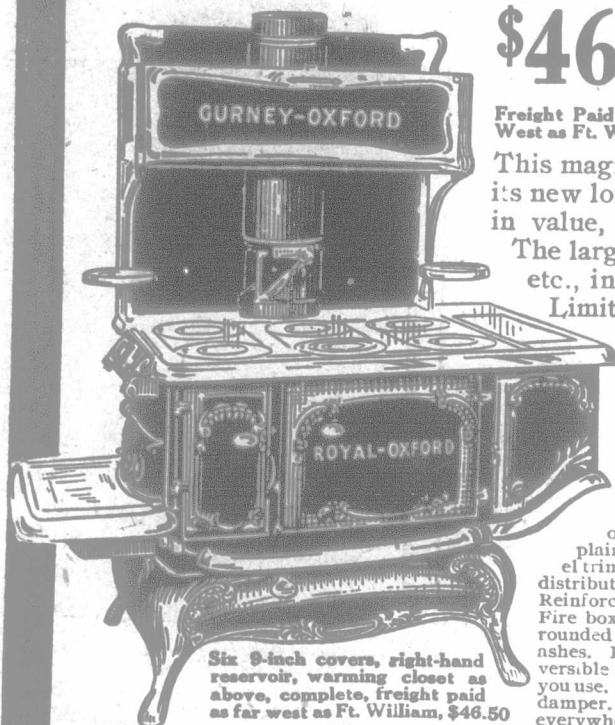
Also Makers of Campbell's
Varnish Stain

77 Sudbury Street, Boston, Mass.

Canadian Distributors:

A. Ramsay & Son Co., Montreal

A splendid baker—a big money saver



\$46.50 You can search the whole British Empire and nowhere will you find such value as the Gurney Royal-Oxford at \$46.50, freight paid.

Freight Paid as far West as Ft. William

This magnificent cast-iron Gurney-Oxford creation, with its new low price, leaves absolutely nothing to be desired in value, convenience, durability and baking qualities. The largest manufacturers of stoves, heating apparatus, etc., in the British Empire, the Gurney Foundry Co., Limited, have here accomplished the utmost possible.

Truly Royal Quality, at a Popular Price

The Gurney name is associated with highest stove quality and the biggest business of its kind in Canada. It does not stand for extravagant claims. So the guarantee that the Royal-Oxford is the highest quality cast-iron range built and the greatest possible value at \$46.50, its new low price, may be accepted in full confidence.

Stove body, finest cast iron of satiny smoothness, richly plain; handsome removable nickel trim. Full weight, 645 lbs., well distributed, giving great durability. Reinforced top, never sags or cracks. Fire box of finest Scotch clay with rounded corners—no clinkers or dead ashes. Famous Gurney-Oxford Reversible Grates exactly suit the fuel you use. Splendid reservoir with own damper. Highest quality is apparent everywhere. Patented draft control.

Six 9-inch covers, right-hand reservoir, warming closet as above, complete, freight paid as far west as Ft. William, \$46.50

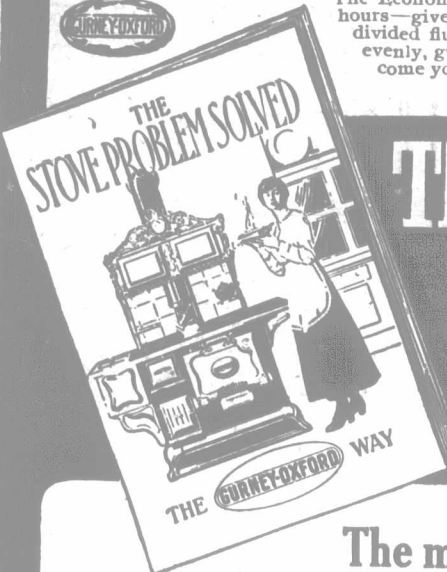
The Economizer, is a wonderful fuel saver—holds a fire 36 hours—gives exactly the required heat. This with our divided flue construction, forcing the fire to heat the oven evenly, guarantees splendid baking. For many years to come you'll always be glad you bought a Royal-Oxford.

100 Days Purchase Plan

Compare our methods with any so-called "catalogue house." We allow 100 days after purchasing to try any Gurney-Oxford Stove and if you are not satisfied you may return it and get your money back. Only Gurney-Oxford quality may fearlessly undertake this test.

Seeing Before Buying

You may buy from the factory, or, Gurney-Oxford dealers will show you samples of our principal stoves at the same prices. In any case you are amply protected by Gurney-Oxford reputation, quality and guarantee.



This new Gurney-Oxford book is full of values like these—Get it

The moderate-size family and the "Prince" are just made for each other

It has been a matter of pride with the great Gurney-Oxford foundries to see how much solid, heavy construction, how much value and how many conveniences they could put into this splendid cast-iron cooking stove. The large shipping weight, 430 lbs., alone is evidence of its splendid construction.

THE "Stove Problem Solved" shows the enormous Gurney-Oxford line of stoves, ranges, heaters of all kinds, gas stoves, furnaces, boilers, etc. and quotes new, low prices all through. Seventy years' stove knowledge embodied in it. Explains our new 100 days purchase plan. It is a wonderful guide to stove buying—you should send for a copy to-day, free. Address as below.

The Gurney-Oxford "Prince" at \$25.75 will fully sustain the Gurney-Oxford reputation, supreme in the Stove World since 1845. Body is finest quality iron, immensely strong. Top will not bend or crack. Famous divided flues and exclusive reversible grates give wonderful, even heating and great economy in fuel. Splendid baking results always make the reputation of the lady who uses the Gurney-Oxford "Prince."

Write for our new Catalogue, to-day.



\$25.75 Freight Paid

Stands on high legs. Makes easy work.

Four 9-inch covers, 17 1/2 inch oven, right hand reservoir and high shelf complete as above, \$25.75 freight paid as far west as Ft. William. This is unusual value.

The Gurney Foundry Co., Ltd., Dept. 812, King St. W., Toronto

(Also at Montreal, Hamilton, Winnipeg, Calgary, Edmonton, Vancouver)

S14

chummy on the Spot

I thrive on hard work—just "eat it up"—and it costs but a trifle to keep me hustling at the hardest work. I will give you perfect service because I am one of the famous

GILSON "Goes Like Sixty"

Engines—the line that exactly meets every farm need with a high quality engine at a low price. It will pay you to write for full particulars of Gilson "Goes Like Sixty" Engines.

Gilson Mfg. Co., Ltd 149 York St. Guelph, 14 Canada.

\$47.50



HUNT'S DIAMOND FLOUR

Established 1854

Used by women of experience and discrimination for 60 years. Their success in baking is due to our special blend that is guaranteed to be "Always the same."

Good Grocers Sell Hunt's.

1673



HUNT'S BEST

Why was Mary Romany here? If I should see her face to face, would she be angry? Had I not builded too mightily upon that kiss? Might it not have been just a touch of old flame, an impetuous friendliness? Who was Santell? . . . Over and over in highways of their own making, these thoughts raced across my mind—these and all their kindred and issue—as my eyes roved over the scene below, from rock to smoke-pipe, from hut to hill. . . . Out of the weary depths of it, Mary Romany called me.

My whole heart lifted to bless the moment. She had crossed the hill behind me from main river-way; her face frightened, though smiling. She put forth her hand.

"I've watched for many seconds. I couldn't believe," she faltered. "Didn't you hear me come nearer?"

"I was thinking—must have fallen pretty deep—but I'm not here to make you in the least uncomfortable. I hoped to see you—but hardly counted on seeing you face to face."

She was paler. "A thousand miles up the Yang tse from Shanghai just for that?"

It was startling like the moment on the Hong Kong terrace. I had learned my lesson.

"Yes—but I have not yet done my work. I mean the work to be done before we were to meet again."

Her eyes turned to the lit lumber of the west, and I saw the sparkle of a forming tear.

"It was all so strange. Hong Kong left me restless. I heard you were here. I had to come. . . . I shall go back now—only tell me that all is right with you—"

If I could have known the things that were in her heart to say that moment in the bursting stress of them, her brain turned to present needs.

"But you must rest from your journey." (The voice brought me back to a little room before my father took me by the hand to travel the world.) . . . "You have come a long way to-day?"

"From Liu chuan—but I am grateful to have seen you. I can go back gladly. It was against your word to come—"

"My poor hurried words at Hong Kong, but it is true. You do not belong here, and it is not time. I am well. All is well enough with me for the present. . . . But your party—the men must go down into the town to rest and obtain food before you start back—"

"I have no party. I came alone from Liu chuan."

Her eyes turned quickly in the direction she had come. "I saw a palanquin and natives back yonder—behind the long hill."

"I wonder what it means? I had the sense of being followed. . . . There's someone coming now—someone who doesn't intend to take us unaware. Perhaps you'd better hurry down—"

"You come, too. The natives are not easily awed up here. They might—you must not think of going back alone to-night."

"I'd better see. There's nothing to fear so close to the town—"

One of Yuan's house servants hurried up and handed me this letter:

"My good friend: I hope you may never learn the peril of traveling alone deep in our interior. A small protective party was sent after you at once on general principles. I left hours later, an hour before noon, in fact. The one dread thing has happened. The Fist has already struck. I bring word of the uprising against foreigners. Our Liu chuan and their upper towns will shortly get the contagion possibly to-night. Your lady must be brought down to Liu chuan to-night. Her father and any others must be warned. I shall wait here behind the hill for you—but do not keep me long. My haste, of course, is for those at Liu chuan."—Yuan

The woman had read, and I told her quickly about my friend.

"There is quality in this coming of his," I said. "A woman in Liu chuan is very dear to him."

"My father is down the river—he started for Liu chuan this morning. His foreman is with him. There's only Mr Santell here—"

"You must come with me."

Mary Romany looked into my eyes. "How strange it is," she repeated.

"But surely there is only to obey Yuan—I utterly trust—"

"Let me think. . . . Mr. Santell must be told. I must change my dress."

I smiled.

"I really don't feel properly terrified. . . . I'll go down to the house. You'll see"

Dr

Ac one ye even a crops a Drain prevents inates rep It is the soil. machine

It wor ready for the Our Co first necess

F. H. FOR tiled severa averaged 60 would not y acre tiling at

Desc tell you v

The Buc



The Buc

rom here th ome for me I was wat oined me, hi "I'm so so personal litt to bother yo "Do reme trouble to d It was perha take the risk- But I seem to formerly. W

Drained Land Pays Big

Actual experience proves that the increase of crops in one year, or two at the most, pays for the entire cost of tiling even at \$30 an acre. Drainage often doubles and trebles crops and increases land values 50 to 300%.

Drainage deepens the soil, enlarges the root zone, assists pulverization, prevents surface washing, raises the soil temperature, resists drought, eliminates replanting, prevents freezing and improves health conditions.

It is necessary in both wet and dry lands because it mellows and aerates the soil. Machine ditching is cheaper and more satisfactory—and the best machine to do the work is the

"A Perfect Trench at One Cut" **BUCKEYE** Traction Ditcher

It works perfectly and economically in any soil, leaving the trench in perfect grade, ready for the tile immediately and with the finely pulverized dirt convenient for replacing.

Our Combination Tile and Open Ditcher is in great demand in localities where it is first necessary to have open ditches for outlets and then to cut the vertical bank tile ditches also.

Actual Proof That Tile Drainage Pays

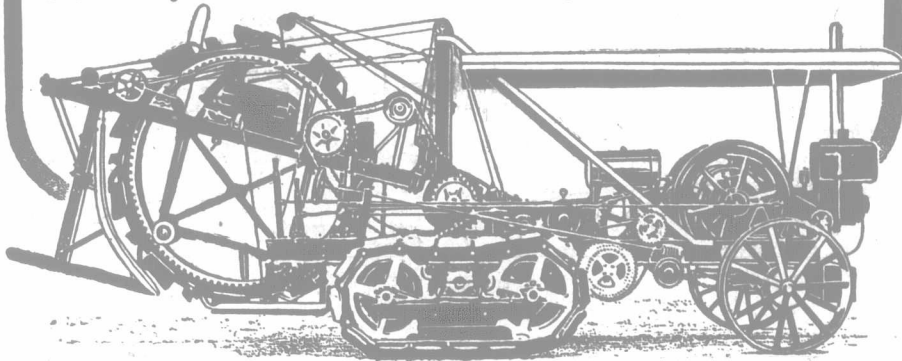
F. H. FORDYCE, Iowa—Owns a 640 acre farm tiled several years ago. First year corn crop averaged 60 to 75 bushels on land that previously would not yield a crop at all. He spent \$10 an acre tiling and the annual crop brings \$30.00.

R. H. McCURDY, Vienna, Ontario—Drained two low, barren acres at \$17.50 per acre and got 30 bu. of fall wheat while higher undrained land brought only 15 bu. One crop paid for draining, in a single year. The crop was clear gain.

Write for Special Free Book of Ditcher Facts

Describe your soil conditions and size ditches you wish cut and we'll tell you which machine you can most profitably use.

The Buckeye Traction Ditcher Co. 206 Crystal Ave., Findlay, Ohio



Business Men and Business Farmers Agree

In the great McGill Building in Montreal, where men of big business meet daily, immense quantities of Natco hollow tile were used. On many prosperous Canadian farmsteads the same hard-burned clay tile is the favorite for silos and farm buildings. Business men and business farmers alike agree on the material that is weatherproof, decayproof, frostproof, verminproof and fireproof. Such is the

Natco Imperishable Silo

"The Silo that Lasts for Generations"

A perfect silage preserver, when the mercury is low, or summer pastures wither. Its salt glazed hollow vitrified clay tile are impervious to air and moisture. It is safe under severest wind or silage pressure. Convenient attractive and economical. First cost is the only cost. Needs no repairs or painting, no adjustments. A silo you'll be proud of.



Plan now for such a silo. Send for our free book, "Natco on the Farm." Describes construction details of all types of farm buildings. Fully illustrated.

A book you should have before planning a new building.

Also be sure to send for our catalog describing fully the Natco Imperishable Silo.

Natco Silo Wall, Note perforations providing firm anchorage for mortar joints.

National Fire Proofing Company

of Canada, Limited

1202 Dominion Bank Building
Toronto - - Ontario

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

If you knew what some farmers know

about Standard Reliance Mortgage Debentures, you'd put every cent you can save into this sound security.

Standard Reliance Mortgage Debentures provide an absolutely safe investment—with surety of principal and regularity of interest. This assurance is provided by \$6,732,581 of assets.

Thousands of farmers own our debentures. Why shouldn't you own a few.

Write for a free copy of our booklet *About Profits from Savings*. It will interest you for it tells all about a system of doing business. Address Dept.:



STANDARD RELIANCE MORTGAGE CORPORATION
Head Office, 82-88 King St. E. Toronto

BRANCHES:
Ayr, Brockville, Chatham, Elmira,
New Hamburg.

Repairing Roofs is Time and Money Wasted

A good roof should not require repairs. Lay a PAROID ROOF, and you can forget all about it. Wind, rain and snow do not affect it—it is weather-proof and fire-resisting. No leaks to waste your valuable time—and remember, your attention is generally called to a leak in a poor roof by the damage done.

NEPONSET Paroid ROOFING



The first Paroid Roofs laid, 18 years ago, are in perfect condition to-day,—that is the best evidence you can ask for! For thoroughly satisfactory roofs for your barns, home, poultry houses and all buildings, use Paroid,—the least expensive roofing in the world. It is made in 3 colors—Grey, Red and Green. Look for the Paroid roll, by it you will know one of the 2,000 Neponset dealers in Canada.

Our book entitled "Building and Repairing" sent upon request—FREE.

Try Neponset Wall Board in place of lumber or laths and plaster—you'll like it.

104 BIRD & SON Dept. B

70 King St., Hamilton, Ont.

Warehouses in Winnipeg, Calgary, Vancouver, Montreal, Halifax, St. John, Edmonton.

The Largest Manufacturers of Roofings, Wall Board and Roofing Felts in Canada

from here the one I enter. You might come for me—in twenty minutes."

I was watching her descent, when Yuan smiled me, his face haggard.

"I'm so sorry," said I. "It was such a personal little pilgrimage, I didn't want to bother you with it."

"Do remember, my friend, that it's no trouble to do things for those we like. It was perhaps a little reckless for you to take the risk—even without the Uprising. But I seem to understand you better than formerly. Will she come?"

"Yes."

"The Fist might strike in Liu chuan—early. You see, I want to be back there by midnight. The lady shall have the palanquin. A good boat is following us full speed up-stream—so you'll not have to walk far. We shall make good time back on the river—"

My eyes were following the diminishing figure of Mary Romany. She entered one of the brown low huts, and turned in the doorway to wave her hand.

"Friends or not," said I, "it won't be

easy to forget your thinking of my interests first—after I slipped away so unceremoniously."

Yuan started, as if his thoughts were far from mine. His hand fell across my arm.

"We may have much to do together. Down the river—that's the first. . . . Don't think too hard of these poor people of mine. China is an old brood-mother that has littered large and often. It has made her cross.

"To strange whelps," said I.

"She often rolls on her own in her sleep. . . . Go now to your lady. All I ask is to reach Liu chuan in time. . . . There is much to make us strong together—back to back—you and

Presently I followed down into Hsi tin lin. The last yellow light of day was more than ever sinister and alien on the slopes and roofs—after Yuan's words. China felt close about me, yellow and like a sickness.

To be continued.

Be sure of good silage, it pays best



WHEN winter comes and you open up your silo, you will get the real proof of silo values. If you have an Ideal Green Feed Silo, your silage will be good. You can rest assured of that. But if you have one of the so-called "cheap" silos you will get proof of the fact that good silage cannot be produced in a poor silo. Good silage is what you want. Poor silage is worse than none at all.

Remember that after you have your silo erected and your corn stored in it, there is no getting your money back for either the silo or the corn crop that has been wasted. The assurance of good silage that the

IDEAL GREEN FEED SILO

gives you is well worth the cost. When you consider how many more years the Ideal will last, and give you good silage every year, there is no question of its being worth far more than any other.

The few dollars a man may hope to save by buying a "cheap" silo will very likely be the cause of his losing, through poor silage and the short life of the silo, many times the amount he seemed to be saving on the first cost. Your good judgment should warn you against taking chances of losing your feed by putting it in an inferior silo.

The reasons why Ideal Green Feed Silos preserve the silage better and last longer are completely explained and illustrated in our large silo catalogue, a copy of which will be gladly sent you upon request. It will pay you to ask for this catalogue before you finally decide on what silo to build.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER



LABORATORY TESTS

make certain the quality of every raw material

PAINTERS' TESTS

prove the easy working quality and enduring wear

Experiment and Experience

Both point to Ramsay's Paint as your logical choice. In purity, wear and beauty of color they are unsurpassed. In economy they are unmatched. Courteous service from local agent. Write for interesting paint literature.

A. RAMSAY & SON CO. (Established 1842) MONTREAL, Que.

FOR SALE BY ALL DEALERS

HINMAN THE UNIVERSAL MILKER



Made in Canada

THE HINMAN

\$50.00 PER UNIT

WHY?

It has NO metal piping. NO gauges. NO safety valves. NO pulsators. NO rubber tubing in the teat-cups. NO vacuum in the work. In short, NO COMPLICATION.

Write for Booklet H

H. F. BAILEY & SON, GALT, ONT. Sole Manufacturers for Canada Under HINMAN Patents

Questions and Answers.

1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

What Are The Weights?

What are the weights per bushel, also per bag of the following: Potatoes, onions, parsnips, carrots, beets, turnips?

J. J. P.

Ans.—Potatoes, 60 lbs. to a bushel, 90 lbs. to a bag; onions, carrots, beets and turnips, 50 lbs. to a bushel, 75 lbs. to a bag; parsnips, 45 lbs., to a bushel, 65 lbs. to a bag.

Nitrogenous Feeds for Cows.

What would the results be from feeding about 4 lbs. cottonseed meal and 2 lbs. linseed meal daily per cow, along with all the silage and mangels they will eat?

J. S.

Ans.—It would make rather an expensive ration, and it is doubtful if a cow requires the quantity mentioned of highly nitrogenous feeds. It is not likely that any unfavorable effects will result when a large quantity of succulent feed is given. Half the amount of cottonseed meal along with linseed meal should be sufficient, and oat chop or bran could be used to make up the remainder of the concentrate part of the ration. Hay and straw are not mentioned, but it is usually advisable to include these feeds in a ration.

Bridge Grafting.

What can be done for young apple and fruit trees that have been girdled with mice?

J. R.

Ans.—If trees that are girdled by mice have only been set out one or two years it is better to replant, although by bridging the wounds by means of scions of last year's growth the tree may be saved. These scions should be about three inches longer than the width of the girdled section and the end should be cut in a wedge shape, then with a sharp, narrow chisel or other similar tool, slanting incisions are made into the new wood, above and below the wound, beginning near the edge of the bark, extending about an inch in length, and penetrating but little into the wood. The scions should fit neatly into these incisions, and be held in place by their own elasticity. Each end is then covered with a small piece of grafting wax. Three or four scions will be sufficient for a tree less than five inches in diameter.

Raising a Calf Without Milk.

1. Could you tell me how to feed a calf four months old, which I would like to show at the fairs this fall? We sell our milk. I now feed 1 pint of low-grade flour and 1/2 pint of oil cake in 1 gallon of water twice a day, also 1 quart of rolled oats three times a day, a few turnips, and what clover hay it will eat.

2. I would like to know where I could get books on Holstein cattle, and what crosses I need for registration.

FARMER'S SON.

Ans.—1. It is difficult to raise a show calf without either whole or skim-milk. You are feeding a very good ration, but might try one of the prepared calf-meals that are advertised in these columns. A calf that is four months old should do fairly well on the feeds mentioned, if it receives careful attention.

2. Only the progeny of a registered sire and dam can be registered. Write W. A. Clemens, of St. George, Ont., for full particulars regarding herd books.

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much.

And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.



Our "Gravity" design gives greatest convenience as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

A. M. Morris, Manager 1900 Washer Company 357 Yonge Street, Toronto

CREAM

Where are you shipping now? And what are you getting for your cream?

We want more individual shippers and more men to gather cream for us.

Write for our proposition.

Silverwoods Limited LONDON, ONTARIO

CREAM WANTED

We think we have the longest experience.

We try to give the best service

We need your cream and will make it "worth your while" to ship to us. A card brings particulars.

Toronto Creamery Co., Ltd. TORONTO

Send Us Your Sweet Cream

We supply cans and pay expressage

Sanitary Dairy St. Catharine's, Ontario

This Book

Shows How to Make Better Farm Improvements.

A copy will be sent to you free of charge.

If you intend making any kind of farm improvements—the building of a house, barn, hen house, root cellar, tank, silo, walk, fence or the many other things needed on every farm—then you need this book.

It contains instructions for building every kind of structure better and more economical than is possible in any other way.

This book is the standard authority on farm building construction. It has proved of untold value to more than 75,000 progressive Canadian farmers.

Concrete is practically indestructible—it cannot burn or rot out and never needs paint or repairs. If you haven't a copy of this valuable book, send the coupon now.

Canada Cement Company Limited,
Herald Building, MONTREAL.



WHAT THE FARMER CAN DO WITH CONCRETE

CUT OUT AND MAIL

Canada Cement Company Limited
Herald Bldg., Montreal.
Gentlemen—

Please send me a free copy of "What the Farmer Can Do With Concrete".

Name _____

Street and No. _____

City _____

752

The Primrose



A "One-Adjustment" Cream Separator

BEFORE the Primrose came, cream separators were machines of many gears and bearings, requiring all sorts of adjustments all the time. If you ever owned one, you know what that means. It was tighten this, and move that—adjustments that you never felt quite safe in making yourself. You knew you were losing cream, but couldn't help it, and you found even a wasteful separator much better than hand skimming.

All those adjustments are now done away with. The Primrose is, in truth, a "one-adjustment" machine. There is only one place where wear affects the work of the Primrose, and that is on the hardened steel point that carries the weight of the whirling bowl. And since this point is made of finest tool steel, tempered like a fine razor, you can see that the adjusting will not take much of your time.

Ask the Deering local agent, who sells Primrose cream separators, to show you this machine that anyone can keep in perfect working condition all the time, or, write us at the nearest branch house for complete information. If you're going to buy a separator, you'll never regret the time you spend studying the Primrose.

International Harvester Company of Canada, Ltd.
BRANCH HOUSES
At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton

Put in as Big a Garden as you Possibly can this Spring


—but be sure you put it in RIGHT! Thorough tilling and plenty of fertilizer are both important, but not more so than the choice of seeds. "Like produces like", and you cannot expect fine crops from inferior seeds.

Ewing's Reliable Seeds

are grown from selected plants of the very best strains. They are clean, vigorous, sure to grow—and for over Forty Years have been producing the finest gardens in Canada.

Your first step will be a wise one if you choose Ewing's Seeds. Get them from your dealer, or if he hasn't them order from us direct.

THE WILLIAM EWING CO., LIMITED
Seed Merchants, McGill Street, Montreal 43



Questions and Answers.
Miscellaneous.

Mange.

My hogs have a bad skin disease, and I can't get rid of it. It is most troublesome in young pigs. The hair stands erect and thick scab forms along the back and legs, and they are very itchy. The disease has been in the stable for two years. Would you kindly let me know through your valuable paper if there is any treatment? How long would the disease remain in the stable after disposing of all the hogs.

Ans. The symptoms point to the pigs being affected with mange, which

is caused by a very small animal parasite called mange-mites which burrow in the outer layer of the skin. The disease is most troublesome in young pigs, causing great irritation. The lime and sulphur dip has been recommended for treatment. It is made by taking 8 pounds of fresh lime and slake with enough water to form a paste. Sift into this 24 pounds of flowers of sulphur and mix thoroughly with a hoe. Place in a kettle with 25 or 30 gallons of water and boil for at least one hour. Then add enough water to make 100 gallons of dip. The dip should be used at about 100 to 110 degrees Fahrenheit. The coal-tar dips, as advertised, give good results, and are

more convenient to use when only a small number of animals are to be treated. It is very important that the animals be kept wet with the solution, until all the scabs are thoroughly soaked through. It is a good plan to scrub with a stiff brush to remove as much as possible of the scab. Two such treatments ten days apart should be effective. Sows should be treated as well as the young pigs. The pens should be thoroughly cleaned and disinfected. Hot lime wash containing one ounce of crude carbolic to the gallon could be used for disinfecting. It is not necessary to dispose of the hogs in order to rid the stable of the disease.

Horse With Cough.

I have a horse that has a cough which affects him in the spring. I had a veterinary surgeon examine him, and he said he had no symptoms of heaves, although he heaves a little sometimes. What would be a cure for the cough?

P. M.

Ans. The trouble may be arrested by the following treatment: Feed only first-class hay in small quantities. If working feed liberally on oats, and dampen all feed with lime water. Try giving every morning a ball composed of 1 1/2 drams powdered opium, 2 drams solid extract of belladonna, 1 dram camphor and 20 grains digitalis with sufficient oil of tar to make plastic.

WITH LOUDEN EQUIPMENT

IT IS EASY

Your time during haying and harvest is most valuable. Save one-third of it by using Louden Hay Tools. They enable you to move larger loads easier and faster than in any other way. There are no delays at the barn for the user of Louden equipment. Louden Carriers with forks or slings will handle the loads safely and surely, and just as fast as they can be drawn from the fields.



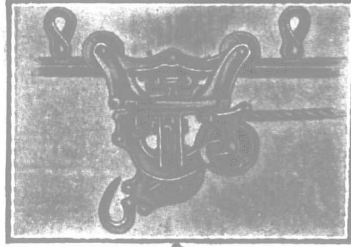
THE LOUDEN JUNIOR CARRIER

Is at all times safe and dependable, because of its simplicity and its strength. For twenty years it has been standard, and on thousands of farms it is to-day giving excellent service.

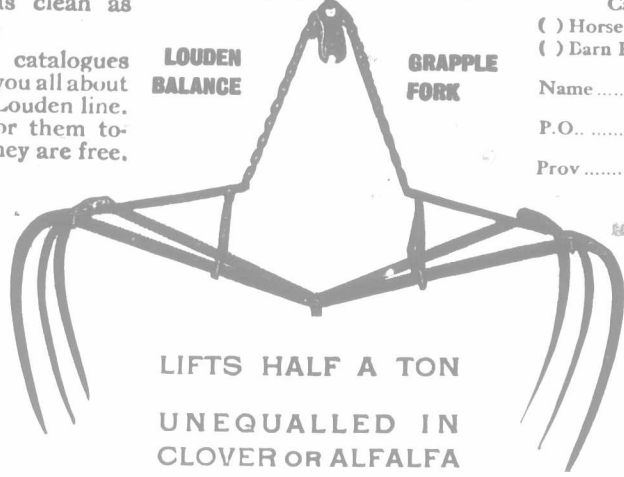
THE LOUDEN BALANCE GRAPPLE FORK

Set the tines of the fork deep into the load. It will lift an immense bundle and deliver it in the mow in even flakes, not tangled up as is the case when other forks are used. Handles clover, alfalfa, loose grain or straw, as clean as timothy.

Our catalogues will tell you all about the big Louden line. Write for them to-day. They are free.



LOUDEN BALANCE GRAPPLE FORK



LIFTS HALF A TON
UNEQUALLED IN
CLOVER OR ALFALFA

LOUDEN MACHINERY CO.

312 CRIMEA ST., GUELPH, ONT.

VANCOUVER, B.C. WINNIPEG, MAN. ST. JOHN, N.B.

Questions and Answers Miscellaneous.

Homemade Cheese.

1. Last year I bought a heavy draft 10-year-old mare. She has never had a foal. If I breed her this season would there be any great risk or danger?

2. Can you give me a recipe for home-made cheese? Would like to make some for family use, as it is so expensive to buy. A. H. L.

Ans.—1. We think not.

2. Milk must be of the best quality and comparatively sweet. If several milkings are used the earlier ones should be cooled down and stirred frequently to prevent the cream from rising. If the fresh morning's milk is mixed with the previous day's milk, which has been properly cared for, it is usually in about the right condition for making cheese, in regard to the acidity. A large tin, churn, or new tub, in fact any clean vessel which will hold milk and not impart a flavor to it, will answer as a cheese vat. Heat the milk to 86 degrees, by setting the can which contains it, in hot water. Be prepared to go on with the work, as milk kept at this temperature may develop too much acid. If the cheese is to be colored, use a small teaspoonful of cheese color to 100 pounds of milk, and the color to a pint of milk and stir well in to the milk in the vat. For every 25 pounds of milk use one teaspoonful of rennet. Dilute the rennet in a pint of cold water and pour it in a stream up and down the milk, stirring well all the time and continue stirring for two or three minutes. The vat should be covered to keep the milk warm. In order to determine when the milk has coagulated sufficiently, insert the index finger into the pail, and with the thumb make a dent in the curd just at the base of the finger. Slowly move the finger forward, and if the curd breaks clean, like a firm custard, it is ready to cut. The time from adding the rennet to the cutting is usually about twenty minutes. The older or riper the milk the more quickly the rennet will act. The curd must be cut in small cubes. A long-bladed knife may be used for this work, and the curd cut lengthwise and crosswise and then horizontally as well as you can. Begin stirring the curd gently, and continue the cutting until the curd is fine enough. The regular horizontal and perpendicular curd knives are much more convenient for cutting the curd than a single blade knife. While the stirring is going on heat may be slowly applied, the vat which contains the curd may be set in a vessel of hot water. After the whey is separated pretty well from the curd a pailful may be dipped out and heated to 130 to 140 degrees, and then poured back into the vat to aid in heating the curd to 98 degrees. This temperature may be reached by simply pouring the hot water around the vat. If heated too quickly the curd does not expel enough moisture and a weak-bodied cheese is the result. After it is brought to 98 degrees it is not necessary to stir it continuously, but it must be frequently done to prevent the curd matting. The curd is usually ready to dip in from three and a quarter to three and a half hours from the time the rennet is added to the milk. The proper condition of the curd is ascertained by feeling the curd. If it is rather firm, has a shiny appearance and falls apart when pressed in the hand, it is ready to have the whey drawn off. A common method is to squeeze a little of the curd in the hand and then press it against a hot iron. If it leaves hair-like threads a quarter of an inch long on the iron it is a sign that the whey should be removed. If there is no tap in the vat dip the curd and whey into a strainer and put the curd in a large cheesecloth, then stir the curd for ten or fifteen minutes to allow the whey to escape. It is now time to salt the curd, and the rate of one ounce of salt to every 25 pounds of milk is considered about right. Sprinkle the salt over the curd and stir well. One cannot get along without a cheese hoop, and it may be made of wood or heavy tin but it should be round, straight and strong. For home cheese a very satisfactory size is 6 inches in diameter by about ten inches high.

FILL OUT AND MAIL TO-DAY

Without cost to me, send books or information on lines checked below:

- Hay tools.
- Stalls and stanchions.
- Feed and Litter Carriers.
- Horse stable fittings.
- Barn Plans.

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

Home Grown Mangel Seed

We have secured a limited quantity of home grown seed, grown in Waterloo County by Mr. Henry Stokes, under the supervision of the Agricultural College at Guelph. The seed we offer is the Yellow Leviathan variety which is well known. The last five years at the College the home grown seed has surpassed in germination and productivity the seed of the same variety which has been imported.

Give it a Trial. Price 45c. lb., postpaid.

SEED GRAIN—We have the following still on hand. Banner Oats, 75c. bush. Mammoth Cluster, 75c., O.A.C. 72, 80c., Newmarket, 75c., Early Empire, (ripens with Barley) 75c., Early Yelder, (new imported) \$2.00 bush.

Barley No. 21, 85c. bush., Wild Goose wheat, \$1.70 bush., Black Barley, \$1.50 bush., Rye Buckwheat, \$1.20 bush., Seed Peas, \$2.00 bush.

Red Clover No. 1, \$17.00 bush., Timothy No. 1, \$6.00 bush., No. 1, Alsike, \$14.00 bush., Alfalfa, \$16.00 bush.

We have a large stock of seed potatoes. Write for prices

Terms Cash. Ex warehouse
Bags extra at 25c. each.

HEWER SEED CO.
GUELPH, ONTARIO

CLOVER SEEDS

(Government Standard)

	Per Bus.
No. 1 Red Clover.....	\$16.25
No. 2 Red Clover.....	15.50
No. 1 Alsike.....	13.00
No. 2 Alsike.....	11.00
No. 1 Alfalfa.....	16.00
(Northern grown)	
No. 2 Timothy.....	5.50
(This seed grades No. 1 Purity)	
No. 3 Timothy.....	5.00
White Blossom Sweet Clover.....	12.00
O. A. C. No. 72 Oats.....	.85
Marquis Spring Wheat.....	1.75
O. A. C. No. 21 Barley.....	1.25

Terms cash with order. Bags extra at 25c. each. On all orders east of Manitoba of \$25 or over we pay the freight.

We guarantee seeds to satisfy or ship back at our expense.

Ask for samples if necessary.

TODD & COOK
Seed Merchants
Stouffville Ontario

NONE-SUCH SEED CORN Our Guarantee

If not satisfied in ten days, return corn at our expense and money will be refunded. Bags furnished.

Don't delay. Write at once for our price-giving free delivery offer.

R.R. No. 1, Cottam, Ont. JACKSON BROS.
The Roselands and Alfalfadale Farms

CLOVER SEED

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

1887-1916
S. F. M. O'FLYNN & SON, Shelburne, Ont.
Dufferin County

SEED GRAIN

O. A. C. 21 Barley and 72 Oats our specialty. Our supply is clean, pure and true to name. Price—Barley, 90c., Oats, 80c. per bush. 16 oz. cotton bags, 25c.

JNO ELDER & SONS, Hensall, Ont.

MILTON BRICK

Mister Farmer!

Are You Going to Build?

Then build with MILTON BRICK.

Write to-day for our book, and learn why MILTON BRICK is the best brick.

MILTON PRESSED BRICK CO., Limited. Dept. B. MILTON, Ontario

Get a Big Price for Your Farm Products

Give your family the joys of living. You can do both with an automobile. We have many used and rebuilt cars at bargain prices,—\$250 to \$1,000.00. Write or call the

McLAUGHLIN CARRIAGE CO., LTD. LONDON, ONT.

\$6.00 new loss includ self-ign
Cov in any lower terms can pr
Wri up to

LONG FIB
F.D.WILL
HEAD OFFICE

KLIN
We challenge
mills in our bar
Fanning Mill
a no other way
strate the s
fill on all ki
'Kline' in open
or you. It is a
wild oats, chess
eeds. Has ma
ing mill. Writ
erns. Agents
KLINE
Beeton

Ag
Mr. Farmer
crops you s
clover and
appointment
your land
Agricultura
further info
Crushe
\$7 Yonge

OTW
THE
WONDER BAK
LARGEST RANG
ON THE MARK
WRITE FOR BOOKLE
The
D. Moore Comp
Hamilton Cana

FORD OWNERS

\$6.00 a year protects your new Ford Touring Car from loss by fire to the extent of \$500, including loss from explosion and self-ignition.

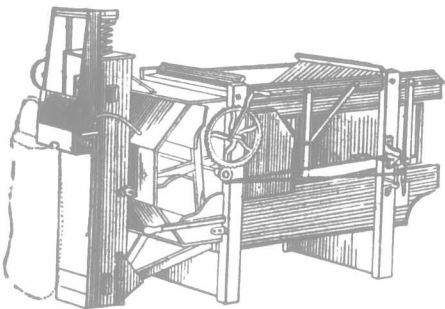
Covers fire loss while car is in any building or on the road—lower rates and more liberal terms than any other policy you can procure.

Write for rates on Ford Cars up to three years old.



LONDON MUTUAL FIRE INSURANCE COMPANY
 F. D. WILLIAMS, MANAGING DIRECTOR
 HEAD OFFICE - 33 SCOTT ST. TORONTO.

KLINE FANNING MILL



We challenge competitors to put their fanning mills in our barn for a trial test with the "Kline" Fanning Mill. We welcome such a test, because no other way is it possible to so decisively demonstrate the superiority of the "Kline" Fanning Mill on all kinds of grain. Once you see the "Kline" in operation, no other fanning mill will do for you. It is absolutely unequalled for separating wild oats, chaff, light and small grain, smut and weeds. Has many features found on no other fanning mill. Write for further particulars, prices and terms. Agents wanted in unrepresented territory.

KLINE MANUFACTURING CO.

Seaton Ontario

Agricultural Lime

Mr. Farmer: Are your lands yielding the crops you should expect? How about your clover and alfalfa crops, are they a disappointment each succeeding year? If so, your land needs Lime, and it needs our Agricultural Lime. Write for prices and further information to

Crushed Stone, Limited
 67 Yonge St. Arcade, Toronto, Ont.
 Works: Kirkfield

OTHELLO TREASURE
 THE WONDER BAKER
 LARGEST RANGE ON THE MARKET
 WRITE FOR BOOKLET
 The D. Moore Company
 Hamilton Canada
 AGENTS EVERYWHERE



10-15-20

Years from now the Bissell Silo will be giving good service. It is built of selected timber, treated with wood preservatives, that prevent decay. It has strong, rigid walls, air-tight doors, and hoops of heavy steel.

Therefore it lasts, simply because it can't very well do anything else. Our folder explains more fully—write Dept. W. T. E. BISSELL CO., LTD. Elora, Ontario

This will press a cheese weighing about 8 pounds. The circle or top to be placed in the hoop on top of the curd must fit tightly. Cheesecloth should be fitted neatly inside the hoop. What is called a bandager is sometimes used for fitting the cheesecloth to the hoop. The hoop may now be placed on a board in a tin pan and a piece of cotton placed over the bottom. The hoop is filled with salted curd which is pressed down well with the hand, and a piece of wet cotton and the wooden follower placed on top. There are different ways of pressing cheese. If no regular press is at hand the old-fashioned fulcrum and lever press may be used, which gives a continuous pressure. In the morning cheese should be taken out of the hoop, and the bandage pulled up and trimmed so as to extend half an inch over the end. The cheese is again put to press until next day, then it is taken from the hoop and placed in a cool cellar where it should be turned upside down every day for a month.

Questions and Answers. Miscellaneous.

Grafting—Cement Required and Labor.

1. Please tell me when to graft apple trees and how?
2. How much cement would it take for basement wall and floor 45 feet by 48 feet and 8 feet high?
3. How much would it cost for labor, there being four doors and eight windows in wall? S. R. W.

Ans.—1. This is a very suitable time now to graft, and scions should be cut before the buds have started to expand or burst. Prepare a wax made in the proportions of one part tallow, two parts bees wax, and four parts resin. Melt these together and pour into a tub of cold water. Have the hands greased and pull the wax as one would pull candy. The hands should also be greased when applying this wax to the tree. Some grafters find it more convenient to melt it and apply it with a brush or small stick. Cut the scions, leaving about three buds to each scion. Take out such limbs or graft on to such limbs as will give a good head to the tree when the scions grow. With the grafting knife split the stub and insert the wedge end into the centre of the stub, thus holding it open. Have the scions cut in a wedge sharp at the bottom with the outside edge a shade wider or thicker than the inner edge. Insert the scion in the stub so the inner barks of the scion and stub come together. This permits of a circulation of sap between the branch of the tree and the scion. After the scion is inserted, knock out the wedge and cover all exposed parts with the wax to keep out air and water. Large limbs will accommodate two scions in the stub, but very large branches should not be cut off.

2. For the main part of the wall, not considering doors and windows as we do not know the dimensions of same, it would require 186 bags of cement and 55 yards of gravel. This wall, however, should be built on footings or foundation which should extend into the ground to or below the frost line. Considering the footings to be two feet deep, they would require 45 bags of cement and 13 yards of gravel. These proportions are 1 of cement to 8 of gravel. The floor of such a building mixed in the proportion of 1 to 8 for a depth of 4 inches would require 90 bags of cement and 26 1/2 yards of gravel. It is customary, however, to lay a floor of about 3/4 inches mixed in the proportion of 1 to 8, and surface this with 3/4 inch of sand-cement mixed in the proportion of 1 of cement to 2 or 2 1/2 of sand. In this case the gravel-concrete part of the floor would require 73 bags of cement and 21 yards of gravel, while a sand-concrete surface would require 45 bags of cement and 54 cubic feet of sand.

3. It would be impossible to give a fair estimate of the cost of labor. See a contractor regarding this phase of the matter. Cost will depend upon the equipment for mixing and the price of labor in the district.

CALDWELL'S

Getting more milk from your cows

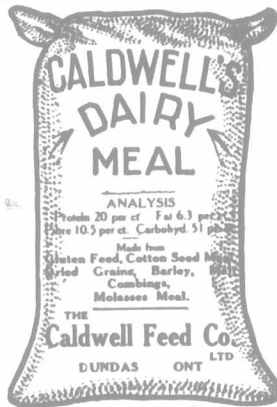
It isn't usually an easy thing to stall feed cows all winter without lessening in some degree the flow of milk. Far less easy is it for you, with your lack of facilities, to mix your own feeds so as to prevent this reduction. What is really wanted for your dairy herd is a fully-balanced ration—a ration that will retain the regular milk production, while keeping the cows in flesh and in normal healthful condition.

For this purpose

CALDWELL'S DAIRY MEAL

fills a distinct need. It is a highly protein, fully-balanced cow ration, designed especially to keep up the flow of milk. By fully balanced, we mean that it contains all the necessary feeding units in their correct proportions, and that these feeding elements are combined in their most easily-digested form. Palatability, which is an invaluable aid to indigestion, is secured in Caldwell's Dairy Meal by the use of Pure Cane Molasses Meal, combined with various other essential and highly-nutritious food stuffs.

That you may know exactly what the ingredients are, we print them on a tag attached to the bag, and, moreover, we guarantee them to the Government. Caldwell's Dairy Meal should be fed by itself, not mixed with any other feeding materials.



You ought not to have any difficulty in obtaining Caldwell's Dairy Meal from your feed man, but if by any chance you do, kindly let us know, and we will see to it that you are supplied at once. A copy of our booklet will be sent to you free if you are interested.

The CALDWELL FEED & CEREAL CO., Ltd., Dundas, Ont.

The Largest Feed Mills in the Dominion
 Makers of all kinds of high-class

STANDARD FEEDS

The Windsor Gasoline Engine

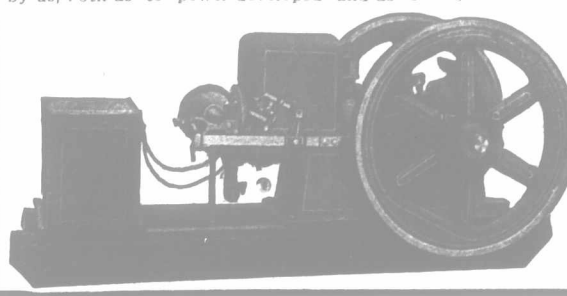
BUILT FOR YEARS HAS BEEN THOROUGHLY TRIED NEVER FOUND WANTING

It is easy to start, full of power, economical and thoroughly practical in every respect. It is fully guaranteed by the manufacturers and by us, both as to power developed and as to

durability. You are taking no chances in trying a WINDSOR.

To introduce it speedily to the Canadian trade, we are making special prices, as follows:

1 1/2 horse-power, on skids \$ 36.42
 2 1/2 " " " " 52.95
 4 1/2 " " " " 82.95
 6 " " " " 119.80



Send for catalogue and full description.

Windsor Supply Co.

Farm, Thresher, Auto Supplies
 WINDSOR ONT.

FACTORY PRICES
89c
 PER ROLL
 ALSO HEAVY GRADES AT USUALLY LOW PRICES

ROOFING AND BUILDERS' SUPPLIES
 We Quote Factory Distributors Prices on Roofing, Wallboard, Building Papers, Paint, Hardware, Tools, Etc.
 WE PAY FREIGHT

CATALOGUE AND SAMPLES FREE—WRITE TO-DAY
The Halliday Company Limited
 FACTORY DISTRIBUTORS
 HAMILTON CANADA

Western Canada NEEDS

10,000 MEN
 FOR SPRING SEEDING

Steady Employment — Good Wages.
 Low Homeseekers' and Settlers' Rates now in effect.
 For tickets and information apply to nearest C. N. Rly. Agent.

CANADIAN NORTHERN

GRAND TRUNK RAILWAY SYSTEM

Are You Going West?
 The Grand Trunk Railway System will run

HOMESEEKERS' EXCURSIONS
 Each Tuesday
 MARCH 7TH TO OCTOBER 31ST (INCLUSIVE)

Tickets valid to return within two months inclusive of date of sale.

WINNIPEG and return \$35.00
EDMONTON and return \$43.00

Proportionate low rates to other points in Manitoba, Saskatchewan and Alberta.
 *All particulars and tickets on application to agents.

DR. LAWRASON'S TRADE MARK

Mexican Liniment
 Should be in every stable.

STOPS BLEEDING INSTANTLY FOR CA'ED UDDERS IN COWS
 SORE NECK GALLS DISTEMPER
 SPAVINS CURBS or SPLINTS

It has no equal.
 25c., 50c. and \$1.00

Sent prepaid on receipt of price if your druggist cannot supply.

DR. Lawrason Medicine Co.
 Dept. E, TORONTO, ONT.

The Regina Horse Show.
 The Clydesdale showing was the outstanding feature of the Regina Horse Show, held last month in the city of Regina, Sask. That good horse, The Bruce, so well known in the West and very favorably known in Eastern Canada, won the red ribbon in a large class of aged stallions, and defeated all competitors until he reached the proud position of champion. His greatest rival was a three-year-old called Golden Youth, a son of the noted Fyvie Baron. This was a drafty colt with very good action. He won highest honors in the class of three-year-olds, and was finally made reserve champion. The best two-year-old was Baron Kitchener of Hillcrest, and son of The Bruce. Another son of The Bruce, called Colonel of Hillcrest, won in a class of ten yearlings. This horse ultimately won the Canadian-bred championship. He was firmly put together and possessed excellent quality, but he was slightly undersized.

The females of the breed constituted an exceptional exhibit of female Clydesdale type. In yield mares competition was keen, the highest honors going to Countess or Moray, which later won the female championship. Rosie D., second-prize filly at Chicago two years ago, stood at the honored end of the three-year-old fillies, and continued winning until she was declared as reserve champion and champion Canadian-bred. Doune Lodge Lady Peggy was the best two-year-old filly. This female was later made reserve Canadian-bred champion. The Bruce and his progeny won the class for three the get of one sire. The awards in this breed were made by Geo. Gormley, Unionville, Ont.


Fourteen Percheron establishments were represented in the display of this breed. The most outstanding class of the exhibition was that for aged stallions, in which Frank J. won first place. The three-year-old class for stallions was headed by a horse known as Madix, a quality gray colt. The yield mare class was most interesting of the female line-ups. This class was won by Ruth, a blocky, gray mare.

While this is known as the Regina Horse Show, cattle, sheep and swine are given a place. These departments were not exceptionally well filled, however, the accommodation provided for their stabling and judging was inadequate.

Less Waste When Spread in Winter.

EDITOR "THE FARMER'S ADVOCATE":
 I have been reading with much interest the discussions in "The Farmer's Advocate" re manure. In my experience I think it is preferable to spread it on the land in the winter months. I have been farming in Northern Ontario on clay land and rather rolling too, and I have yet to see any great loss by run off in the spring. I am following the same practice here in Bruce County. How many farm yards do you see this spring where the soakage from the manure pile is running away down some ditch or creek? As a rule most of farm buildings are built on rising ground, with a small ditch or runway near the barn. Perhaps those buildings are near your neighbor's line fence, and your neighbor gets the benefit. I saw a dairyman to-day, whose buildings were close to the road, open up a trench and let the soakage run for a half mile down the road. When spread in winter spring thawing is more gradual, and as the frost is coming out the soakage from the manure will go in. I prefer spreading as the manure is hauled, as it takes less labor. I run it out on a litter carrier, and dump it into a wagon or sleigh. As soon as it is dry enough in the spring I run over it with the team and drag harrows. This smoothes it down and lessens the work by hand; then put on the disc harrows and you can make a good job, and it is then ready for anything. The amount we can do in the winter especially when labor is so scarce more than pays for the loss, if there is any, from soakage; the manure might be all right if kept under cover, but it might as well be spread in the field as in the barnyard.

Bruce Co., Ont. J. W. A.



The No. 25 O.K. Potato Planter

On the Fence?

"Potatoes! Well, I dunno." That's the attitude of hundreds of farmers throughout the country, whose indifferent success last season has made them dubious about planting this year.

Yet their experience of last year was chiefly due to poor cultivation. Hundreds of farmers who had installed O. K. Potato Machinery and looked after their crops carefully, had excellent success, and the high prices this winter have enabled them to clean up a tidy fortune on their potatoes.

Order a No. 25 O. K. Planter now and put in a big acreage of potatoes. You can plant four acres with this machine in the same time as one before, and it drops a seed on every hill in finely worked soil. The cup system and dial plate ensure absolute perfect seeding in even rows that are easy to cultivate. The O. K. Planter fertilizes and fills in on the same trip. It's a winner from every angle.

Our Free Book "Money in Potatoes" treats every phase of potato growing. Write for it NOW.

OK CANADIAN POTATO MACHINERY

CANADIAN POTATO MACHINERY CO., LIMITED,
 491 Stone Rd., GALT, ONT.
 Send FREE—"Money in Potatoes."

NAME
 ADDRESS

67-A

The New "Brown Lankford" Lankford Collars
 FOR PLOWING AND TEAMING



increase horse power. They relieve horse shoulders at work like slippers ease men's feet on the job.

Open throat principle, and oily, springy cotton fibre filling that holds no heat, and the closely-woven army duck—like a surgical bandage, give exclusiveness to Lankford, as

A Collar That Can't Fail

to remove Lumps—and cure Galls or Soreness—and prevent either. Every horse working in a stiff-throat collar (no matter how soft and big the draft) needs a Lankford for relief, to keep shoulders in good repair.

Order size smaller than in leather collars.

T. I. THOMSON, LTD.
 Owen Sound, Ont.

Price, \$1.75 each
 Orders shipped promptly

FREE LAND

FOR THE SETTLER IN
New Ontario

Millions of acres of virgin soil, obtainable, free at a nominal cost, are calling for cultivation. Thousands of farmers have responded to the call of this fertile country and are being made comfortable and rich. Here, right at the door of Old Ontario a home awaits you.

For full information as to terms, regulations and settlers' rates, write to
 H. A. MACDONELL, Director of Colonization
 Parliament Buildings, TORONTO, ONT.
 HON. G. HOWARD FERGUSON, Minister of Lands, Forests and Mines.

SAFE, SP
 Supersede
 ing. Inva
 FOUN
 WINN
 THRU
 DIPH
 S'IN
 RING
 PINK
 SWEE
 BONY
 LAMI
 SPAV
 QUAR
 SCRA
 POLL
 PARA
 REMOV
 BUNC
 BLEM
 SPLIN
 CAPP
 STRA

SAFE FO

NOTHIN
 Have used 608
 than 20 years. It
 use! It in hundre
 factly as fo for the
 is the 1. best bree
 the world, and us
 Prop. Belmont

Sole The

PE
Sa
 AT CRUM
 Seven
 One team
 black regis
 black team
 Stallio
 annum off f
 cash. Out o
 registered a
 Sale start
 McColg & H
 Auction

1915
Importat
 With the a
 strong for
 champions
 We can su
 from 1
SMITH & R

Impo
 a Percherons we
 Clydesdale Stallio
 red good foal-ge
 these are over 3 y
 and we will sell f
 Grenville is a
 two trains daily

Percheron
 from yearlings up
 and young bulls.
 Toronto and York

Gombault's Caustic Balsam

The World's Greatest and Surest

Veterinary Remedy

HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Caustery or Firing. Invaluable as a CURE for

FOUNDER, WIND PUFFS, THRUSH, DIPHTHERIA, SKIN DISEASES, RINGBONE, PINK EYE, SWEENEY, BONY TUMORS, LAMENESS FROM SPAVIN, QUARTER CRACKS, SCRAPPED HOCK, POLL EVIL, PARASITES.

REMOVES

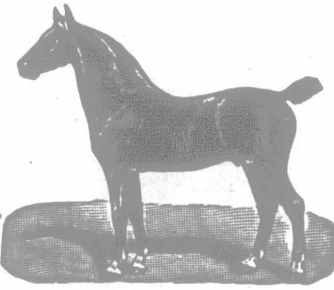
BUNCHES or BLEMISHES, SPLINTS, CAPPED HOCK, STRAINED TENDONS.

SAFE FOR ANYONE TO USE.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

The Accepted Standard VETERINARY REMEDY

Always Reliable. Sure in Results.



None genuine without the signature of **The Lawrence-Williams Co.** Sole Proprietors & Distributors for the U.S. & CANADA. CLEVELAND, O.

NOTHING BUT GOOD RESULTS.

Have used GOMBHAULT'S CAUSTIC BALSAM for more than 20 years. It is the best blister I have ever used. I have used it in hundreds of cases with best results. It is perfectly safe for the most inexperienced person to use. This is the best breeding establishment of trotting horses in the world, and use your blister often. -W. H. FAYBOND, Prop. Belmont Park Stock Farm, Belmont Park, N.Y.

USED 10 YEARS SUCCESSFULLY.

I have used GOMBHAULT'S CAUSTIC BALSAM for ten years; have been very successful in curing curb ringbone, capped hock and knee, bad ankles, rheumatism, and almost every cause of lameness in horses. Have a stable of forty head, mostly track and speedway horses, and certainly can recommend it. -F. C. TRABEL, Training Stable, 890 Jenaalga Street, New York City.

Sole Agents for the United States and Canada. **The Lawrence-Williams Co.** TORONTO, ONT. CLEVELAND, OHIO.

PERCHERON SALE

Saturday, April 22, 1916

AT CRUMMER BROS. BARN, MARKET SQUARE, CHATHAM, ONT.

Seven head of Inspected and Enrolled, Registered Percheron Stallions. One team matched grey mares, three and four years old, registered. One black registered mare and a number of grade mares and geldings, including a black team of mares, three and four yrs., make a grand hearse team.

Stallions will be sold on one year's time on approved joint notes with 7% per annum off for cash, other stock sold on 8 months' credit, 7% per annum off for cash. Out of town buyers will remember that freight rates are always reduced on registered animals and also that there is reduced passenger rates at time of sale.

Sale starts at One-thirty. Write for catalogues and plan to attend

McColg & Harrington Auctioneers

McGARVIN BROS., Props. R. R. No. 3, CHATHAM, ONT.

1915 Clydesdales 1915 Importation

With the addition of our 1915 importation of Clydesdale stallions we are particularly strong for this season's trade. Prize-winners at all the leading shows, including championships. Up to a ton and over in weight, with breeding and quality unsurpassed. We can supply the wants of the trade, no matter how high the standard. Stallions from 1 year up to 8 years, in-foal mares and fillies. Terms to suit.

SMITH & RICHARDSON,

COLUMBUS, ONT.

Myrtle, Brooklyn and Oshawa Stations

Imported Registered Stallions and Mares

Percherons we have our very best to offer: Blacks and Grays, 3 to 5 years old. Belgians and Clydesdale Stallions, right type and quality. These have all been tested in the stud, and guaranteed good foal-getters. Mares from 2 to 5 years old, Percheron, Clydesdale and Standard-bred, these are over 3 years old, all safe in foal. If you want a Champion Stallion or Mare, come along, and we will sell for less money than any other man in the business, and terms to suit. Grenville is situated midway between Ottawa and Montreal, on the C.P.R., C.N.R. and G.T.R. Two trains daily each way.

J. E. ARNOLD, Grenville, Que.

Percherons and Holsteins—We have Percheron stallions from yearlings up, quality and type unsurpassed. In Holsteins we have for sale, cows, heifers, and young bulls. Come and make your selection. Toronto and York Radial Line. W. G. HILL & SON, Queensville, Ont., P.O. and Station

Questions and Answers. Miscellaneous.

Ducks.

Do ducks need water in order that the eggs be fertile, or can a drake work without water? R. A. B.

Ans.—Ducks require water to drink, but it is not necessary that they have access to large bodies of water.

Ashes as a Fertilizer.

I have a pile of wood and coal ashes. Would they be beneficial or harmful if applied to a garden plot? E. P.

Ans.—Unleached hardwood ashes contain a small percentage of potash, lime and phosphoric acid. Wood ashes tend to improve the fertility of the soil. Coal ashes are of little value as a source of plant food, but they might improve the physical condition of a heavy soil. A small quantity might be beneficial.

Permanent Pasture.

I have a ten-acre field of heavy clay land which is rather wet, that I want for permanent pasture. It produced a splendid crop of corn last year and is clean. What mixture do you recommend? I don't understand the nature of the grasses and am afraid of getting twitch grass. A. R. F. G.

Ans.—For permanent pasture on land as here described we would suggest: red top, 4 lbs.; orchard grass, 4 lbs.; Kentucky blue grass, 2 lbs.; alsike, 3 lbs.; white clover, 2 lbs.; timothy, 3 lbs. This makes a mixture of 18 lbs. of seed per acre. The varieties are all hardy, and when once well established should furnish a large quantity of pasture.

Avian Tuberculosis.

My hens get weak in the legs, get diarrhoea and become very thin. They lie around a week or two and then die. I keep them in good dry quarters, and clean them out often. What treatment would you recommend? W. H. B.

Ans.—Symptoms are those of birds affected with tuberculosis. No satisfactory treatment is known. No doubt but that birds in the flock which do not show the symptoms are more or less affected. It is advisable to kill off the whole flock and thoroughly disinfect all the houses and runs. The danger of infection of the whole flock is so great that no attempt should be made to keep any of the fowls that have been exposed to the disease. Birds that have died or are killed as well as accumulated manure, sweepings and scrapings of the poultry house should be destroyed by fire.

Dundas Grenville Ayrshire Club.

Quite a number of the breeders of Ayrshire cattle residing in Dundas and Grenville Counties met at South Mountain, Ont., on March 24, and organized an Ayrshire Club, to which they gave the above name.

The meeting was arranged by E. P. Bradt, District Representative of the County of Dundas. W. F. Stephen, of Huntingdon, Que., Secretary of the Canadian Breeders' Association, was present and spoke of the advantages and possibilities of the Club work, and brought the organization to a successful start with nearly 20 members. There are many more to come in, as there are a number of Ayrshire herds in the counties, and many new herds are being started. The Ayrshire breed is particularly adapted to the conditions of Eastern Ontario.

The following officers were elected: Hon. Pres., James Ballantyne, Chester-ville, Ont.; President, Wesley Hamilton, Chesterville; Vice-President, Elgin Montgomery, South Mountain; Sec.-Treas., Arthur Christie, Winchester; Auditor, Herb. Walter, Winchester. Directors: Geo. Gillespie, Ventnor; A. J. Cumming, Kemptville; S. D. Thorpe, South Mountain; Conrad Whittaker, Williamsburg; Wm. Walker, Winchester.

This is the last call for the great dispersion sale of 75 Ayrshire cattle, the noted Glenhurst herd, the property of James Benning, Williamstown, Ontario. The sale is on Wednesday, April 19. There is no doubt as to the quality of the stock. This herd has been founded 55 years and it is well known. Glenhurst is situated near Summerstown Station, G. T. R. Trains will be met and visitors taken to Glenhurst. There is yet time to write for a catalogue and particulars. See the advertisement in this issue.

BITTER LICK MEDICATED Salt Brick

Great Conditioner & Worm Destroyer

Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc., in such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen; all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only one cent a week. Ask your dealer or write for booklet to STEELE BRIGGS SEED CO., Winnipeg, Man. and Toronto, Ont.



Dr. Page's English Spavin Cure

Cures the lameness from Bone-Spavins, Sider-Bones, Ringbones, Curbs, Splints, etc., and ab-

sorbs the bunches, does not kill the hair, absorbs Capped Hocks, Bog-spavins thick pastern joints, cures lameness in tendons, most powerful absorbent known, guaranteed, or money refunded. Mailed to any address, price \$1.00. Canadian Agents: J. A. JOHNSTON & CO., Druggists, 171 King St. East. Toronto, Ont.

Perfectly Legal Will for 35c.

Use a Bax Legal Will Form and make your will at home. You can do it as well as your lawyer, and just as binding. These wills cannot be broken if you follow our instructions. You sit down and fill in the blanks as shown by the sample will accompanying each blank. Don't delay. Do it now. Sold by druggists and stationers, 35c or by mail (3 for \$1) to BAX WILL FORM CO. Room 191B, 257 College Street Toronto

Two Black Percheron stallions, 2 years old, weight 1,600 or better; height, 16 or 16 1/2; extra quality, for sale at farmers' prices. NORMAN ATKIN, North Malden, P.O. Amherstburg Station

For Sale—An imported Clydesdale stallion 7 years old, weighing 1,800 lbs.—a bay, nicely marked—white faced and white legs. A sure foal-getter, a good worker and sound. Been here for 3 years and scores of his colts are to be seen. Price right.

Edward Hoy Holstein, Ont.

For Sale—Imported Clydesdale Stallion (The Squire), best stock horse in Ontario, been on one route for eight years. Apply Emerson Johnson, Glanford Sta., R.R. No. 1. Phone by way of Hamilton.

ALLOWAY LODGE STOCK FARM Angus, Southdowns, Collies

Special this month: **Southdown Prize Rams** ROBT. McEWEN, R.R. 4, London, Ont.

Elm Park Aberdeen-Angus

"Glencarnock Victor," the grand champion steer at Chicago International Show. Was sired by Elm Park Ringleader 5th 106676. We have two full sisters to this great breeding bull in our herd also a number of half sisters that are producing the kind of bulls that will get the best kind of Aberdeen-Angus cattle. We have some bulls and females for sale at reasonable prices. James Bowman, Box 14 Guelph, Ont.

For Sale—Eight-months-old Hereford Bull Calf, Bonnie Boy 8th 19444 Sire Bonnie Brae 61st 14155. Price and particulars: GOODISON FARM, Sarnia, Ont.

Tweedhill—Aberdeen-Angus. Choice young bulls of serviceable age also females. If you want anything in this line write: James Sharp, R. R. 1, Terra Cotta, Ontario Cheltenham, C. P. R. & G. T. R.

Fairbank Aberdeen-Angus Our young stock is sired by Elm Park Rival 417. Our heifers are bred to Hector 9080, a worthy son of Prince Bravo, champion at Toronto, 1914. Bulls and heifers for sale at reasonable prices. JAMES W. BONE, R.R. No. 1, Belgrave, Ont.

The Glengore Angus

Some choice bulls, from 7 to 15 months, for sale. For particulars write: GEO. DAVIS & SONS, R.R. No. 1, Erin, Ont.

Beaver Hill Aberdeen Angus—Bulls fit for service. Females all ages. Cow with calves at foot. Prices reasonable. ALEX. McKINNEY, R. R. No. 1, Erin, Ont. Cheltenham, G. T. R., Erin, C. P. R.

Burnfoot Stock Farm, Caledonia, Ont. Breeders of heavy milking dual purpose Shorthorns. We offer now a handsome roan bull, calved Aug. 13, 1915, out of Jean's Lassie, the champion 2-year-old in the R.O.F., and sire as good. S.A. Moore Prop., Caledonia, Ont.

"This makes house-keeping easier."



Floglaze

"The Finish that Endures"

Enamels Lac-Shades

Mrs. Goodwife says:--

"I find it so easy to keep my floors, woodwork and plumbing clean and sanitary because I finish and renew them with that glossy, hard-wearing finish—Floglaze.

"Whenever my furniture is scratched or becomes untidy, a few minutes spent applying a few cents worth of Floglaze makes it look brand new again.

"I find that it wears as well outdoors as in, on verandah furniture, buggies, garden implements or wagons. Keeps them protected and always ready for use."

It Lightens Housework

Send 10c in stamps for a sample of Floglaze-Lac for renewing furniture. State color desired.

MADE IN CANADA

by

IMPERIAL VARNISH & COLOR CO.
WINNIPEG TORONTO VANCOUVER

SHORTHORNS

Five high-class bulls, from 10 to 15 months, trained by Real Sultan, others just as good. Am pricing them low, as it is getting late in the season. A few heifers and young cows to offer, some milk-families. Freight paid.

Stewart M. Graham, Lindsay, Ont

SHORTHORNS

A few choice bull calves for sale. Would price a few females. Inspection solicited.

J. T. GIBSON, Denfield, Ont.

Northlynd R.O.P. Shorthorns and Jerseys Present offering: one shorthorn bull old enough for service, whose dam, his dam's full sister and his grandam in six yearly tests made an average of over 8,500 lbs. milk, testing over 4% in an average of 329 days.
G. A. Jackson, Downsview, Ont.

Shorthorns and Swine—Have some choice young bulls for sale; also cows and heifers of show material, some with calves at foot. Also choice Yorkshire sows.
ANDREW GROFF, R.R. No. 1, ELORA, ONT.

Shorthorns—"Pail Fillers"—Our Shorthorns are bred and developed for big milk production. If you want a stock bull bred that way, we have several; also Clyde, stallion rising 3, won 2nd at Guelph the other day in a big class. D. Christie & Son, Manchester, Ont.

Fletcher's Shorthorns—Our herd of pure Scotch Shorthorns are mostly direct from imp. stock. Three very choice bulls for sale, also females. GEO. D. FLETCHER, R.R. 1, Erin, Ont. L.D. Phone, Erin, Ont., C.P.R.

Shorthorns—Bulls, females, reds, beans, size, quality. Breeding milk is over 40 years. Cows milking 50 lbs. a day. Big, fleshy cows that will nurse calves right. For easy write: Thomas Graham, R.R. 3, Port Perry, Ont.

For Sale Five Shorthorn Bulls, 12 to 18 months old, from good milking dams. Two red and 3 roans; prices right. Also one good roan bull, 8 mos. old, a Campbell Rosebud, a right good one. Write us, or better, come and see.
JOHN SENN, & Son, Caledonia, R.R. 3, Caledonia, Ont., G.T.R.

Questions and Answers. Miscellaneous.

Treating Mixed Grain for Smut.

I purpose sowing mixed grain as it grew last year. Should it be treated the same as recommended for oats, or what is the proper way to treat it?
N. S.

Ans.—Treating the seed the same as if it were all oats is the only practical method.

Paint for Barn.

1. What is a good mixture of paint for spraying on barn with a spray pump?
2. Where could I buy the mixture?
SUBSCRIBER.

Ans.—We do not know of any paint in which oil is used that can be put on satisfactorily with a spray pump. There is what is known as cold water paint. No oil is used. The substance is a dry powder and requires only the addition of cold water to make it ready for use.

2. Communicate with manufacturer of paints or spray pumps that advertise in these columns.

Ration for Sow.

What would be a good ration for a brood sow nursing a litter of pigs?
N. B.

Ans.—During the first three days after farrowing great care should be taken not to over-feed the sow, then gradually increase the amount, taking a week or ten days to reach full feed. Equal parts finely ground oats and wheat middlings, makes an excellent ration. If skim-milk is available so much the better. Corn may be added to the ration. A certain amount of roots and green feed are always in order.

Soy Beans.

A large farmer and also an institute speaker, in both the States of Michigan and Wisconsin, strongly advocates the sowing of soy beans with clover for silage, claiming that it does not interfere with harvesting, and greatly improves the silage.

1. Have you had any experience with soy beans, or do you know of any one who has?
2. Where could I get the seed?
3. How much seed should I sow to the acre?
J. H. S.

Ans.—1. Soy beans are grown for silage purposes in a few states of the American Union, but as yet have not been used extensively in Ontario. They are claimed to furnish exceedingly rich feed for stock. Many varieties have been experimented with at the Agricultural College, Guelph, but most of them have proven unsuitable for cultivation in this climate.

2. Communicate with seed firms advertising in these columns.

3. If grown for grain about one bushel of seed per acre is recommended; if for fodder one-and-one-half bushels.

Material for Barn.

1. How much material will be required for a plank-frame barn 38 by 54 feet? I purpose building a four-foot foundation and then frame from there up. I want the ceiling of the stable to be 9 feet clear. I purpose having a shingled hip-roof.

2. How much light would be required?

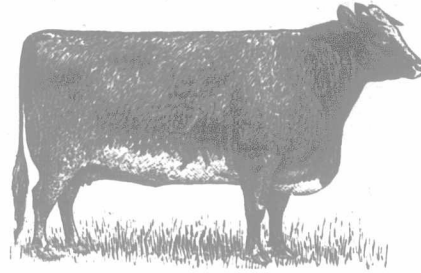
3. How much cement and gravel will it take for the floor and foundation?
SUBSCRIBER.

Ans.—1. Information relating to material required for plank-frame barn was published in March 16 issue. It would be advisable to consult a contractor and have him give you an estimate of the amount of material required.

2. Eight windows of 10 or 12 lights, each 10 by 12 inches, should furnish sufficient light.

3. Building the foundation four feet high and one foot thick will require about 27 cubic yards of gravel and sand. If one part of cement is used to 8 parts gravel, it will require 23 barrels of cement. For the floor 26 cubic yards of gravel will be necessary if the floor is laid four inches thick. Using one part cement to 8 of gravel 21 barrels of cement will be required. A finishing coat of sand and cement is generally used, 1 of cement to 2½ of sand. This will require about 6 cubic yards of sand and 15 barrels of cement.

"VITULA" A SUPERIOR CALF MEAL



Invigorates calves, insures good health and causes rapid growth. "VITULA" is a scientific compound, the best internal disinfectant and antifermentable; contains Sodium Salts, so necessary to a rapid development of bone and muscle; and a strong tonic.

For vehicle there are used in "VITULA," cereals containing high percentage of salts of IRON, which is so necessary for producing the

best condition of the blood.

For this CALVING season, use "VITULA," and be sure of the highest returns.

PACKED IN 25 lb. BAGS. PRICE \$1.25 PER BAG.

For sale only, by merchants of high repute, or direct from the Company.

Correspondence bureau of free consultation, for any diseases; write us fully. Expert Veterinarian in charge of the department will cheerfully and promptly answer, free of charge.

"VETERINA," New Treatise of Veterinary Practice, 2nd. Edition. By Mail 10c.

THE NATIONAL STOCK FOOD CO., LIMITED, OTTAWA, CANADA

THE GREAT COAL TAR DISINFECTANT

ZENOLEUM

ZENOLEUM—the powerful Coal-Tar Disinfectant—is harmless to handle and is not greasy or inflammable. It kills lice, mites, fleas and germs. It not only PREVENTS disease, but is a recognized cure. Try it according to directions for diseases of live stock and poultry. Keep your Barns, Stables and Poultry Houses clean and sanitary by liberal use of diluted Zenoium. If you want healthy birds and animals, free from lice, mites, ticks and fleas, use Zenoium—only one-tenth the cost of coal oil, and twenty times as cheap as carbolic acid, and three times as effective. Ask your dealer or send us 25c, 50c, 90c, and \$1.50 sizes. 1 gal. (\$1.50) makes 80 gals. dip.

ZENNER DISINFECTANT CO., Sandwich St., Windsor, Ont.

Quality IMP. CLYDESDALES IMP. Breeding Strengthened by the best Unsurpassed November importation I can now supply Clyde. stallions with the big size; the flashiest kind of quality and the most popular breeding. Also Clyde. mares and one right choice French Coach stallion.
JAMES TORRANCE, Markham, Ont.

Clydesdale Stallions and Mares We are now offering for sale a number of extra good stallions, also mares in foal. Write or call on:
JOHN A. BOAG & SON, Queensville, Ontario

Up to a Ton in Weight CLYDESDALES Imp. Character & quality of horses, come and see what I have, there are none better and none priced easier.
WM. COLOUHOUN, MITCHELL, ONT.

WOODLANDS BROWN SWISS AND PONIES We have no Clydes. left for sale. Our special offering is Brown Swiss Bulls, out of high-testing and big producing dams. Strictly high-class. Also Shetland and Welsh Ponies.
R. BALLAGH & SON, GUELPH, ONTARIO

ORCHARD GROVE HERFORDS

Have several young bulls and heifers for sale. Satisfaction guaranteed.
L. O. CLIFFORD, Oshawa, Ont

"Maple Hall Farm" Shorthorns Three choice young bulls, eight to twelve months old; also young ones and some young cows with calves at foot. Two-year-old heifers and younger ones.
D. BIRRELL & SON, CLAREMONT, ONTARIO
Stations: Greenburn, C. N. R., Claremont, C. P. R., Pickering, G. T. R.

Pleasant Valley Farm Shorthorns—For sale, 9 bulls of serviceable age. We can interest you in a real good bull at a right price, for herd header use on grade herds. Some sired by (Imp.) Loyal Scott; also females. Write us before buying.
GEO. AMOS & SONS, Moffat, Ont., Stn. C.P.R., 11 miles east of Guelph

Shorthorns and Shropshires—T. L. MERCER, Markdale, Ontario—young cows in calf, heifers from calves up, and young bulls from 9 to 18 months of age, richly bred and well fleshed. In Shropshires we have a large number of ram and ewe lambs by Toronto 1st-prize ram; high-class lot.

Shorthorns and Clydesdales—Two bulls, serviceable age, both good ones and are offering females of all ages. Have some choice heifers bred to Clansmas—87809—; also two mares in foal, 3 and 4 years old, and one 2-year-old filly. All from imp. stock.
A. B. & T. W. DOUGLAS, Strathroy, Ont. L.-D. Phone.

Shorthorns 10 Bulls 4 good ones 18 months of age, 3 twelve and 3 seven. 6 roans and 4 reds all registered and got by the good kind of stock, and will be sold cheap to make room. 30 breeding females to select from.
Jno. Elder & Sons, Hensall, Ont.

Spruce Glen Shorthorns When in want of Shorthorns visit our herd. We have 70 head to select from. Minas, several young bulls of breeding age—level, thick, mellow fellows, and bred just right.
JAMES McPHERSON & SONS, DUNDALK, ONT

Spring Valley Shorthorns Herd headed by the two great breeding bulls Newton Ringleader (Imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.
KYLE BROS, Drumbo, Ont. Phone and telegraph via A7

GLENGOW SHORTHORNS AND COTSWOLDS Pure Scotch in breeding we have an exceptionally choice lot of bulls for this season's trade, ranging in age from 8 to 15 months, big mellow fellows and bred in the purple. Also ram and ewe lambs of first quality.
Wm. Smith & Son, Columbus, Ont. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

EDITOR "THE

Most people large quantities manufacture the recipient of the paper. Iroquois Falls has only been but it is no cords of pulp paper, and it hundreds are to its require more wood, army engaged is well worth of converting pulp and paper and the time is not very long to manipulate the raw product. To the settling pulp industry is the majority of which the money on work largely until payment for \$5.00 per cord the nearest Poplar and birch for pulp making for spruce.

It is more done before "bill" is handed that this sketched process of government involves considerable experience of what all has elimination of great extent, by many for where the disallow the road condition by sufficient open spaces a source of trouble although for draw they are load of pulp essential, a feature

Dai

From 12 our st

Farmer's

Twe

These imp There are s all of which this class of caretful at

Burlington J. Burlington Phone

The

are he he is s Specia

J. A. WAT

Esca

FOR SA months of and you especially Mail o

MITCHELL I

T

Two good you compl

A. F. &

Rosedale G. T. R., & C. P. Lines Long-Dist

Pulpwood.

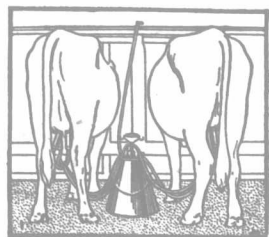
EDITOR "THE FARMER'S ADVOCATE":

Most people know Canada produces large quantities of wood pulp, and also manufactures it into paper. I was the recipient of one of the first samples of the paper made by the Pulp Co., of Iroquois Falls. This great industry has only been in operation a few years, but it is now making thousands of cords of pulp wood into wood pulp and paper, and its pay roll will show many hundreds are employed in administering to its requirements for wood and still more wood, in addition to a small army engaged at the mills. This plant is well worth visiting, and the process of converting the logs or sticks into pulp and paper is most interesting, and the time required for the conversion is not very long. Labor-saving devices manipulate with almost human intelligence seemingly the transformation of the raw product of the forest.

To the settler of Northern Ontario the pulp industry is of some importance, as the majority depend on their spruce, of which the supply is immense, for the money on which they will exist very largely until the land is cleared. The payment for pulpwood averages about \$5.00 per cord for spruce delivered at the nearest siding on the railway. Poplar and balsam are also purchased for pulp making; the price is less than for spruce.

It is more particularly of the work done before the all important "due bill" is handed out for goods delivered that this sketch has to do. The whole process of getting out pulpwood involves considerable time and labor. One experience may be taken as a fair sample of what all have to do, with possibly the elimination of the "trail making" to a great extent, as the highways are used by many for getting to the railway where the distance is not too great to allow the roads to be kept in good condition by sufficient traffic. The more open spaces along the highways are a source of trouble after a night's storm, although for any other than a heavy draw they are easily negotiated. For a load of pulp wood good horse power is essential, a few inches of crushed snow

Independent of Hired Men



That is the happy position of the Dairy Farmer who has an

EMPIRE MECHANICAL MILKER

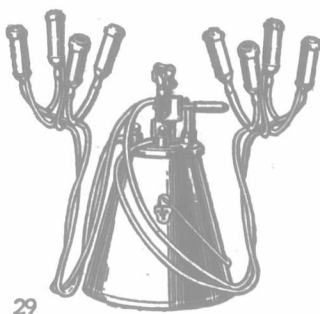
In half an hour one man can milk from 10 to 15 cows with a small "Empire" outfit consisting of one double unit. One man can operate two double units. This makes milking a "snap".

With an "Empire" you can keep more cows—milk them regularly and uniformly—be independent of hired men—and still be free of the old-time drudgery of milking after a hard day's work.

The action of the "Empire" scientifically imitates that of a sucking calf, drawing the milk in spurts, and in most cases it actually increases the flow of milk. It cannot harm the cows, and it protects the milk from dirt, germs and stable odors.

We have an interesting Booklet illustrating and describing the "Empire" mechanical milker which we will send you on request. Write Dept. C

The Empire Cream Separator Co. of Canada, Limited
MONTREAL, TORONTO, WINNIPEG.



Buy Direct and Save the Middle-man's Profit

Send for our free 1916 Book of "QUALITY LINE"

Vehicles and Harness

22nd year of selling DIRECT to the USER.

Our Catalogue will help you to choose just the Vehicle and Harness you require, and save you money. It describes and pictures many styles, gives prices, Freight prepaid, and fully explains our method of selling direct and saving you the middleman's profit. Remember, we pay the Freight in Ontario and Eastern Canada. The Catalogue is Free for the asking. Send for it to-day.

INTERNATIONAL CARRIAGE CO.

Dept. "A"

Brighton, Ontario.

Dairy Shorthorn Bulls

From 12 to 14 months old, from good dams and by our stock bull, College Duke =85912=. Address:

WELWOOD FARM

Farmer's Advocate

London, Ontario

Twenty Imported Bulls

These imported bulls, along with 10 home-bred bulls, may now be seen at our farms. There are some choice ones among them. We also imported four cows and a heifer, all of which are forward in calf. An invitation is extended to anyone interested in this class of stock to visit us at any time. Correspondence will receive our most careful attention.

Burlington Jct., G. T. R.
Burlington Phone or Telegraph.

J. A. & H. M. PETTIT
Freeman, Ont

The Salem Shorthorns

are headed by "Gainford Marquis" (Imp.). Records prove that he is the greatest Shorthorn show and breeding bull in existence. Special offering: Eight bulls from eight to fifteen months.

J. A. WATT,

Elora, Ont., G.T.R. & C.P.R.

Escana Farm Shorthorns

FOR SALE: Two imported bulls, proven valuable sires; 12 bulls, 10 to 20 months old, all by imp. sires and from high-class dams; also for sale, 20 heifers and young cows, several with calves at foot, all of very choicest breeding, and especially suitable for foundation purposes.

Mail orders a specialty. Satisfaction guaranteed.

MITCHELL BROS.

Burlington P.O., Ontario

Jos. McCrudden, Manager. Farm ¼ mile from Burlington Jct.

THE AULD HERD

Two good young bulls for sale, one fourteen and one seventeen months old, also a couple younger. Intending purchasers met at station on request.

A. F. & G. Auld, R. R. 2, Guelph, Ontario

Rosedale Stock Farm

For Sale—One 3 yr. old Shire stallion, one 3 yr. old Hackney stallion, both winners of 1915. Also two Shorthorn bulls 10 and 11 months old.

G. T. R., & C. P. R., & Electric Lines Long-Distance Telephone.

J. M. Gardhouse, Weston, Ontario

Robert Miller Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service, some younger still; heifers fit for service and younger, and some in calf. They are of the best Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years and still it grows. There is a reason. **ROBERT MILLER, Stouffville, Ontario**

Shorthorns

Have still left one bull (15 months) by Sittyton Victor (Imp): two spring bull calves by Newton Sort =93019=; a few young cows, and a few heifers among which is a junior yearling show proposition. Come and see them.

Wm. D. Dyer

R. R. No. 3, Oshawa, Ontario. 2½ miles from Brooklin, G.T.R. 4 miles from Myrtle, C.P.R.

Maple Grange Shorthorns

Pure Scotch and Scotch-topped. Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.

R. J. DOYLE,

Owen Sound, Ontario

Shorthorns

Pure Scotch and Scotch topped—Booth. Also five (5) young bulls from ten to twenty months old, of the low down, thick kind, good colors—reds and roans. Prices reasonable.

G. E. Morden & Son, Oakville, Ontario

Willowbank Stock Farm Shorthorn Herd

Established 1855

established herd nas at the head the two great bulls: This large and old imported Roan Chief =60865= a Butterfly and the prize-winning bull, Browdale =80112= a Mina. An extra good lot of young stock to offer of either sex. Splendid condition. Good families of both milking strain and beef. **James Douglas, Caledonia, Ont.**

Walnut-Grove Shorthorns

Sired by the great sire Trout Creel Wonder and out of Imp. cows and their daughters of pure Scotch breeding and others Scotch topped. For sale are several extra nice young bulls and a few heifers. Let us know your wants.

DUNCAN BROWN & SONS, R.M.D. Sheddon, Ont., P.M. & M.C.R.

Meadow Lawn Shorthorns

We are offering a choice lot of bulls at very reasonable prices. An exceptionally good one sired by Clan Alpine 2nd, No. 88387, G. D. Donside Alexandra (imp) No. 59513, and any one wanting a right good herd header would do well to secure this bull as he is a smooth, well proportioned fellow that attracts attention at first sight.

F. W. Ewing, G.T.R. & C.P.R.,

R. R. No. 1, Elora, Ont

10 Shorthorn Bulls

and 40 females. Shropshires and Cotswold ewes for sale at prices within the reach of all.

JOHN MILLER, Ashburn, Ont. Myrtle Sta., C.P.R. & G.T.R.

Females SHORTHORNS Females

I can supply females of the most popular Scotch families, Crimson Flowers, Minas, Lady Fannys, Nonpareil, Butterflies, Amines, Athas, Miss Ramsdens, Marr Emmas, Marr Missies and Clarets. A few bulls. **A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C.P.R. & G.T.R. Oshawa C.N.R.**

Oak Lodge Stock Farm

Shorthorn bull, 20 months old, bred from dam of milking strain. Two bulls, twelve months old. Will be sold at a price that will please customers.

J. E. BRETHOUR & NEPHEWS, Burford, Ont.

Maple Shade Farm Shorthorns

The products of this herd have been in very strong demand. There's a reason. Can always supply a good young bull at a price which will make him well worth the money. Not many females for sale, but can show a few which should interest you.

Brooklin, G.T.R., C.N.R. Myrtle, C.P.R. W. A. DRYDEN, Maple Shade Farm, Brooklin, Ont.

means excessive work for teams, hence the winter trails through the bush. The north country is not troubled for want of snow during the winter months, but the snow is different and does not pack easily.

Contracts for wood are made early as it is during the summer that the trees are cut down and peeled, and in order to get the peeling done when it is easiest it is necessary to complete the operation before August, after this time the bark begins to stick tighter and continues to require more and more effort to detach.

To the tyro cutting and peeling certainly is not altogether a pastime. It's usually warm weather, and he will soon discover some small annoyances, in fact so small in July or August that the Indians call them "Noseeums," a most appropriate name. It is much earlier in the season that the ubiquitous "Black fly"—an insignificant little affair—attaches himself most persistently to the newcomer and evinces a decided partiality for the back of the neck and behind the ears. No! There is no unusual pain at the time, but afterwards, well, a nasty lump for each bite, and it itches. It does not improve matters to give way to an irresistible desire to scratch. The other "annoyance" in size is so small that its significant name will imply more than approximate measurements, but for choice give me the larger size. A carefully dressed man, aided by "fly oil" frequently applied, may escape without serious injury to his feelings, but to prevent the "Noseeums" pincianing on some vulnerable part is another matter.

Having "digressed considerable," although actually a part of the pulpwood business, will now mention the various articles used by the pulpwood maker: hollow-back saw, axe, small wedges and "rosser," the latter is for inserting under the bark, and with a little practice a tree is soon stripped. Any sized tree is used, but if over twelve inches diameter it would make lumber.

The amount that two men can put up in ten hours is a moot question, although everyone in the business can answer it. Any exact statement will be

High-grade Fertilizers Are Best Values

The average cost of Nitrogen in 600 samples of "complete" fertilizers was 66% higher than the cost of Nitrogen in

Nitrate of Soda

Are you one of many paying high prices for low-grade goods?

Send Post Card for Attractive, Money-saving Books

WILLIAM S. MYERS, Director
25 Madison Avenue, New York City



Ring-Bone

There is no case so old or bad that we will not guarantee

Fleming's Spavin and Ringbone Paste

to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 4-minute applications cure. Works just as well on sidebone and greasy heel. Lustrous, durable and illustrated. Make a right beginning by sending for this book for a free copy of

Fleming's Vest Pocket Veterinary Adviser

Ninety-six pages of veterinary information, with special attention to the treatment of lameness. Lustrous, durable and illustrated. Make a right beginning by sending for this book.

FLEMING BROS., Chemists
75 Church St. Toronto, Ont.



Prize Butter Makers Use Windsor Dairy Salt

Made in Canada

THE CANADIAN SALT CO., LIMITED



CHALLENGE COLLARS

WATERPROOF ECONOMICAL ALWAYS DRESSY

NO EXPENSE FOR LAUNDRY BILLS

DULL FINISH, JUST LIKE BEST LINEN

AT YOUR DEALER'S, OR DIRECT, for 25c

MADE IN CANADA

SO EASY TO CLEAN

THE ARLINGTON CO. OF CANADA, LIMITED
54 56 FRASER AVE. TORONTO

Guaranteed Genuine, Everlasting

Grimm Alfalfa

Produces plants with large branching roots which resist winter conditions. Leafier, outyields other varieties, and is of better feeding value.

Booklet, "How I Discovered the Grimm Alfalfa," and sample free. Will also send testimonials from patrons in your locality.

A. B. LYMAN, Grimm Alfalfa Introducer
Alfalfa Dale Farm Excelsior, Minn

open to severe criticism. I can well remember the talk of twenty-five years ago in rural Ontario where I lived. In summer it was the number of cords of wood cut, split and piled in one day, sir, and then had time, etc., etc., or in winter at the corner store, how one man followed the reaper all day and at night had tied his last before the team was in the stable. Doubtless some of the old greybeards, like myself, will recall similar "tall" stories. Nevertheless three cords can be peeled and piled by two men, not allowing much time for applying "oil," scratching, or hunting the handkerchief. After this work is finished roads or trails have to be made. Few "swamp out."

If a trail is decided upon, instead of using the highway, any neighbors who are benefitted will make the business a joint-stock affair, and a road is made as direct as possible, following the line of least resistance, and always favoring level land right through to the nearest switch on the railway. No permission is asked to cross anyone's lot, neither is anyone forbidden to use the trail if he has not helped to make it. The bush is kept to as far as possible, and clearings avoided. It is pleasant to "hit the trail" after facing a cold wind in the open, and in spite of twists and turns which make the trail longer it is preferable to the highway in winter for which reason it is made exclusively. Switches are necessary to allow oncoming teams to pass, and many and varied are the yells emitted by the teamsters at these points. To get a load to market is not always without adventure or rather misadventure. One may not hear the shout, being deeply immersed in thought, or pondering the possibilities of negotiating a moose without getting next the game warden, and wake up to find a team in front and five feet of snow on either side. One has to seize the omnipresent snow shovel and manfully jump into that wall of snow, and together with his vis-a-vis beat, shovel and tramp a place of passage, and alas, it often happens, one or both horses sit, then roll over. Virtue triumphs at last, and for a time each teamster is ready to pull up when a tree cracks or a squirrel chatters. To put on a string of bells is to court disaster. Better to look grieved and ask, "Didn't you hear me shout?"

Each has his piling place at the railway switch, and is obliged to pile high or encroach on someone else. To elevate a four foot green spruce 11 inches through takes some effort, but compensation comes for all troubles when you glance back at your pile and estimate its cash value. No fortunes will, however, be made by the pulp-wood makers at present. Good wages, and, if near the place of delivery some money! Like almost everything else in farming, we're told, "there's money in it," but it has to be gotten out, and in the case of pulpwood at present prices that is a man's job.

Nothing is done by way of piling tops or brush in the bush, as the consensus of opinion is that this country needs severe treatment by fire. Some go as far as to suggest that all settlers in the more recently settled part get off their land in summer and organize a firing brigade, but the authorities are trying to conserve the timber. It is a fact that green conifers burn beautifully in the dry time, and a good burn does clean up the place. The difficulty is to control it.

Another very large pulp plant is to be established at Temagami, so there is a possibility that the settler may get higher prices for his wood, and not have to burn so much of it in the process of clearing a farm.

New Ontario. H. W. PARSONS.

A Trophy for the Girl at Home.

A soldier who was wounded in the big advance says he saw one very funny thing. One of our chaps (he relates) had promised his best girl a German helmet, and when he was charging made a bee-line for a fine-dressed officer who was wearing an ornamental helmet. Up went the officer's hands, and he prepared to walk to our rear "Arf a mo," said the Highlander, "gi'e us yer bonnet." The German refused. "Gi'e us yer bonnet, or I'll—" said Jock, tickling him in the ribs with the point of his bayonet. Off came the helmet like lightning, and it was soon threaded on the Scotsman's belt.



More Profits For Farmers!

This is the result when you build an Adirondack "Sturdy Stave" Silo. Every farmer these days fully realizes that ensilage for Cattle Feeding is the one and only way to economy. You therefore cannot make a mistake when installing—

STURDY STAVE SILOS

**25% CHEAPER
100% MORE DURABLE**

They cost less money and with hundreds of satisfied owners the Adirondack has proved its superiority over others. No such thing as spoiled ensilage. Its walls are air, moisture and frost-proof. The Adirondack will stand all weather conditions, is made 100% more durable and protected from decay by our special preservative process which every Stave and part is subject to before leaving our factory.

This is an exclusive feature of Adirondack Silos and does not cost you one cent more.

Adirondack Silos are backed up by our organization of over 50 years experience and sold with our unlimited guarantee which positively insures satisfaction.

"Made in Canada" of Canadian material by Canadian workmen for Canadian Farmers.

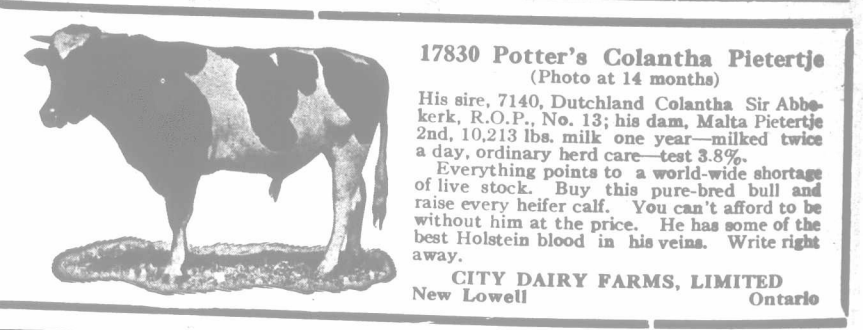
Write for our Big Catalogue FREE which fully illustrates and describes Adirondack Silos.

THE ADIRONDACK SILO CO., OF CANADA, LIMITED

Owned and operated by

The William Rutherford & Sons Co., Limited

425 Atwater Ave. - Dept. A - Montreal



17830 Potter's Colantha Pietertje
(Photo at 14 months)

His sire, 7140, Dutchland Colantha Sir Abbecker, R.O.P., No. 13; his dam, Malta Pietertje 2nd, 10,213 lbs. milk one year—milked twice a day, ordinary herd care—test 3.8%.

Everything points to a world-wide shortage of live stock. Buy this pure-bred bull and raise every heifer calf. You can't afford to be without him at the price. He has some of the best Holstein blood in his veins. Write right away.

CITY DAIRY FARMS, LIMITED
New Lowell Ontario

OAK PARK STOCK FARM

CHOICE HOLSTEIN-FRIESIANS

Senior herd sire, Lakeview Dutchland Hengerveld 2nd, 1st prize 2-year-old, Canadian National Exhibition, 1915, 3/4 sister is Lakeview Dutchland Artis, Canadian Champion Sr. 3-year-old, with 34.0 lb. butter 7 days. His sire's full sister, world's champion sr. 2-year-old, with 22,645 lbs. milk in 30 days. Young bulls for sale out of R.O.M. dams. Prices and extended pedigrees on application. Phone Brantford 1102. Electric car line stops at farm. Visitors welcome.

W. G. BAILEY, PROP. R. R. NO. 4 PARIS, ONT., CAN

QUEEN CITY HOLSTEINS

Present Offering is 10 young bulls, from 6 to 14 months of age, the records of whom dams, sire's dam and her full sister, range from 28 to 32 lbs. They are sons of King Lyons Hengerveld Segis.

R. F. HICKS Newtonbrook, Ont. On T. & Y. Railroad Line

Pioneer Farm Holstein Herd

Offers a handsome bull 14 months old, 3/4 white, from Duchess Aaggie Wayne Mechthilde, at 1 yr. 11 mths 2 days, 16,878 lbs. butter in 7 days, and 16,700 lbs. milk in 1 yr. in R.O.P. Another from a 20,000 lb. cow, also other bulls of like breeding all sired by Canary Hartog, whose 3 nearest dams average 30 lbs. butter in 7 days, and 108 lbs. milk in one day. Write for prices or come and see them.

WALBURN RIVERS, R. R. No. 5, Ingersoll. Phone No 343 L., Ingersoll Independent

EVERGREEN STOCK FARM—REGISTERED HOLSTEINS

Present offering: Several bull and heifer calves; also a few yearling heifers bred and ready to breed. Write for prices and descriptions. Bell phone.

A. E. HULET NORWICH, ONTARIO

Dumfries Farm Holsteins

—Think this over—we have 175 head of Holsteins fall, and 60 heifers from calves up to 2 years, as well as a dozen yearling bulls, and anything you may select is for sale. Breeding and individuality the very best.

S. G. & ERLE KITCHEN, St. George, Ontario

HOLSTEIN BULL CALF

—Sired by Homestead King Colantha Abbecker (1046) backed by the best of records and breeding of the Colantha and De Kol families. Dam: Daisy Zeeman (18360), with a record of over 16,000 lbs. milk. A rare chance to get a good head for your herd.

Write for particulars.

T. H. HASKETT, 70 Thornton Ave., London, Ont.

Lakeview Farm, Bronte, Ont.

Offer for sale, sons and grand-sons of 100-lb. cows; one is out of a 24.0 lb. 3-year-old daughter of Lakeview Rattler's, 28.10 lbs., the latest Canadian champion 30-day butter cow 8 months after calving, and half brother to L. D. Artis, 34.66-lb. Canadian champion senior 3-year-old. Terms to suit purchaser.

MAJOR E. F. OSLER, Prop. T. A. AWSON, Mgr.

For Sale

Only three bull calves from our senior herd sire and a few from the junior herd sire left. In these is combined some of the richest testing blood of the breed. Also females of all ages, 75 or 80 head from which to choose.

M. L. Haley, & M. H. Haley, Springford, Ont

Question

I have a horse driven shows a lameness at his feet might be due to the horse standing forward: at while the other to you think and what treatment?

Ans.—Evidently correct, the horse suffering from the disease known as Lameness in the hock.

I have a five-year-old horse which is usually well but has been suffering from lameness in the hind legs for some time. I have tried many remedies but have not been able to get him well. Can you suggest any other treatment?

Ans.—The disease which is usually called lameness in the hock is usually due to a disease of the hock joint which is usually caused by a strain or injury to the joint. It is usually treated by rest and the application of a poultice to the joint. If the lameness is severe, it may be necessary to have the joint opened and the contents removed. This is a very serious operation and should only be done by a veterinarian.

Questions and Answers.
Miscellaneous.

Navicular Disease.

I have a six-year-old horse that has been driven very little this winter, but shows a lameness. A blacksmith looked at his feet and thought the lameness might be due to "navicular disease." The horse stands with the lame foot forward; at first the hoof was hot while the other one was cold. What do you think is the cause of lameness, and what treatment would you recommend?
J. K.

Ans.—Evidently your blacksmith was correct, the symptoms are those of a horse suffering from navicular disease. The causes, symptoms and treatment of the disease were published in an article on Lameness in Horses, in March 30 issue.

Lymphangitis.

I have a five-year-old mare that had a swelling in the hind legs. The legs got stiff and fevered, and the hair dropped out. I bathed them with salt and vinegar, which reduced the swelling and allayed the fever. What was the cause of the swelling?
SUBSCRIBER.

Ans.—The swelling was probably due to a disease known as lymphangitis, which is usually brought on by high feeding and a sudden suspension of accustomed exercise. Local treatment consists in frequent bathing with warm water, applying some liniment and excluding drafts. If the disease is neglected there is a tendency to a chronically-enlarged leg. Daily exercise is necessary to prevent the disease in horses pre-disposed to it.

Gossip.

In a recent communication to this office, M. H. Haley, of Springfield, writes:

"One of the greatest problems in successfully developing a Holstein herd is to procure a suitable herd sire, both in regard to individuality and breeding. W. S. Shearer, of Listowel, is well aware of this fact. After careful consideration and looking around he decided to purchase the son of the Guelph champion, Colantha Butter Girl, a three-year-old. This young bull is full of the blood that brought each of the Haley Bros. to the front in Holstein circles. His sire is sired by a son of Lady Aaggie De Kol, which cow was twice champion at Guelph, his sire's dam is a 33-lb. cow. This calf's dam is from the once Canadian-champion cow, Queen Butter Baroness, record 33.17 lbs. butter. The dam herself is the Canadian champion senior two-year-old, with first freshening both 7 and 30 days, also champion three-year-old for 30 days, and her full sister holds the Canadian milk championship for 30 days as junior two-year-old. As regards individuality this bull stands second to none."

Geo. Amos & Sons' Shorthorn Sales.

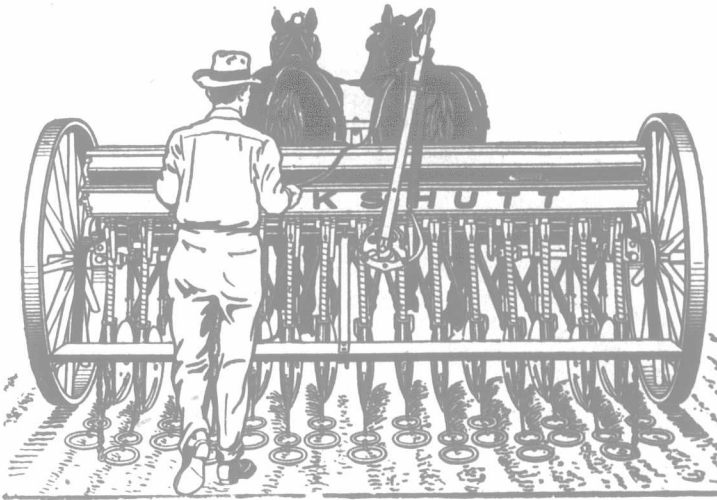
The following recent sales are reported by Geo. Amos & Sons, Moffat, Ont.: "To J. G. Bousfield, McGregor, Van, 3 bulls, including Baronet, a richly-bred Rosewood; to Jno. Hammell, Raymond, Ont., 1 bull; to R. J. Leith, Rectory Hill, P. Q., 1 bull; to W. W. Buchanan, Guelph, 1 bull; to W. S. Harder, Trenton, 1 good cow with a cow calf at foot; to Jno. A. Cockburn & Sons, Puslinch, 1 bull of the Rosalind family; this is one of the best young bulls we have had this season, and should prove a good investment to these breeders; to Wm. Waldie, Stratford, (Imp.) Claret 23, with a cow calf at foot.

We have just recently purchased the entire herd of the late Jas. Gibb, Brookside, Ont., now owned by Wallace E. Gibb, consisting of Rosebuds, Wimples, Dutchess', Lancasters, Crimson Flowers, Minas, Rustic Beautys, and headed by Sittyton Favorite 89610, a winner of first prize in Toronto as a calf, and we think one of the best in his class in the country to-day. We are offering several good young bulls at prices to interest purchasers, also a number of good yearling and two-year-old heifers and cows with calves at foot, of the best of individual merit and breeding. Over 90 head to select from. We would be pleased to correspond with intending purchasers."

Correct seeding always was important. But—

in these days of dwindling labor supply it is simply imperative that you use a machine that will sow fast—sow evenly—without constant stops—and with the least possible amount of skill on the driver's part. It must have strength for the hardest kind of work. It must be more than usually easy on horse-flesh. All this means a

Cockshutt Disc Drill



Very strong frame construction. No sagging or bending of parts. Both wheels are drivers—you sow on corners as well as in the field.

An all-steel, easy-running, easily operated Drill free from complicated, unnecessary toggle. Every Drill thoroughly tested before being sent out.

You may buy the best seed and keep your land in good shape, but if you don't PLANT your seed properly your crops will be thin, "spotty" and undersized. Cockshutt Disc Drills plant and cover all kinds of grain at any rate-per-acre you wish. They pulverize the ground and give the seed every chance for germination.

Cockshutt Grain and Fertilizer Drills are wonderfully efficient though very simple and without complicated parts. The fertilizer is drilled into the ground with the seed and covered with it so a splendid, even crop is assured. Fertilizer flow is under perfect control. The whole machine is worked by easy levers and takes very little or no skill to run.

The Cockshutt Disc Drill should be seen to be appreciated. Write for our free Cockshutt Drill Book to-day. State whether it is a plain grain Drill or a combination grain and fertilizer Drill you want. Our nearest agent will be glad to demonstrate this machine to you.

COCKSHUTT PLOW CO.
LIMITED
BRANTFORD, ONT.

Sold in Eastern Ontario,
Quebec, and Maritime
Provinces by

The FROST & WOOD CO.
LIMITED
Montreal, SMITH'S FALLS, St. John

King Segis Pontiac Paul 15940

WE have for sale a few sons of the above bull, ready for service, and whose dams are large, heavy producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited.
Also Berkshire and Yorkshire Swine

Larkin Farms **Queenston, Ontario**

Lynden Farm Holsteins

The home of Plus Pontiac Artis, the champion 3-yr-old in R.O.P. work with 21,000 lbs. milk, 46 lbs. butter one yr., 30.85 lbs. butter 7 days at 4 years old, the only cow in Canada to produce 20.04 lbs. milk in 1 yr., and to make over 30 lbs. butter in one week at next freshening. We are offering Plus Inka Artis, champion bull at Guelph from same dam as above cow. He is a brother to May Echo Sylvia 36.33 on sire's side. Also King Korndyke Evergreen, sired by son of Plus Pontiac Artis. He has 7 dams in pedigree over 20,000 lbs. milk each in 1 year. Also a few well bred young females. Write for prices or come and see them.
S. LEMON & SONS, Bell Phone, Lynden, Ont.

HOLSTEIN CATTLE

The only herd in America that has two sires in service whose dams average 119 lbs. milk a day and over 35 lbs. butter a week. Cows that will give 100 lbs. milk a day are what we are trying to breed. At present we have more of them than any other herd in Canada. We can supply foundation stock of this breeding. Visitors always welcome. Long-distance Phone.

D. C. FLATT & SON, R. R. 2, Hamilton, Ont.

Clover Bar Holsteins My special offering just now are some choice young bull out of official record dams and sired by Count Mercede Ormsby, whose dam has 330-lb. sisters, and a 24-lb. 4-year-old and a 21.06-lb. 3-year-old daughter and his sire was the great Sir Admiral Ormsby. Also a few females.
PETER SMITH, R.R. No. 3, Stratford, Ont. Stratford or Sebringville Stations.

HOSPITAL FOR INSANE, Hamilton, Ont. For Sale—Holstein Bull varying in age from 1 to 1 months, from Record of Performance or Record of Merit dams and the grand bulls Sir Korndyke Wayne Dekol, grandson of Pontiac Korndyke, or Lakeview Duchland Le Strange, a grandson of Count Hengerveld Fayne Dekol. Prices right. APPLY TO SUPERINTENDENT.

Glenhurst Ayrshires For 50 years I have been breeding the great Flos tribe of Ayrshires, dozens of them have been 60-lb. cows; I have lots of them get 60 lbs. a day on twice a day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you write me.
James Benning, Williamstown, Ont.

Stonehouse Ayrshires Are a combination of show-yard and utility type seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere.
Hector Gordon, Howick, Que.

Holstein Heifer Calves

From heavy-milking, high-testing, unregistered cows, and sired by the great show bull, Sir Colantha, \$15 each. Registered heifer calves, with certificate, \$35 each. An extra choice bull calf or sale, calved February 9th, from imported dam with yearly record of 19,000 lbs. Price only \$40

CHOICE SELECTED SEED CORN
Wisconsin No. 7, the best Dent corn in the world germination test 95 per cent. and over, \$2.25 per bushel. Bags free.

GLENORO STOCK FARM
Godney, Ontario

19 BULLS--HOLSTEINS

From 18 months down. Grandsons of "King Fayne Segis" "King Segis Pontiac," "Rag Apple Korndyke 8th"—the best of the breed. Write us giving particulars as to your requirements.

R. M. Holtby, R.R. 4, Port Perry, Ont.

Walnut Grove Holsteins

Herd headed by May Echo Champion, full brother of May Echo Sylvia, who made 36 lbs. butter in seven days. Females for sale from one year old upwards. Prices right for quick sale.

C.R. JAMES, Langstaff P. O., Ontario
Phone Thornhill

Holsteins, Yorkshires and Cotswolds

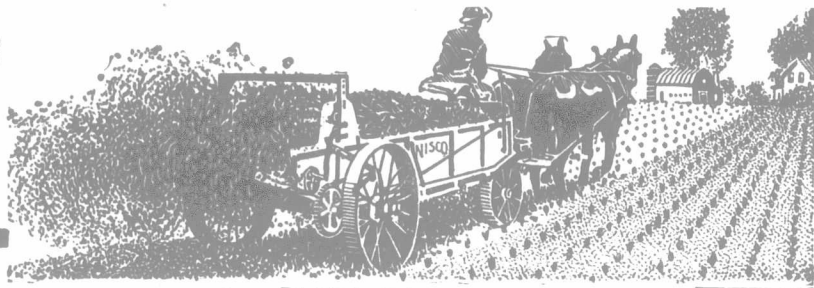
Minster Farm makes a special offering of bulls any age (particularly serviceable age) from R. O. P dams with records up to 15,016 lbs. milk 1 year for 2-year-olds. Also swine of both sexes. For full particulars write:

R. HONEY & SONS, Dartford, Ont.

BULLS, BULLS. We have several young Holstein Bulls for sale just ready for service. Sired by the Great Bull King Segis Pontiac Duplicate, and our Junior Herd Bull, Pontiac Hengerveld Pietertje and from High Testing Dams. Prices low for the quality. Write and get them. Manchester, G.T.R. and Myrtle C.P.R. stations. Bell Phone.

R. W. Walker & Sons, R.R. 4, Port Perry, Ont.

Read
Bulletin 223
Issued by
Ontario
Department
of
Agriculture



Write TO-DAY
for book
"Helping
Mother
Nature"

Farmyard Manure

(Greatest of all Fertilizers)

Money-Maker for the Farmer

Sit down and carefully read "Helping Mother Nature." Chapter I. shows how manure assists the land, and its actual fertilizing value in dollars and cents. Chapter II. shows how manure loses its value by leaching and firing. Chapter III. goes on to show how it should be kept till used. Then go on to the next chapter about how to get the fertilizer distributed for dollars and cents profit. Chapter V. suggests how much to use, and why, and where. Chapter VI. shows how corn and similar crops can be fertilized to the greatest advantage—and so on right through the book. It is a book you will have to finish when you

NISCO

SPREADERS

Have Solved the Problem of Light, Even Distribution with Least Labour.

Instead of dumping stable and stall manure in an unwholesome pile to rot and waste, dump it straight into the low body of the spreader—then when the spreader is full, hitch in the team and—well, read the book. A copy is waiting for you. There is no charge for it. Address—

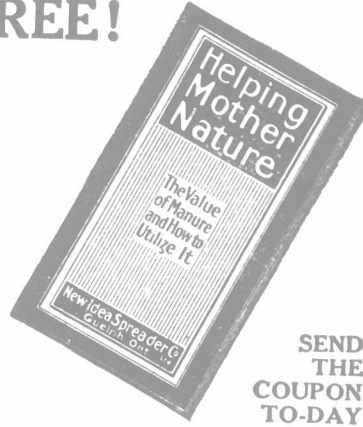
The NEW IDEA SPREADER CO. Limited
"Spreader Specialists"

GUELPH - - - ONTARIO

Must be Spread
Fresh—or Great
Value is Lost

Your land has never had the value of your farmyard manure, if the latter was dried out, leached, or fired!

This Book will
Open Your Eyes!
It's
FREE!



SEND
THE
COUPON
TO-DAY

The NEW IDEA SPREADER CO., Ltd.
354 Main St., Guelph, Ont.
Please send me the book, "HELPING MOTHER NATURE."

Name
Address

\$15 ^{95 UPWARD}
ON TRIAL
Fully Guaranteed

American CREAM SEPARATOR

A SOLID PROPOSITION to send a new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream.

ABSOLUTELY ON APPROVAL
Bowl a sanitary marvel, easily cleaned. Different from picture which illustrates our large capacity models. Shipments made promptly from Winnipeg, Man., Toronto, Ont., and St. John, N.B. Whether large or small, write for handsome free catalog. Address: AMERICAN SEPARATOR CO., Box 3200, Bainbridge, N. Y.

Make Your Own Tile

Cost \$4.00 to \$6.00 per 1,000.

Hand or Power.

Send for catalogue

Farmers' Cement Tile Machine Co.
Walkerville, Ontario

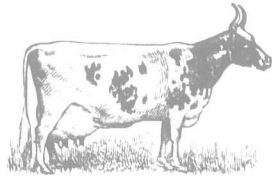
Alderley Edge Ayrshires
Two yearling bulls sired by Lakeside Day Star (Morton, Main Hamet). Write for description.
J. R. KENNEDY KNOWLTON QUE.

GREAT DISPERSION SALE

75 - Ayrshire Cattle - 75

CELEBRATED GLENHURST HERD OF AYRSHIRES
The Property of James Benning, Williamstown, Ontario

Wednesday, April 19, 1916



World's Fair champions were bred in this herd. Included are six females of the famous Floss strain. This herd was founded 55 years ago, and is headed by Glenhurst Torrs Mayor—43480—, junior champion at Regina, 1914; sire Lessnessock Comet (imp.) 30586; dam Torrs Cony 3rd (imp.) 30597. Cut of this herd appeared in March 30th issue. Mature cows milking 60 pounds per day; four-year-olds milking 50 to 55 lbs. per day. Two-year-olds making records of 8,500 lbs. Cows large size, large teats, good testing 4.2 to 4.6 per cent. butter-fat. Cows large size, large teats, good testers and deep milkers.

Vehicles will meet Moccasin at 7.59 o'clock a. m. going east, and 11.48 going west; 5.04 p. m. east, and 6.33 p. m. west.

Sale will commence at 1 p. m.

A. Philips, M.L.A. Auctioneer. James Benning, Williamstown, Ont.

GLADDEN HILL AYRSHIRES Some choice bulls of breeding age from record cows. Bull calves sired by Fairview Milkman, a son of Milkmaid 7th, Canada's Champion Record of Performance cow, for sale. Also a few females.

AYRSHIRES LAURIE BROS. Agincourt, Ont.
1 bull fit for service; a prize winner. Dam twice first at Toronto, qualified in R.O.P. with good record, Jan. 1916. Calves of best breeding, special prices. Females all ages. Orders solicited for Yorkshire, Feb. pigs. Write for prices to-day.
ALEX. HUME & CO., R. 3.

Brampton Jerseys CAMPBELLFORD, ONTARIO
We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show-ring.
B. H. BULL & SON, BRAMPTON, ONTARIO

Questions and Answers.

Miscellaneous.

Calf Colors.

I bought a registered Holstein bull last spring from a breeder, and his first three calves are red and white. Two cows are grade Holsteins well bred and one is a red cow. The first cow the bull served was a well-bred Ayrshire cow. Had that anything to do with the calves coming red and white?

H. L.

Ans.—The fact that the bull served an Ayrshire cow first would have no effect upon the color of calves from other cows served. You state that the three cows were grades, and undoubtedly there is some red-and-white blood in their ancestry which has cropped out in the color of the calves. Breed him to a pure-bred Holstein cow and watch the results.

Thrush.

EDITOR "THE FARMER'S ADVOCATE":
In the Questions and Answers Department of your journal, March 30 a subscriber gives a description and asks for a treatment to cure thrush. We have, several times, had horses which contracted this trouble, and our method of dealing with it is, we think, an improvement on that recommended by you. First, remove all partially detached horn, as directed, then wash with warm water. Then pour in the cleft of the frog and on the surrounding diseased parts about a teaspoonful or less of hydrogen peroxide. Rinse with water and repeat until the peroxide ceases to foam, when the parts will be thoroughly clean. Dress with calomel once a day, using a piece of shingle or other thin wood to work it into the cleft. Repeat peroxide treatment in about six days if necessary. Stand the horse on a dry floor. We have cured cases with one treatment only.

We hope this may be of use to you and Advocate readers. We often read of things and ideas in your paper that save us trouble and dollars.

ELGINITE

Tumor.

Three months ago I noticed a swelling on my horse's sheath. Upon examination a raw surface with lumps about the size of hazel nuts on it, was found in the sheath. I have used antiseptic and have blistered it, but the condition is getting worse. The swelling has increased and is extending into his body. It discharges a foul-smelling matter. There is no veterinarian handy.

M. W.

Ans.—The symptoms indicate a malignant tumor. The antiseptic treatment you gave was correct, but the blister certainly made matters worse, and no doubt is largely responsible for the discharge and extension of the swelling. The proper treatment is to cast and secure the horse, and then carefully dissect out the diseased portions, and then dress three times daily with a good antiseptic, as a 5 per cent. solution of carbolic acid or one of the coal tar antiseptics. The operation should be performed by a veterinarian, but a man who has had some experience in such things might be able to operate. It is not probable that a recovery will take place without an operation. If you cannot get him operated upon all that you can do is to keep it as clean as possible, and dress with an antiseptic three or four times daily. There is danger of blood poisoning, hence give him 50 drops of carbolic acid in a pint of cold water as a drench three times daily.

Gossip.

A Fine "Barn Book."

Stable construction and stable equipment interest all farmers. Articles and books dealing with these subjects are universally read by men on the land. A valuable, handsomely bound, profusely illustrated "Barn Book" has recently been published by Beatty Bros., Fergus, Ont., and may be had from them for the asking. It is different from the average advertising booklet, contains 336 pages 6 1/2 by 9 1/2, and is worth looking over.



Bu
BEFORE
barn c
how much
Here are
stormproof
"Eastlake
"Empire"
"Metallic"
(for i
"Metallic
and C
"Acheson
"Halitus"
"Empire"
"We gu
money C
and prov



M
"M"
you low to in

Raised
Her name is
Riddle, of the
Calf Meal, wh
Blatch
A useful p
raised "The L
bond and ho
substitute sin
or d. rest from
Blatchford's
of young pigs
See Act
you low to in

STA
or uttering
those perma
ate prints ev
literature.
THE A
BER

Cotto
L
A
H. Frale

Pure-B
Jerse

Chunar Beau
lakland Noble
Brampton C
dd, awarded
rearing.
edgar Weld.

JER
9 ve
splen
M. G. RANS
Jerseys fo
also better
fams. For
sell. De-
CHAS

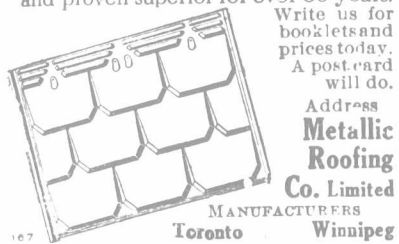
Build to last



BEFORE you build or repair your barn or house, let us show you how much money we can save you. Here are the "Metallic" fireproof, stormproof and timeproof specialties.

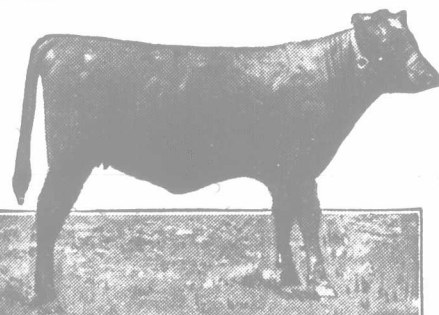
- "Eastlake" Galvanized Shingles.
- "Empire" Corrugated Iron.
- "Metallic" Ceiling and Wall Plates, (for inside use.)
- "Metallic" Brick and Rock Face and Clapboard Sidings.
- "Acheson" Roof Lights.
- "Halitus" Ventilators.
- "Empire" Silo Roofs, etc.

We guarantee the best for your money. Our goods have been tried and proven superior for over 30 years.



Write us for booklets and prices today. A post-card will do. Address: **Metallic Roofing Co. Limited**, MANUFACTURERS, Toronto, Winnipeg.

"Metallic"



Raised Without Milk!

Her name is "Daisy" and her owner, W. A. Riddle, of Chanin, Iowa, raised her on Blatchford's Calf Meal, which costs less than half as much as milk.

Blatchford's Calf Meal

A useful preventive of scouring. Calves raised "The Blatchford's Way" are heavier, bigger-boned and healthier. Known as the complete milk substitute since the year 1875. Sold by your dealer or direct from the manufacturer. Blatchford's Practical insures rapid, sturdy growth of young pigs at weaning time. Prevents sc. back. See Actual Figures—based on results—that show you how to increase your calf profits. Write today.

Steele Briggs Seed Co., Dept. 68, Toronto, Ont.

STAMMERING

or stuttering overcome positively. Our natural method permanently restores natural speech. Gradual progress everywhere. Write for free advice and literature.

THE ARNOTT INSTITUTE, BERLIN, CANADA

Cotton Seed Meal

LINSEED MEAL AND FLAX SEED
H. Fraleigh, Box 1, Forest, Ont.

Pure-Bred & Registered Jerseys For Sale

"Chunar Beauty" coming two years old, in calf by Lakeland Noble Eminent (imp.) to calve in May. Brampton Cream Rose (imp. in dam) 4 years old, awarded 1st at Toronto Exhibition as yearling.

JERSEY BULL

3 years, sure breeder and a splendid animal. Price low.
M. G. RANSFORD, CLINTON, ONT.

Jerseys for Sale—I am offering two very fine Jersey bulls, age 10 and 12 months, also better than most imp. sire and high-testing dams. Two years unbreeding will sell my stock. Del. to George Duke (imp.). Prices right.
CHAS. E. ROGERS, Ingersoll, Ont.

Questions and Answers, Miscellaneous.

Holidays.

What are the holidays a farm laborer is allowed to take. E. L. S.

Ans.—A farm laborer can claim as holidays New Year's Day, Good Friday, Easter Monday, Victoria Day, Dominion Day, Labor Day, Thanksgiving Day, Christmas Day, and any other day or days set apart as holidays by official proclamation.

Sheep Dip.

What is a good remedy for sheep ticks? I applied insect powder. Would it be advisable to shear the sheep or should they be dipped? Is it too cold to shear them as I have not a warm pen? R. McG.

Ans.—At this time of year the sheep could be shorn and then dipped to destroy the ticks. It will be necessary to dip the lambs as well as the sheep. Any of the advertised sheep dip preparations should prove effective.

Engine for Pumping Water.

I am desirous of putting a water system in my stable, and would like to have the pump and gasoline engine in the stable. The well is 40 feet deep, and is situated 163 feet from where the pump and engine would stand. The water must then be lifted about 12 feet into tank above the stock. Piping from bottom of well to top of tank would be 1 1/2 inches in diameter. I wish to know if this would be practicable, and if so, what kind of pump would be required, and also what strength of a gasoline engine would be required to do the work? A READER.

Ans.—In order for a pump to work satisfactorily the sucker must be within 25 feet of the surface of the water in the well. It is not stated how high the water rises in the well, but if it comes within 20 or 25 feet of the surface a pump located in the stable should draw the water. As the water must be forced to a tank it will be necessary to use a force pump. A 1 1/2 horse-power gasoline engine would probably drive the pump, but a 2 1/2 horse power engine would be more satisfactory.

Executors Rights and Duties.

My father lived in the Province of Ontario, and he has just died, leaving his property valued at about \$7,000 to his son George. There are four girls of us, and he has to give us each one cow and five hundred dollars, to be paid in instalments—the money in the way that the executors think best; and as my brother is one of them we thought he would look out for himself regardless of us. He did tell us that we could have our cows now, but he has been advised to still keep them this summer to get the milk from them, and he intends to do so.

1. Have we to accept them when he gets ready to give them if it is before the year is up? I hear he can keep them for a year for the executors have a year to finish the business. If he would want us to take them in the fall that would mean we pay for wintering and he have the use of them for the summer. The year is up the 28th day of February, 1917.

2. Could we claim any interest on the five hundred dollars when it is not mentioned in the will, and how soon if we could?

3. If they should want to be mean how long could they keep us out of our money?

4. Would he have to pay one instalment a year, or are we just at his beck and call if we get it at all?

5. Could the other executor be held responsible for the whole if my brother should not pay it?

Ontario. F. E. D.

Ans.—1. He may keep them until the year is up, but if he does so he must account to his sisters for any profits.

2. Yes—from 27th February next, provided, of course, the legacies have not been sooner paid.

3. Until after one year from your father's death. We cannot answer more definitely without knowing the exact wording of the will.

4. We should think it would be one instalment per annum.

5. Probably not, but it would depend on circumstances.

Good-by, Guess Work

THE New Sharples "Suction-Feed" is the only cream separator which eliminates guess work from cream production.

All other separators have to be turned at exactly the speed indicated on the crank or they will lose from 7 to 13 pounds of butterfat per cow per year. The Purdue Experiment Station and other scientific investigators have proven these figures (see Bulletin No. 116, Vol. 13.)

This "guess" speed is used by 19 operators out of 20, because it is impossible to turn the crank at exactly the right speed.—It is much easier to turn it slower—and, whenever you do, you lose cream. Even a speed indicator will help but very little, as you won't and can't watch it every minute.

So we say to you dairymen: Quit guessing about your separator speed and your separator profits. Use

THE NEW SHARPLES SUCTION-FEED

Separator and know that you get *all the cream all the time.*

Whether you turn faster or slower, the bowl of the Suction-Feed *drinks in just the right quantity of milk.* The feature is entirely automatic; if you are tired, you turn slower (which is easier) and, if in a hurry, you turn faster and finish so much sooner. No matter how you turn, the New Sharples always skims clean.

The Sharples cream is always of *even thickness*, whether you turn fast or slow. The Supply can is but knee high so you can fill it without any back breaking effort. The three-piece Sharples bowl is lighter and simpler than any other—*no discs to wash.*

All these money-saving and trouble-preventing features are described in a handsome catalogue; "*Velvet for Dairymen.*" Send for a copy, now, while you think of it. Address Dept. 78.



The Sharples Separator Co.

Toronto - - - - - Canada

THE WOODVIEW FARM
JERSEYS
LONDON, ONTARIO
John Pringle, Proprietor

Canada's Most Beautiful Jersey Herd—Half the herd imported from the Island of Jersey. Several cows in the Record of Merit, and others now under official test. Some very choice stock for sale. When writing, state distinctly what you desire or, better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows.

Get More Wool Get Longer Wool Get More Money

for your wool by shearing with a Stewart machine because such wool has a longer fibre. Wool buyers pay more for long staple—and you get the longest by shearing with a

Stewart No. 9 Ball Bearing Shearing Machine



This is, without question, the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern.

Price of machine, all complete, including 4 combs and 4 cutters of the celebrated Stewart quality is

Only \$14.25

Get one from your dealer, or send \$2.00 and we will ship C. O. D. for balance. Money and transportation charges back if not pleased.

Chicago Flexible Shaft Company
110 N. La... Chicago, Ill.
Write for big new catalogue showing the most complete and modern line of Horse Clipping and Sheep Shearing Machines on earth.

Good Luck

- COTTON SEED MEAL
- CALF MEAL
- OIL CAKE MEAL
- FLAXSEED GLUTEN MEAL
- POULTRY FEEDS
- SEED POTATOES
- SEED GRAINS

Write for prices.
CRAMPSEY & KELLY
Dovercourt Rd., Toronto, Ont.

Steel Rails

for Reinforcing Bridges and Barn Driveways

CUT ANY LENGTH

J. O. J. GARTSHORE
58 Front Street West, Toronto.

Tower Farm Oxford Sheep. Champion flock of Canada. Choice shearing rams and ewes, also ram and ewe lambs, bred from imported and prize-winning stock. See winning at Toronto and Ottawa. Erin or Hillsburgh Stations. Long-distance Phone. G. BARBOUR, R. R. 2, Hillsburgh, Ontario

Lakeview Yorkshires If you want a stock boar of the greatest strain of the breed, (Ciniferella) bred from prize-winners for generations back, write me. Young sows bred and boars ready for service. JOHN DUCK, Port Credit, Ont.

CLEARVIEW CHESTER WHITES For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions. O. DeCoursey, R. R. No. 5, Mitchell, Ont.

Pine Grove Yorkshires—Bred from prize winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction. Joseph Featherston & Son, Streetsville, Ont.

Townline Tamworths We can supply young Tamworths of both sexes and any desired age of superior quality. Also Leicester Ram and Ewe lambs, Pekin ducks, Langshan cockerels and pullets. Write us your wants. T. Readman & Son, Toronto, Ont. R. M. D.

Morrison Tamworths and Shorthorns, bred from the prize-winning herds of England. Choice Tamworths, both sexes, all ages. 150 head to choose from. Choice Shorthorns, 3 extra fine red roan bull calves, 8 months old, dandies, also 100 and 500 of the deep milking strain. CHAS. CURRIE, Morrison, Ont.

Tamworths 20 young sows bred for May and June farrow and extra fit for service. Make selections early. JOHN W. TODD, R. No. 1, Corinth, Ontario

For Sale: Chester Whites Young stock, pairs not akin. Older stock, various ages, either sex. ELMDALE STOCK FARM, John Follard, Norwich, R. 4

Questions and Answers. Miscellaneous.

Corn for Silo.

1. How much land is required to grow enough corn to fill a silo 11 by 26 feet?

2. What height is a line fence required to be?

3. If my neighbor's cattle damage my line fence who should repair it, or pay for damages? O. D.

Ans.—1. It will depend on the crop, which varies with the variety of corn, condition of the soil and the season. With an average crop of corn about 5 acres will be required.

2. Regulations regarding line fences vary in the different municipalities. Consult your township clerk regarding the height a fence should be in your locality.

3. As a rule each man is supposed to keep his share of the line fence in repair.

Rheumatism in Poultry.

Sometimes in the mornings and afternoons our hens get so stiff on their legs that they cannot get off the roosts. When I lift them off they cannot walk, but simply crawl around and act as if they would soon die, but in ten or twelve hours they are all right again. Some hens are like this every day. What is the cause and treatment?

SUBSCRIBER.

Ans.—The stiffness is probably due to rheumatism, which is an inflammation of the connective tissues of the muscles and joints. The trouble is usually caused by exposure to cold or dampness, or to poor housing conditions. Treatment consists in protecting the birds from exposure, and feeding a ration which contains plenty of green feed. When spring opens up and the fowl are allowed free range the trouble will no doubt cease.

Tumor or Actinomycosis.

I have two heifers; one has a lump under one side of one jaw, and the other has a lump under the jaw on both sides. I had the veterinarian look at these, and he pronounced them as caused by an ulcerated tooth and said to paint them with iodine. I have been doing this for about ten days with apparently no result. The lumps are quite hard, and seem to be in the glands, as we can move them around. They do not seem to be sore, or to interfere with the cattle's feeding. I would like to know what you think these are, and what treatment you would advise.

C. H. S.

Ans.—The lumps may be caused by a tumor or might possibly be lump-jaw. As the lumps are not attached to the bone they may be carefully dissected out, the wounds stitched and dressed with a five-per-cent solution of carbolic acid twice daily until healed.

Clover as a Fertilizer.

1. Would soil be enriched more by plowing under a second crop of clover than by pasturing it off?

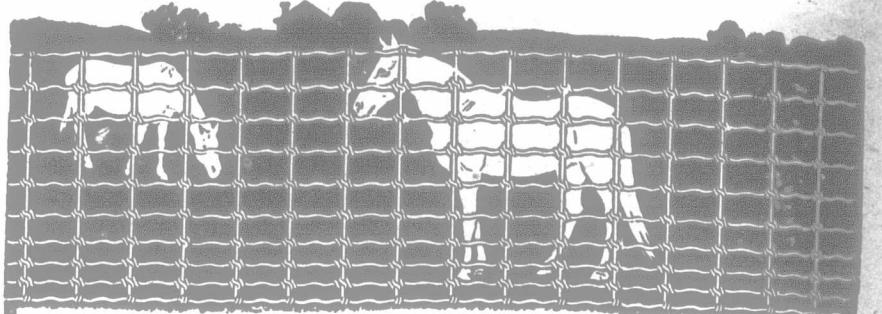
2. What would be the comparative difference in value to the land?

3. Would it pay better to make hay of it and buy manure at 25 cents per load; two miles to draw? G. M.

Ans.—1. Plowing under the clover would no doubt improve the soil more than pasturing it off. All the fertilizing value contained in the plant is returned to the soil when plowed under and humus is added to the soil.

2. It is difficult to state with the information at hand. Droppings from dairy cows or young stock would not be so valuable to the soil as droppings from heavy, fat steers. Cattle on pasture remove from the plant the substance to sustain the body, and the droppings do not add the same quantity of humus to the soil as does plowing down the crop.

3. It would depend on how badly the soil was in need of humus. If the hay was fed on the place and the manure returned to the soil, it would possibly be good business to make hay of the clover and purchase manure at the price mentioned. There is a danger of introducing noxious weeds to the farm unless the manure is well heated to destroy the germinating ability of any seeds that might be in it.

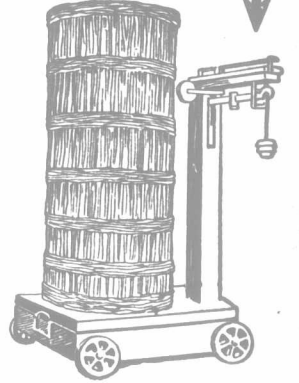


Fencing? Yes, but what kind?

The farmer who thoroughly examines the relative merits of the various brands of wire fences offered to him will not have any difficulty about deciding upon the one he ought to have. Let him decide by that most unerring of all tests—weight. Why judge by weight? Because weight means strength, and strength means durability and long life. Of the different makes of wire fences, there must naturally be one that will weigh heavier than the rest.

The heavy-weight among fences is the "Ideal"

The reason is that all the wires are full gauge No. 9 hard steel wire; every wire is full of life and strength, and heavily galvanized to properly protect and preserve that strength. You therefore get longer service from "Ideal"—most for your money in strength, durability and all-round satisfaction.



Ideal Fence

It is to your interest before buying fencing to get a copy of our catalogue; a postal will bring it.

The McGregor-Banwell Fence Co., Limited
Walkerville, Ontario, Canada. 22

H. ARKELL W. J. ARKELL F. S. ARKELL

Summer Hill Stock Farm

Largest and oldest importers and breeders of

OXFORDS

in Canada. Look up our show record it will give you an idea of the kind of Oxfords we have for sale.

PETER ARKELL & SONS, Proprietors, Teeswater, Ont.
Customers, beware of imitations of this advertisement.

OXFORD DOWN SHEEP Summer Hill Farm

We breed and import reg. Oxfords. Rams and ewes in any quantity for sale—recorded. Positively no grades registered as pure-breeds; also no grades handled except by order.

PETER ARKELL & CO., Prop. Box 454, Teeswater, Ont.

Shropshires and Cotswolds for Sale—Yearling rams and yearling ewes, a few imported 3-shear ewes, an extra good lot of ram lambs from imported ewes. Prices very reasonable.

Claremont, C. P. R., 3 miles. Pickering, G. T. R., 7 miles. JOHN MILLER, Claremont, Ont. Greenburn, C. N. R., 4 miles

Cloverdale Large English Berkshires!

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from imp. stock. Prices reasonable.

C. J. Lang, Burketon, Ont. R.R. 2

ELMHURST LARGE ENGLISH BERKSHIRES
From our recent importation of sows, together with the stock boar, Suddon Torred, 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.

Newcastle Tamworths and Shorthorns Boars ready for service May, June and July, others ready to breed; both sexes ready to wean. All descendants of Imp and Championship stock. Several extra choice young bull and heifer calves, recently dropped, grand milking strain; 2 bulls, six and seven months old, several extra choice young cows with calves at foot, also heifers all ages. Prices reasonable. A. A. COLWILL, Newcastle, Ont.

Cherry Lane Berkshires and Tamworths In 1915 we made a clean sweep of all the western shows in Berkshire and Tamworths; we have for sale both breeds of any desired age, winners in the West. First and third prize Berkshire boars at Guelph, first and champion Tamworth boar at Guelph.
S. DOULSON & SON, Norval Station, Ont.

YORKSHIRES Our offering never better. Champion hog winner of 12 firsts, 5 championships, 2 years' showing, still at the head. Boars and sows all ages same breed.
W.M. MANNING & SONS, WOODVILLE, ONTARIO

Duroc Jersey Swine, Jersey Cattle—In Duroc Jerseys we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.

MAC. CAMPBELL & SONS, Northwood, Ont.

The "R"

parts are proof against frost, with leath' frost-proof yet very easy

Get the Silage from

Besides our remember the sell you a Cutt Blower poss important ex features. Our chine cuts the and fills the s the same time



Our Cha Engine for use has the timin vice, ignition, go or and valve co in a cast-iron which protects from injury, fully. The Chap ensilage and fill it grinds feed, p the hard chores, only a few cents gine enables a f undertake dairi scale. You can to place, if need smooth power in

Ontario W 93 Branches: M

"Good Fertilize soils productive from going bad, richer and the far DOUBLING cr and more th profits. There's farm if you have crops do not pay



shipment. Write use and how much

FARMERS Club your orders for car-load shipments. Ask your Dealer for prices.

He's

eyes... of... milk... calves... times... Get... to... tip... its... as... 5... G... C...

This Silo is "Right"

Toronto Economy Silos are fitted for you to set up without carpentry. Staves are 2-inch spruce, all wood parts are cross-tied against weather and decay, also making them proof against acid, warp and shrinkage; double-tongued and grooved, with steel splines in ends; special steel hoops have malleable frost-proof lugs; doors airtight with three sealing surfaces, yet very easy to open. Roof has three supporting iron rings, is covered by waterproof roofing, and has galvanized, protected ventilator at top. This is the real **ECONOMY Silo**, and the real **service Silo**, too.

THIS Dairy Silo gives your cattle summer food in the midst of winter. Ensilage keeps cattle "on their feed" and supplies exactly the kind of fodder which makes best and most beef, and best and most milk. All this with minimum labor and least cost, when you use our engine power and our silo cutter, feed grinder and other equipment for easing barn work. Buy the well-made Toronto Economy Silo; shipped ready to set up at your barn. No skill could ever make a silo better than ours, and no other material equals good spruce wood.

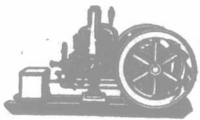
Get the Silage Machinery from Us, too

Besides our complete silo, remember that we sell you a Cutter and Blower possessing important exclusive features. Our machine cuts the silage and fills the silo at the same time.

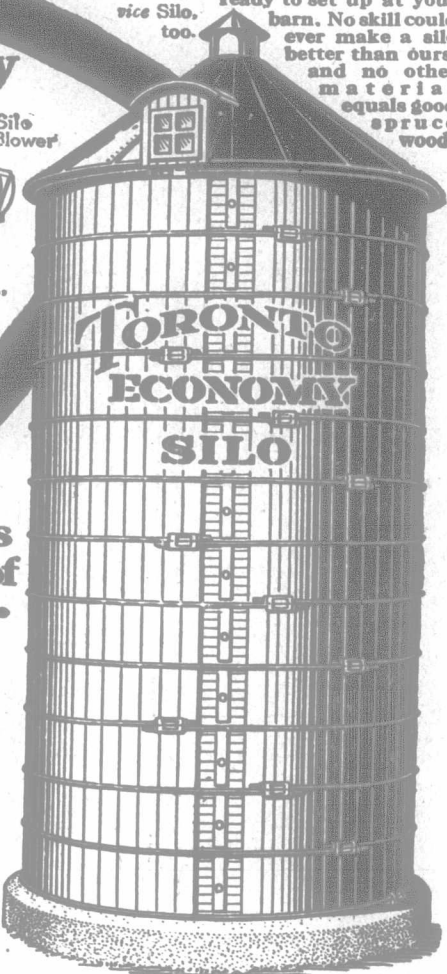


Our "TORONTO" Feed Grinder is another essential on every farm where there are cattle.

Gives Plenty of Power



Our Chapman Engine for farm use has the timing device, ignition, governor and valve control in a cast-iron case, which protects them from injury. Our Engine catalog explains fully. The Chapman Engine not only cuts your ensilage and fills your silo, but at other times it grinds feed, pumps water, saws wood—does the hard chores, quick and well, at a cost of only a few cents an hour. The Chapman Engine enables a farmer to do more work, and undertake dairying and beef raising on a larger scale. You can move this engine from place to place, if need be, and it will give steady, smooth power in any kind of weather.



Ontario Wind Engine & Pump Co., Ltd.
93 Atlantic Ave., TORONTO

Get a Silo like this on your farm by planning now—make bigger profit returns on your farm next year. Write for our Silo catalog and our Engine catalog to-day.

Branches: Montreal, Winnipeg, Regina, Calgary

Doubling Crops is Doubling Dollars

"Good Fertilizers make poor soils productive. Keep good soils from going bad, make rich soils richer and the farmer richer too."

DOUBLING crop yields is easy, and more than doubles the profits. There's big money on a farm if you have big crops. Little crops do not pay for seed and labor.

It's as much work to plough, harrow and seed for slim crops as for fat ones. The only extra expense necessary to get a double-size crop is Fertilizer. Best-by-Test Fertilizers are extra quality and adapted to crop and soil.



"Best by Test" Fertilizers

We sell Best-by-Test Fertilizers at a close figure and it pays to get our quotation. Arrange with your dealer to club in with others to make up a car load shipment. Write for free booklet—"Facts About Fertilizers." It tells kinds to use and how much, besides other valuable information. Yours for the asking.

FARMERS Club your orders for car-load shipments. Ask your Dealer for prices.

SEED CORN Our Best-by-Test Seed Corn is selected from special crops grown by experts; every bushel tested and guaranteed 80 per cent. germination. Sold on the ear, unless otherwise ordered.

Free Booklet—"Facts About Fertilizers"

Canadian Fertilizer Co., Ltd., Market Chambers, Chatham, Ont.

He's had GARDINER'S CALF MEAL ever since he was weaned

"I have never seen anything like it to take the place of milk. It keeps calves going right ahead, and finally with water only as the milk supply runs out. I find it pays for itself several times over. It gives calves better condition and faster growth." Gardiner's Calf Meal is guaranteed to contain 19% protein and 8 1/2% to 9% Fat. This exceptional quality and its easy digestibility, explains why it is so popular with colts, lambs and pigs as well as calves. 100 lb. Bags. If your dealer is not carrying it, write for prices on it and also on our other feeds: Pig Meal, Ovaturn and Calf Meal, and our Special Seed Meal. 4 Cents per lb. Feed Specialists, SARNIA, Ont.



These Fifty Men

would be required to do the work that the Martin Ditcher and Grader will do in one day.

Any good Farmer knows that draining is one of the most profitable improvements that can be made on his farm, but it is usually difficult and expensive to get men or machinery to do it.

You can do as much ditching in one day with the **MARTIN DITCHER AND GRADER** as 50 men could do with picks and shovels and do it better.

Every Farmer in Canada should have

The MARTIN Farm DITCHER and Road Grader (PATENTED)

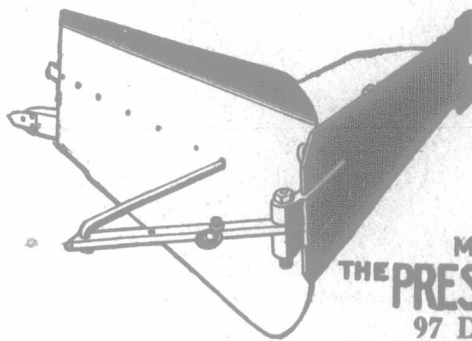
In fact he cannot afford to be without it.

It will cut ditches to a depth of two or three feet.

It will dig tile ditches and cover them up again.

It is unexcelled as a Road Grader—or for levelling land—making irrigation ditches, etc.

And the Price is only **\$47.50**



Every machine fully guaranteed or money refunded.

Write to-day for Free Illustrated Booklet.

MADE EXCLUSIVELY BY **THE PRESTON CAR & COACH CO. LIMITED**
97 Dover St., PRESTON, ONT.

UNDER WATER 4 YEARS AND NOT RUSTED



Think of it! A galvanized fence so thoroughly galvanized that four years of submersion—summer and winter—could not fade it. That's Mr. Cummings' experience with Peerless Fence. Read what he says. Here's his letter.

Gentlemen—I have handled your fence for four years and find it a good, strong and durable fence, and find that the galvanizing is first-class. In referring to this I have a fence that I put on four years ago across a gully and the water is as high as the second wire and it is not rusted nor broken yet. I have a team of heavy horses that ran into the fence last summer and did not break or damage it in the least, and I am glad to say that in the four years I have handled your wire I have had no complaints about it. Yours truly, **DAVID CUMMINGS, Bowesville, Ont.**

Incredible—unbelievable—you say? Not when you remember that

Peerless Perfection Farm Fencing

is different—that it is made of Open Hearth Steel Wire. The Open Hearth process burns all the impurities out of the metal, thus removing one of the greatest causes of rust. The wire is also galvanized so thoroughly that it will not flake, chip or peel off. Every intersection of the wires in our farm and poultry fence is locked together with our Peerless Lock. While the locks hold the wires securely together, this fence can be readily adjusted and perfectly stretched over uneven ground. It is easily erected and on account of heavy, stiff stays used, fewer posts are required. Get the details. Send for free literature. It also describes our farm gates, poultry fencing and ornamental fence.

Agencies nearly everywhere. Agents wanted in unassigned territory.

THE BANWELL-HOXIE WIRE FENCE COMPANY, Ltd.
Winnipeg, Man. Hamilton, Ont.

RAW FURS

WE WANT

SPRING MUSKRATS

We Pay Express and Postage. PROMPT RETURNS.

E. T. CARTER & CO., 84 Front St. E., TORONTO

Overland

TRADE MARK REG.

35 horsepower

\$ 965

Roadster \$935

Model 83 B—f. o. b. Toronto

This is the car which is outselling—virtually *two for one*—any other car which sells for \$550 or more.

And the principal reason is power.

No other car at anywhere near its price is anywhere near so powerful.

In fact you must pay nearly \$200 more for as much power in any other car.

As a rule, prices vary according to power,

This \$965 Overland is the one big, important, outstanding exception to the rule.

It is priced way below its power class.

All last summer, when this car sold for \$1050, we were 20,000 to 40,000 cars behind orders.

No car has yet appeared to dispute supremacy with this one.

And this one has been improved and the price lowered.

Though we trebled our production, the demand kept up all winter and consumed our output.

Another heavy shortage this spring is almost certain.

Order yours now so you won't have to wait.

See the Overland dealer today.

Catalog on request—please address Dept. 186.

Willys-Overland, Limited
Toronto, Ont.

No
such
power

in any
other
car

unless
you pay

nearly
\$200
more

