

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE
SUCCEED
FOUNDED 1886

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

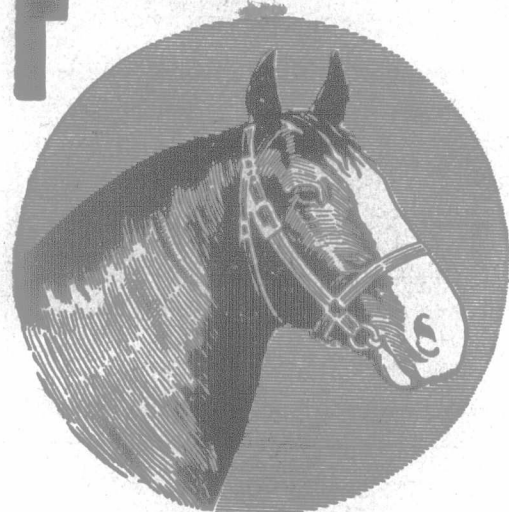
VOL. LI.

LONDON, ONTARIO, FEBRUARY 10, 1916.

No. 1220

FREE

We will give absolutely free to any farmer, stock or poultry raiser one of our new 80-page booklets, which tells how to balance rations for feeding stock, milch cows, horses, etc. This also deals with the common diseases in poultry, the symptoms, treatments, etc. Tells how to build poultry houses; how to avoid all kinds of diseases in both stock and poultry; tells how to raise calves without milk, and describes fully the high-class stock and poultry remedies and foods we manufacture.



Last year our horses were troubled greatly with coughs and I used 26 tins of your Cough Specific with excellent results."

It will increase the flow of milk from 3 to 5 pounds during the winter. It will help fatten steers a month earlier, thereby saving a month's feed and labor. You can raise and fatten pigs and market them a month earlier, saving a month's feed and labor. Malcolm Gray of Komoka, Ont., says: "In regard to the feeding of Royal Purple, I had two lots of hogs. To the first lot I fed Royal Purple Stock Specific and sold them when 6 months old and they averaged 196 pounds each. On the second lot I did not use Royal Purple Stock Specific and at the same age they averaged only 150 pounds. They were both the same breed and one lot had as good a chance as the other. We have also fed Royal Purple Poultry Specific with excellent results."

Norman C. Charlton, Scott, Sask., says: "I am from Ontario and fed your Royal Purple Stock Specific when in Brownville. My cows made the largest average and tested 5 pounds over average at C. M. P. at Brownville. I believe you make the best conditioner on the market."

Put up in 50c. packages; \$1.50 tins that hold as much as four 50c. packages, and \$5.00 tins which hold four times as much as the \$1.50 tins. A 50c. package will last an animal 70 days. A \$5.00 tin will last 10 animals nearly three months. The cost to use this conditioner powder is so small that no farmer can afford to be without it, as it will average less than 1/2c. a day if purchased in large tins.

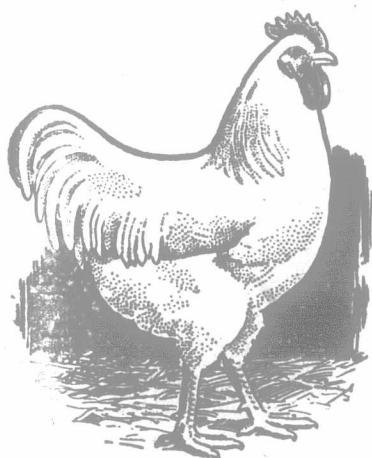
Royal Purple Stock Specific

Not a dope, but a pure unadulterated condition powder that can be fed according to directions every day. Will make the animal digest its food properly and secure the greatest good therefrom. There has not been a season in a decade when it will be so absolutely necessary to use condition powders as this coming season on account of the enormous amounts of musty grain and fodder that have been harvested. Unless farmers are extra careful, they will have many animals in bad condition due to coughs, heaves, indigestion, etc. Royal Purple Stock Specific will cause the animal to digest every particle of food and will make impurities pass through without injury. Royal Purple Stock Specific will fatten animals you have never been able to fatten before.

Mr. Dan McEwan, the veteran horse-trainer, says: "I have used your Stock Specific 8 years and have never had an animal out of condition more than a week in all that time. Your stock conditioner is the best I have ever used, and as for your Cough Powder, I can safely say it will cure any ordinary cough in 4 days."

Royal Purple Poultry Specific

Works entirely on the digestive organs of the poultry. When a bird's gizzard is working properly, it will be healthy, and when healthy will lay just as many eggs in winter as in summer. You can fatten turkeys and other fowl in just one-half the time on the same food when they digest their food properly. Royal Purple Poultry Specific should be used in the food once a day through the fall, winter and spring seasons. The cost to use it is so small that it will pay for itself 10 times over in actual results. No poultryman can afford to be without this excellent tonic. It is a hen's business to lay. It is our business to make her lay. Put up in 25c. and 50c. packages, \$1.50 and \$5.00 tins. A 50c. package will last 25 hens 70 days. A \$5.00 tin will last 200 hens for over four months.



Royal Purple Cough Cure

It will cure any ordinary cough in four days and break up and cure distemper in 10 days. The large quantities of musty grains and fodder harvested this year will start more horses coughing than in any year for a decade past. John Cartier, Bothwell, Ont., says: "I have used one tin of Royal Purple Cough Specific and found it excellent for distemper. One of my father's horses had distemper last fall and inside of two weeks the distemper was entirely cured by using your Royal Purple Cough Specific. I am recommending it to my neighbors."

Put up in 50c. tins; 60c. by mail.

Royal Purple Roup Specific

Is a most excellent remedy and every poultryman should use it in the drinking water during fall, winter and spring months. Read over what Messrs. McConnell & Fergusson have to say about it.

"Gentlemen,—Enclosed you will find a photograph of one of our 'Dul-Mage' White Rocks. Isn't he a big-boned vigorous specimen? About three years ago we had a hen nearly dead with the roup, and after trying a number of remedies, sought the advice of Mr. Wm. McNeill, the well-known poultry judge, and he advised us to kill her at once, as it was impossible to save her life. She was not a valuable hen, and we thought it better to treat later on. We got a package of your Roup Cure, and it relieved her at once. At the end of a week's time she was completely cured. We have put a little of your Roup Cure in the water from time to time, and have only had one case of roup in our immense flock in the last three years."

(The bird shown in this advertisement is reproduced from McConnell & Fergusson's photo.)

Put up in 25c tins; 30c. by mail.

Royal Purple Calf Meal

You can raise calves on this meal without using milk. It is without doubt the highest grade calf meal on the Canadian market. This year we gave two \$25.00 prizes at the Western Fair, London, Ont., for the two best calves raised entirely on our calf meal. Read what Mr. Lipsit, who won these prizes, has to say about this meal. Mr. Lipsit is probably one of the best-known Holstein cattle men in Canada.

"Stratfordville, Ont., Sept. 28, 1915.

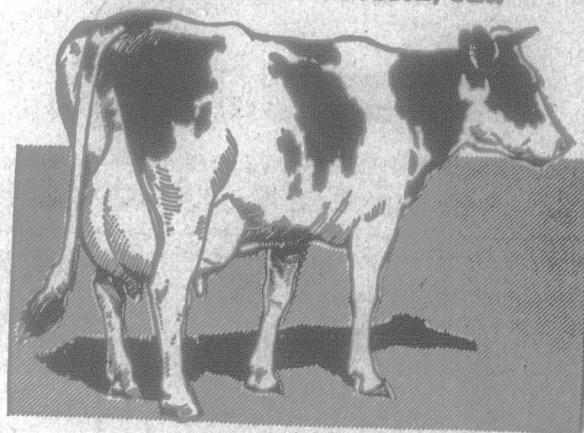
"The W. A. Jenkins Mfg. Co., London, Ont.: Dear Sir,—Replying to your letter of Sept. 18th, my bull's name is Finesse King May Payne. I am having printed now an extended pedigree of him, which I will be pleased to forward you, along with his photograph, as soon as completed.

"The calves I won your two special prizes on were Forest Ridge Payne Elite and Forest Ridge Payne Calamity 2nd. They were both fed regularly on your calf meal, as well as the calf that won first at the Canadian National Exhibition, Toronto, this year in a class of 33. I also won first and your special prize at the Stratfordville Fair here on another calf.

"The above I believe to be recommend enough for one breeder, as I have used several different calf meals, and have not found any quite so satisfactory.

"Yours truly, L. H. LIPSEIT."

\$4.00 a cwt. F.O.B. London, Ont.



Peace River Crossing, Alta., Oct. 4, 1915.

"The W. A. Jenkins Mfg. Co., London, Ont.: Dear Sir,—I used your Roup Cure last spring and can safely say that it saved my flock. Previous to my getting the remedy I had lost 37 hens, and after I began using it I only lost three and the entire flock were affected. Many people here have small chicks and they all complain of the roup, condition of their fowl. There seems to be something in the climate or soil that caused the disease."

"Yours very truly, J. W. MARR."

We also manufacture:

Royal Purple Sweat Liniment—8-oz. bottles, 50c.; by mail, 60c.

Royal Purple Gall Cure.—25c. and 50c. packages, 30c. and 60c. by mail.

Royal Purple Disinfectant—25c., 50c. and \$1.

Royal Purple Worm Powder—25c. tins; 30c. by mail.

Royal Purple Lice Killer—25c. and 50c. tins; 30c. and 60c. by mail.

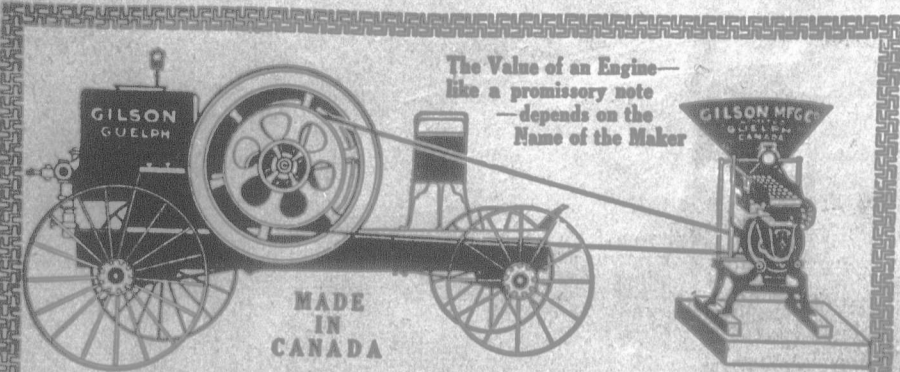
Royal Purple Linseed Meal.

Royal Purple Chick Feed—25c. packages, 100-lb. bags.

We sell only to the trade, but if you cannot get these goods from a merchant in your town, we will send any 25c. tin by mail for 30c. and any 50c. package for 60c. Larger packages will be forwarded by express or freight.

Made in Canada by Canadian capital and labor.

THE W. A. JENKINS MFG. CO., LONDON, ONT.



POWER plus Service

Mr. H. TUTTON, of Branchton, Ont., writes:

Gentlemen:—I have had my Gilson 6 h.p. Engine for eight years and it is equally as good as new now, after doing all our work. In all this time, I have had absolutely no expense for repairs. I would not be without it for anything. I can chop a bag of the heaviest grain in four minutes—mixed grain and oats in less time. I also use it on the circular saw, rip saw, cutting bar, etc. All these jobs it handles easily, with great strength. Compared with other makes around me, I am perfectly satisfied with its economy of fuel.

When you buy a "GILSON" Engine, you buy *reliable power plus service*. We point with pride to the many GILSON Engines, turned out in the early part of our career, that to-day are running as smoothly and giving the same reliable service as when they left our factory.

The owners of these engines will tell you frankly that their engines have actually *cost them less* and given them *more service* than engines which could have been bought at a far lower first cost. *Durability—dependability—Service to the Buyer* are the watchwords of the GILSON factory.

**GILSON Farm Engines
Ensilage Cutters
Silos, Grinders, etc.**

"STANDARD OF THE WORLD"

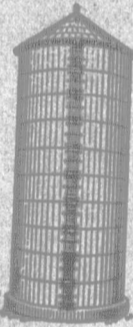


THE WONDERFUL "GILSON PAPEC" ENSILAGE CUTTER
GUARANTEED to cut and elevate more ensilage with the same power than any other Blower Cutter.

Gentlemen—My No. 13 GILSON PAPEC ENSILAGE CUTTER is so superior to other blowers that it cannot be placed in the same class. For ease of feeding, and the amount of stuff it will put through with my 6 h.p. GILSON Engine it is a marvel. We have never yet been able to plug the blower pipe.
GEORGE L. BURL, Masville, Ont.

THE HYLO SILO
The Mortgage Lifter

SWEET FRESH ENSILAGE down to the last forkful. The Hylo Silo is perfectly air-tight. No frozen or spoiled ensilage around the walls. Convenient and perfect fitting doors, that you can adjust without hammer or wrench. Made of guaranteed Southern Long Leaf Yellow Pine. Built to last a lifetime. Stands rigid when empty.



Gentlemen—I received my 30 ft. HYLO SILO in A-1 condition, and am well satisfied with it. Two of us put it up in twelve hours, and I certainly was surprised at how easily it went together.
CHAS. RUMFORD, Warminster, Ont.

Every man who gets a GILSON product secures for himself **SAFETY, SERVICE and SATISFACTION.** Write for Catalogues. (1)

THE GILSON MFG. CO., Limited - 19 York St., GUELPH, Ont.

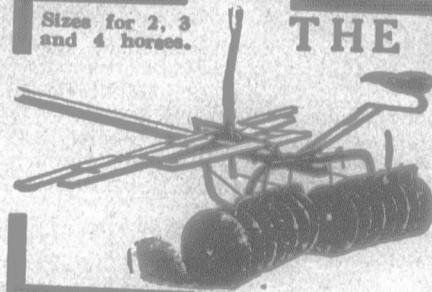
SYDNEY BASIC SLAG

THE world's consumption of BASIC SLAG amounts to four million tons every year, and it is the best value in fertilizers obtainable. It costs \$20 per ton, and if you have used other fertilizers in the past, even with good results, we ask you to give SYDNEY BASIC SLAG a trial this season and save money.

Send us your name and address, and we will post you some interesting literature, giving the experiences of Ontario farmers who have used SYDNEY BASIC SLAG.

The Cross Fertilizer Co. LIMITED
SYDNEY - NOVA SCOTIA

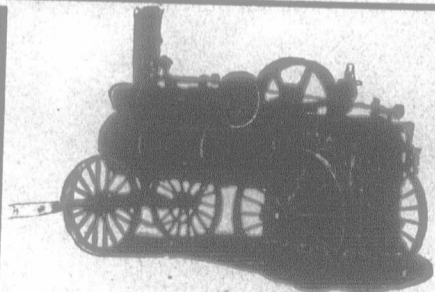
Sizes for 2, 3 and 4 horses.



THE BISSELL DISK

has made a great record throughout all Canada. There are good reasons why this is so. Balanced Right—Does not hump up. Improved Plate—Cuts and turns soil over. Hitches well Back—Easy draught. This Disk has several imitators, but no equal. None genuine without the name "BISSELL." Test trials given on hard land with anything that cultivates. Write Dept. W for free Catalogue. 92

T. E. BISSELL CO., LIMITED, ELORA, ONT.



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

CUT THIS OUT



Farmer's Advocate Pen Nibs
Send the coupon for a pen nib worth only \$1.50, and you will receive a new nib in return you will also receive a fine gold nibbed pen, value \$4 (10s. 6d. in England), pens, up to 13, will be sent to you for the price, so you may send 14 cents and only \$1. Say whether you require a fine, medium or a soft nib. The great offer is made to introduce the famous Fleet Pen to Canada. Over 100,000 have been sold in England. Agents Wanted. Liberal Terms.

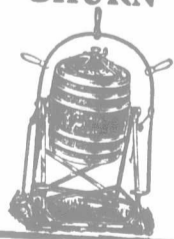
They use Maxwell's Churns in Denmark—

Fancy! Denmark—the great butter-producing country of the world—send all the way to Canada for Maxwell's Churns! Also used in Australia, New Zealand and S. Africa. Convincing proof, this, of the excellence of these well-known churns. Best of all is the—



"FAVORITE" CHURN (with Bow Lever)

Notice the adjustable handle on the bow lever. No other churn has this. Handle can be moved to centre or either side, whichever is most convenient for driving.



You can buy the "Favorite" in eight sizes. Strongest and best made churn on the market. Easy to work. Gives splendid results. Ask your dealer.

MAXWELLS LTD.

ST. MARY'S, ONTARIO

FREE LAND

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. or H. HOWARD FERGUSON, Minister of Lands, Forests and Mines.

SEEDS

I have a nice stock of Ontario-grown seeds, as follows:

- Red Clover
- Alsike Timothy
- Alfalfa (Limited quantity)
- Hungarian Millet
- Seed Corn

All seeds Government Standard. Samples and prices gladly furnished. Ask for them.

S. G. VANCE
Wholesale and Retail
TILLSONBURG ONTARIO

Corn That Will Grow

Canadian-grown seed corn. Your money back if not satisfied.
J. O. DUKE, RUTHVEN, ONT.

Please mention "The Farmer's Advocate."

ONEY C SLAG

consumption of BASIC SLAG
our million tons every year, and
value in fertilizers obtainable.
and if you have used other
st, even with good results, we
DNEY BASIC SLAG a trial
money.

ame and address, and we will
esting literature, giving the ex-
farmers who have used SYD-

Fertilizer Co.
LIMITED
NOVA SCOTIA

BISSELL DISK
has made a great record throughout all
Canada. There are good reasons why this
is so. Balanced Right—Does not lump
up. Improved Plate—Cuts and turns
soil over. Hitches well Back—Easy
draught. This Disk has several imitators,
but no equal. None genuine without the
name "BISSELL." Test trials given on
hard land with anything that cultivates.
Write Dept. W for free Catalogue. 92
LIMITED, ELORA, ONT.

SEEDS

I have a nice stock of Ontario-
grown seeds, as follows:

- Red Clover
- Alsike
- Alfalfa (Limited quantity)
- Hungarian
- Seed Corn
- Timothy
- Millet

All seeds Government Standard.
Samples and prices gladly furnished.
Ask for them.

S. G. VANCE
Wholesale and Retail
TILLSONBURG ONTARIO

Corn That Will Grow

Canadian-grown seed corn. Your
money back if not satisfied.
J. O. DUKE, RUTHVEN, ONT.

Please mention "The Farmer's Advocate."

CLOVER SEEDS

Government Standard

We guarantee our seeds to suit you
on arrival, or you ship them back
to us at our expense. We can
highly recommend the grades
marked No. 2 as being exception-
ally free of weeds and good for all
ordinary sowing.

RED CLOVER Bush.
No. 1 Splendid Sample.....\$16.50
No. 2 Good for purity and color.. 15.00

ALSIKE
No. 1 Extra No. 1 for purity..... 12.50
No. 2 Extra pure and nice color.... 11.00

TIMOTHY
No. 1 Purity, No. 2 appearance.... 5.50

ALFALFA
Haldimand grown—No. 2 purity.. 17.00

Bags are 25c. each extra.
Cash must accompany order.
Ask for samples if necessary.
We also have O. A. C. No. 72 Oats
at 75c. in 10 bushel lots.

The Caledonia Milling Co.
Limited
Haldimand Co. CALEDONIA, ONT.

Clover Seeds

(Government Standard)

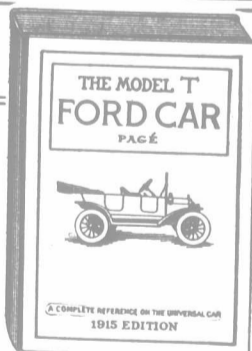
Per Bus.
No. 1 Red Clover.....\$17.00
No. 2 Red Clover..... 16.00
No. 1 Alsike..... 13.00
No. 2 Alsike..... 12.00
No. 1 Alfalfa..... 16.00
(Northern grown)

No. 2 Timothy..... 5.50
(This seed grades No. 1 Purity).
No. 3 Timothy..... 5.00
White Blossom Sweet Clover.. 12.50

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



THE MODEL T
FORD CAR
PAGE
COMPLETE REFERENCE ON THE ORIGINAL CAR
1915 EDITION

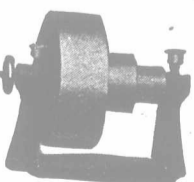
A New Complete Book

for every Ford
Owner, Dealer,
Salesman and
Repairman.
300 (5x7) pages.
Over 100
Specially Made
Engravings and
Two Large Folding Plates. Price \$1.00.

The Model T Ford Car

Its construction Operation and Repair
"Young Engineer's Guide" and
other self-educational books—elec-
tric, mechanical, and agricultural.
Also high-grade copyrighted Fiction.
Send for catalogue.

Windsor Supply Co., Windsor, Ont.



Use a Page Governor Pulley

Highly satisfac-
tory to connect the
gasoline engine to
Cream Separator,
Washing machine
etc. Absorbs en-
gine vibration, gives
the desired speed, starts the Separator grad-
ually—as by hand. All metal, no levers, very
strong, simple. Price \$7.50 F.O.B. Toronto or
freight prepaid if shipped with an engine.
The Page Wire Fence Company, Limited,
1143 King Street, West, Toronto

Simonds Crescent Ground Cross-Cut Saws

This saw will cut 10% more lumber, same time and labor being used,
than any other brand of Cross-Cut Saws made. This guarantee has
stood for thirty years.

There are two reasons for the superiority of the Simonds Saw, grind-
ing and steel.

A saw that does not bind in the kerf cuts easy; a saw that binds is a
bother. Crescent grinding insures saws ground so that the teeth are all
of even thickness throughout the length of the saw and the blade tapered
which enables the operator to push as well as pull the saw. Crescent
grinding is an exclusive process used only on Simonds' Cross-Cut Saws.

Simonds Canada Saw Company, Limited, Montreal, Que. Vancouver, B.C. St. John, N.B.

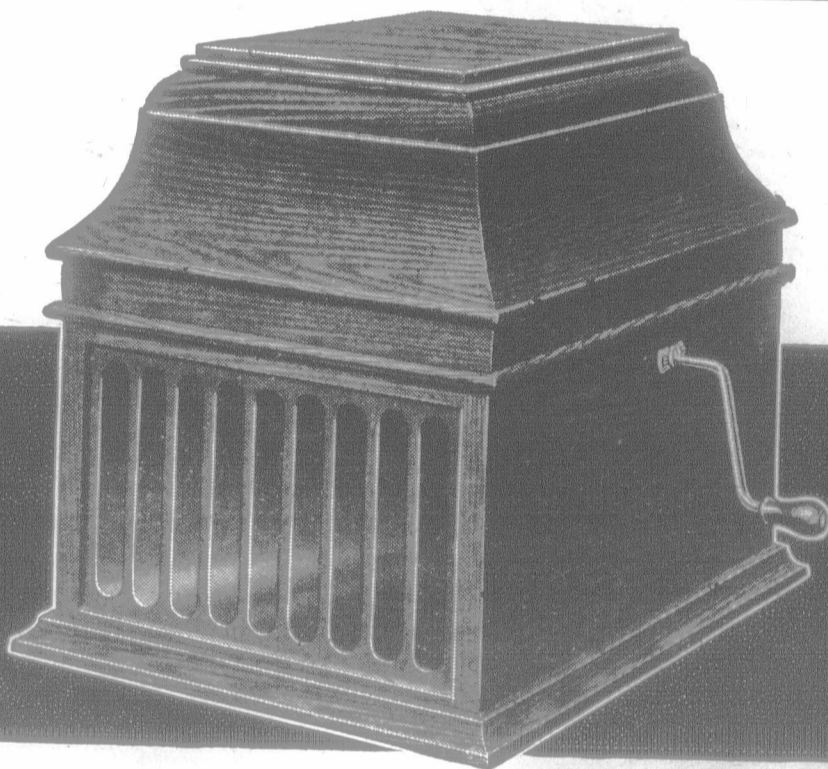
Always buy a saw with a sharp cutting edge—not a soft saw—because the former lasts longer and keeps its edge better.

Simonds Steel will take a temper to hold a cutting edge and stay
sharp for a longer time than any saw not made of Simonds Steel.

There are two reasons why you should buy Simonds Crescent
Ground Cross-Cut Saws—Quality and Price.

Superior quality makes your cutting as easy as cutting can be.

The price is moderate for the saw value given. It is about the same
as you would pay for an inferior saw, therefore, why not get the best for
your money—a saw with the manufacturer's name, "Simonds," on it? It
is your guarantee and your protection. The saw illustrated, Simonds
Crescent Ground Saw No. 22, is the most satisfactory saw for all usual
sawing purposes. Insist on your hardware dealer supplying you with
Simonds' Saws. Write to the factory for further particulars.



Only \$1.00

— and After Trial!

YES—the great New Edison with the new Diamond Stylus reproducer and your
choice of all the brand new Diamond Amberol Records will be sent you on free trial with-
out a penny down. The finest, the best that money can buy at very, very much less than the price
at which imitations of the genuine Edison are offered—a rock-bottom offer direct from us.

Mr. Edison's Own The Genuine New Edison Phonograph

Among all his wonderful inventions his phonograph is Mr. Edison's pet and hobby.
He worked for years striving to produce the most perfect phonograph. At last he has
produced this new model, and now it will be sent to you on a startling offer. Read:

Rock-Bottom Direct Offer

If you wish to keep Mr. Edison's superb new instrument,
send us only \$1.00 after the free trial. Pay the balance on the
easiest kind of monthly payments.

Think of it—a \$1.00 payment, and a few dollars a month to
get this brand new style outfit—the Diamond Stylus reproducer,
the musical quality—the same Diamond Amberol Records—
all the musical results of the highest price outfits—yes, the great-
est value for \$1.00 down, balance on easiest monthly terms.
Convince yourself—free trial first! No money down no C. O. D.,
not one cent to pay unless you choose to keep the instrument.

Entertain Your Friends

Hear all the latest up-to-date song hits of the big
cities. Laugh until the tears stream down your face
from laughing at the funniest of minstrel shows.
Entertain your family and your
friends with everything from
Grand Opera to Comic
Vaudeville—then if you
choose, send it back.

To F. K. Babson
Edison Phonograph Distributors
355 Portage Ave., Winnipeg, Man.
Gentlemen: Please send me
your New Edison Catalog and
full particulars of your free
trial offer on the new model
Edison Phonograph. 7642

Our New Edison Catalog Sent FREE

Your name and address on a postal or a letter (or just the
coupon) is enough. No obligation in asking for the catalog.
Get this offer—while this offer lasts. Fill out coupon today—now.

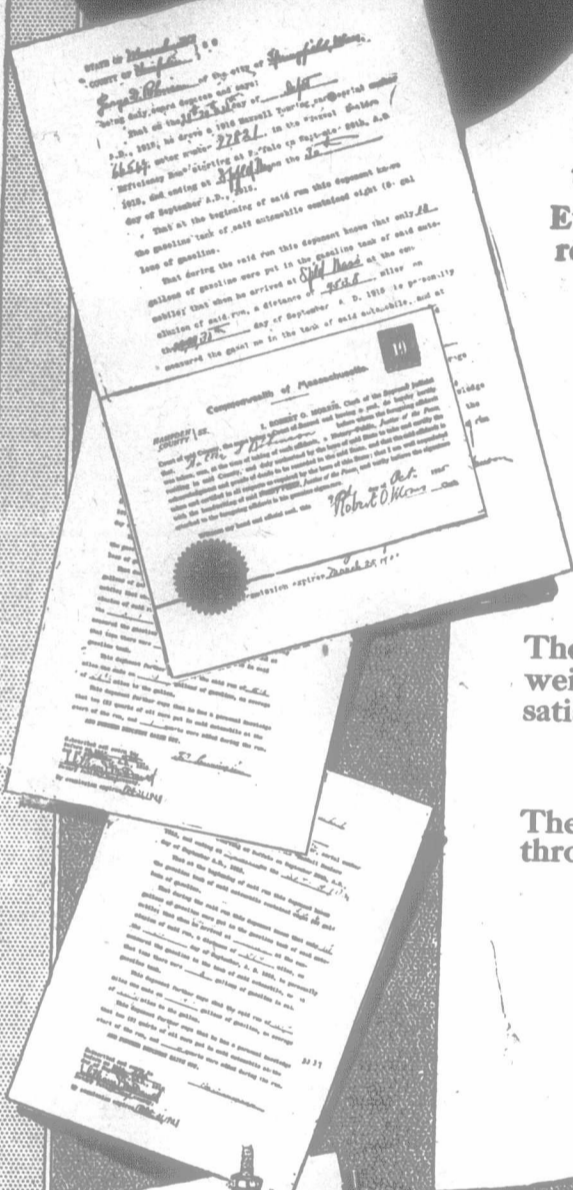
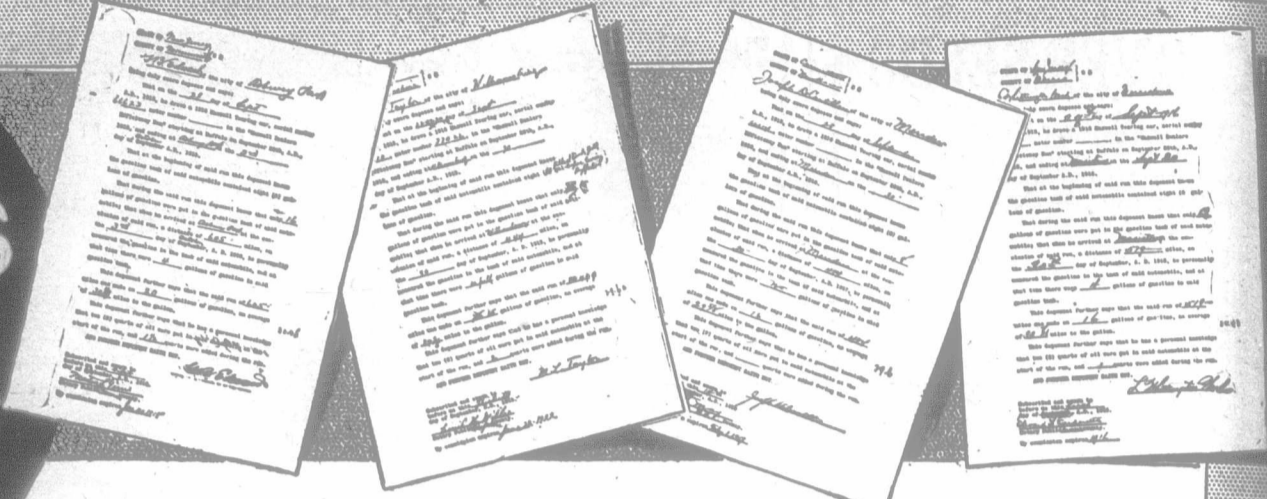
F. K. BABSON, Edison Phonograph Distributors
Dept. 7642, 355 Portage Ave., Winnipeg, Man. U. S. Office: Edison Bldg., Chicago

Name.....

Address.....

When Writing Advertisers Please Mention The Advocate.

THESE AFFIDAVITS TELL THE STORY



Eighty Maxwells Make Good

ONE day last Autumn, eighty stock Maxwell automobiles left Buffalo, N.Y., for as many points along the Atlantic Coast, from Portland, Me., to Baltimore, Md.

Every item of expense of these eighty Maxwells—for gasoline, oil, tires, and repairs—was carefully checked and recorded.

Under Sworn Records

And the sworn affidavits of these eighty Maxwell drivers created a new record for automobile economy by showing a gasoline consumption as low as 36.85 miles per gallon—an oil consumption as low as 1134 miles per gallon—and *no expense* for tires or repairs.

Maxwell—"The Car Complete"

The "first cost" of a Maxwell is your *only* cost. Nothing you can buy *extra* will make it a better automobile. It is *absolutely complete*.

The "after cost" is, without exception, the lowest of any automobile of equal weight. The bona-fide affidavits of these eighty drivers prove it. 70,000 satisfied Maxwell owners back up this proof.

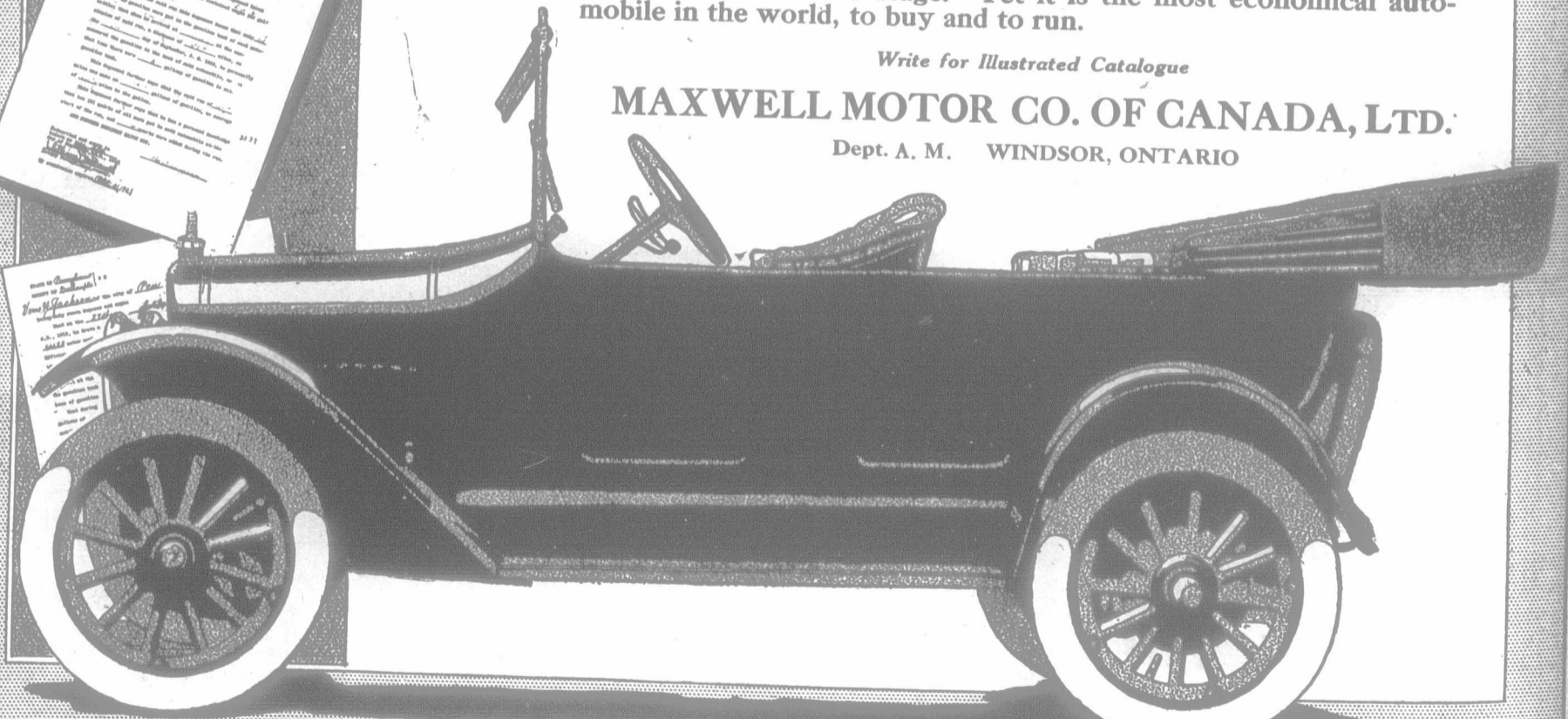
Every Road a Maxwell Road

The Maxwell has abundance of power and speed. It conquers hills and pulls through the worst of roads in any weather. It has strength and durability to withstand the hardest usage. Yet it is the most economical automobile in the world, to buy and to run.

Write for Illustrated Catalogue

MAXWELL MOTOR CO. OF CANADA, LTD.

Dept. A. M. WINDSOR, ONTARIO



This gives you the right idea of Maxwell completeness at \$850

ELECTRIC Starter and Electric Lights.
MOTOR—Four-cylinder, L-head type, cast en bloc. Bore 3 3/4 in.; stroke 4 1/2 in.
MAGNETO—Simms high tension.
CLUTCH—Cone, faced with multibestos lining, runs in oil.
TRANSMISSION—Selective sliding gear. Three speeds forward and one reverse.
CONTROL—Center left side drive; foot accelerator. 16 in. steering wheel.

WHEEL BASE—103 inches; tread 56 in.; 60 in. optional for the South.
WHEELS—Artillery, of best grade hickory; with demountable rims.
TIRES—30x3 1/2 in., front and rear. Famous make of anti-skid tires in rear.
SPRINGS—Front, semi-elliptic. 32 in. long. Rear 3/4-elliptic, lower half 40 in. long.
AXLES—Front, drop-forged, I-beam section, complete with spring seats. Rear, floating type.

BRAKES—Internal and external, actuated on 12 1/2 in. drums on rear wheels.
EQUIPMENT—Two electric head lights with dimmer, electric tail light, generator, storage battery, electric horn, speedometer, "one-man" mohair top with envelope and quick adjustable storm curtains, double ventilating rain-vision windshield, improved instrument board with all instruments set flush, spare tire carrier with extra demountable rim, jack and tools.



All Maxwell Dealers Can Show You Copies of Original Affidavits as Reproduced in this Advertisement

The Farmer's Advocate and Home Magazine

PERSEVERE AND SUCCEED ESTABLISHED 1866

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1917

L.I.

LONDON, ONTARIO, FEBRUARY 10, 1916.

1220

EDITORIAL.

We had April in January. Let us hope that January will not demand its season in April.

The farmer's duty is to take an interest in politics, but not to be married to any political party.

Organization is the strength of many institutions; it could be made the strength of agriculture.

Our first duty is to win the war, and in this, economic production at home must not be lost sight of.

And now the Kaiser proposes to release prisoners and force them to fight in his lines. Such crime and folly!

It now appears that the young men of Britain, by enlisting voluntarily, will make the Compulsory Bill a dead letter.

Sandy Fraser believes that the best way to get rid of bad habits is to form and encourage good habits to take their place.

It is the plain duty of every municipality and every individual to give liberally to the Patriotic Fund and to the Red Cross.

Many a good farmer is not a successful manager. There is room for more training on this phase of agriculture in our agricultural colleges and schools.

Feeders tell us that it requires more care to keep the stock from going "off its feed" in a mild spell than in cold, snappy weather. Possibly a little more exercise would improve their appetites when the weather is mild.

The Hon. Geo. E. Foster hit the mark squarely when in his recent Massey Hall address he advised better organization for recruiting, so that Canada's efficiency in field and factory be not impaired too greatly.

Peter McArthur's advice in last week's issue should be heeded. It is well to know what a patriotic concert is going to cost before staging it. There is little use of putting on such an event if the cost is going to balance the receipts from a big gathering.

Canadians are tired of the talk of shirkers, slackers, etc., which some men past military age seem to like to get out of their systems. Canada has done well. Canada can and will do better. It is a poor way to increase enthusiasm to cast reflections. True, there are slackers, but there are hundreds of workers to every shirker. There is more inspiration in listening to an account of what the workers have accomplished than there is in being bored to death by a long harangue about what has not been done by a few who do not see their duty clearly and act accordingly.

Charges of graft and misappropriation of public funds, hurled back and forth from the opposite political benches in the House of Commons, should not be taken lightly by the voter, even though the charges are sometimes made for political reasons. Such charges should always be investigated and the public should know the truth, and wherever crooked practices are exposed those responsible should suffer, no matter what their politics. Graft and money-grabbing should be driven out of Canada, so that there would never be grounds for accusations such as we have heard in the past.

"Better Stock and More of It".

"Better stock and more of it!" This was the object of all the live-stock meetings held in Toronto last week, and the breeders attending these meetings have done much to place Canadian live-stock husbandry on the high plane it now occupies. All the leading live-stock societies and associations represented in the meetings last week had experienced a prosperous year. The demand has been good and stockmen, with the exception of those overloaded with horses, have had a good year. When we stop to think of it, stockmen generally have a good year. We are glad that they were able to report a prosperous year 1915. However, none should feel satisfied unless he has contributed his share toward better stock and more of it. There is never too much of the best; there may be a surplus, at times, of the common and inferior class. Right now we hear a great deal about world shortages in beef and sheep, and about the great live-stock loss of Europe. Are our stockmen prepared or preparing to strengthen Canada's position? Read the reports of the meetings in this issue and be convinced. British stockmen see a boom ahead for good live stock. Canada should do a little "boosting", too, for there are in this country many herds from which the best of foundation stock may be selected. Let every breeder breed the best stock he can and then "boost." You know, the English stock breeder is said to be just beginning to find out that unless he "boosts" a little, Canada, United States, Argentina, New Zealand, etc., are going to get the trade. So much has the English breeder taken this to heart that the leading editorial in a recent issue of the "Live Stock Journal" was headed, "Stands England Where She Did?" and in it the writer made it plain that English stockmen must do a little "boosting" too. It is safe to "boost" when we have something worth while. Canadian stockmen have the goods and are endeavoring to improve them each year. Let us all be alive to conditions, advertise and "boost" the best business for the general farmer and sell nothing for breeding purposes but that which should do the buyer good.

Opportunity and a Responsibility.

One of the drawbacks from which agriculture has suffered in the past has been the lack of men who could go on the public platform and express their ideas clearly, logically, and with such force that listeners were compelled to think hard upon the subject under discussion. True, many of our ablest platform orators were born in the country, but most of them drifted cityward in early life, and there learned by experience to think on their feet. Now, most of Canada's intelligent young farmers and farm boys can, and do, think deeply into the questions of the day. They have clear ideas on many subjects which, in the ordinary conversation between themselves and their fellows, they express without fear or trembling; but, if called upon to express the same ideas from the public platform, the ideas are gone and the only thing the young speaker can think about is how quickly he can get back to his seat. The art of public speaking is not the easiest thing in the world to master, but practice will work wonders. Any young man who is a good farmer, who reads and thinks, can make of himself a public speaker, if he has the opportunity in his early life of getting the necessary practice in addressing meetings of one kind and another. And he can make the opportunity. We recently had the privilege of attending a banquet tendered by a Junior Farmers' Improvement Association, which has been doing a great work, not only in experimentation in farm work, but in practice in public speaking. At that meeting upwards of forty young men, every one a farmer and the son of a farmer, spoke—some for a minute, others for five minutes, and it was a treat to

see how well they had mastered themselves and could think on their feet and say what they thought. We venture to say that in a gathering of all the fathers of the boys not all could have been induced to get up and speak even for the short time of one minute. But father had not the opportunity that his son now has.

At the meeting were a few young men who had had some experience in a literary and debating society and some of these men, we venture to say, are the coming orators of Canada, if they keep up their practice. Every young man should accept every opportunity offered to get upon his feet and speak in public. Each time up makes it easier next time. Never mind the nervousness and possible breakdowns. Some of the best orators the world has ever seen are nervous when delivering their messages, but the nervousness is overcome by confidence, which aids them to think as they go along. They have mastered themselves. We have a good word to say for literary and debating societies, for Farmers' Clubs, for Junior Farmers' Improvement Organizations, and for all societies which train young men, and older men, too, to think and to speak. The young farmer has a duty to himself, to agriculture and to his country. He is the farmer of the future. He is the man who must in the near future take an important part in the affairs of this country. He can and should prepare, and now. We would urge that every farming community organize some sort of society or club for the men and women, particularly the young men and young women, and so arrange meetings that all must take some part. Nothing will do more to promote good feeling, neighborliness and the right community spirit. Nothing would cause the young people to think more and study deeper. Nothing would so prepare our young people for the duties of their older life. Our young people must take more interest in politics—not in partyism, but in the affairs of state which directly affect them in their every-day life. It is their duty to help eliminate the grafter, to prepare to take their places in the affairs of municipality, Province and Dominion. Canada needs young farmers who think and are prepared to vote as they think; not as the party leanings of "father" direct. In local societies the young people give themselves the necessary start in training. Nothing is more needed; few things are so invaluable. Begin now. What others have done you can do.

Be Timely!

Procrastination is said to be the thief of time, and yet many people go through life showing by their actions that they consider it not wise to do to-day what can conveniently be put off until to-morrow. On some farms this doctrine is in evidence, and is responsible for the farmer being always behind with his work, which leads to discouragement, in many cases, and finally to failure. There is a certain time when every operation on the farm should and can be done. To-morrow always brings its own work to require attention.

During the winter months, work is not usually rushing and there is plenty of time to have things ready for the busy days of seeding, when every hour counts. Now is the time to break in the colt that is supposed to do its share of work in the spring. By using it at light work about the place, the shoulders become toughened and the mouth hardened to the bit, thus putting the young animal in condition to stand steady work when the time comes. It seems hard for some farmers to get the seed grain ready before it is required to sow, consequently good seed cannot always be secured, and an inferior sample must be sown, resulting in a reduced yield at harvest time. Once the land is fit to work, no time should be lost in getting the seed in the ground, as delay means dollars later on.

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The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
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JOHN WELD, Manager.

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All through the year there are little things, which, if neglected, mean a loss in hard cash. One rail would repair the fence to-day; to-morrow it may require several rails, besides the aggravation of having the stock tramp through the grain, and a few minutes to-day would destroy a new noxious weed in the field; neglected, its seed may spread over the whole farm and cause a good deal of trouble in its eradication. A weak place in the harness might be fixed with a few stitches or a rivet to-day; if put off for to-morrow, it might break and cause an accident. A worn part on one of the farm implements could be replaced to-day when the implement is not in use; if left for to-morrow, it might break and cause delay in a busy season. Time is money in every line of business. If the greatest success would be attained on the farm, every part of the farm equipment and the farmer himself must be efficient.

Now, before the rush of spring work starts, would be a good time to look over the implements and harness to see if any repairs are required. Have the seed grain in readiness, and the horses in condition to make the most of time, when seeding starts. This spring, with the scarcity of help, the work should be carefully planned that the farmer may make every move count to its utmost.

Nature's Diary

A. B. KLUGH, M.A.

The plant formation which we have now to consider is that which is made up of the Sand Plants. As was pointed out when dealing with the various habitats, sand is physically dry, consequently we find among these plants adaptations for conserving moisture. One of these adaptations is that of hairy leaves. A hair is a dead structure and is filled with air, which is a poor conductor of heat, so that the surface of the leaf is protected from the full effect of the sun's rays. The hairs also are white and reflect light, so that the intensity of the light reaching the surface of leaf is diminished. The hairs also further guard the leaf against the effect of drying winds. So numerous are the hairs on some of these plants as to give them a woolly appearance. Another adaptation is the possession of thick leaves with layers of water-storage cells. In some species of Sand Plants the reduction of leaves has gone so far that the leaves have completely disappeared, being represented only by spines, while the function of

the leaves has been taken over by the thick, fleshy stems, as in the Cacti. In many of these plants the cuticle of the leaves is very heavy, thus protecting the underlying layers. A very interesting adaptation is found in the grasses of this formation, the leaves of which either fold lengthwise or roll laterally. The way in which these movements are brought about can be understood from a study of Figs. 1 and 2. In Fig. 1 we have a cross-section of a grass leaf which folds. The stomata, as indicated, are on the inner side of the leaf. Near the midrib, on the inner side of the leaf, are two sets of cells, one set on each side of the midrib, called the motor-cells. When the plant becomes dry, these cells lose water and the leaf folds along the midrib, thus bringing the inner surfaces of the leaf together and protecting the stomata. In Fig. 2 we have a cross-section of a grass-leaf which rolls up. The stomata are shown in the grooves, and at the bottom of the grooves are the motor-cells, which, when they lose water, cause the sides of the grooves to close together, and consequently the leaf rolls up. As can be seen from the figure, which shows the leaf partially rolled, when the leaf is rolled up, the stomata are in little chambers and are thus protected.

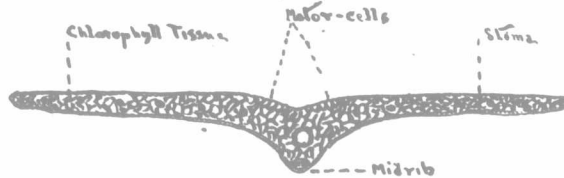


Fig. 1—A Folding Grass-leaf Expanded.

So far we have been discussing the conditions of Sand Plants as a whole, and we have seen that the habitat in which they live is unfavorable enough. But some Sand Plants live in an even more severe environment—on shifting sand dunes. In the case of sand dunes not only do we have all the conditions of a very dry substratum, exposure to intense light and to strong winds, but we have an unstable substratum. This substratum is either being eroded from around the roots and rhizomes (root-stocks) of the plants or else piled up around the plants. Which is taking place depends, of course, on whether the plants are growing in a place from which sand is being blown away or in a place to which sand is being transported.



Fig. 2—A Rolling Grass-leaf Partially Rolled Up.

Among the dune plants we find not only the adaptations which we have mentioned above, and which are common to all Sand Plants, but we find the power of rapid vertical elongation of stems, long, rapidly growing rhizomes, and the perennial habit. The first adaptation, that of rapid elongation of stems, is very necessary to those dune plants which are growing in places to which sand is being carried; otherwise the plants would soon be buried by the sand. The long rhizomes give the plants a better hold on the loose and shifting substratum. The perennial habit is far more advantageous to dune plants than the annual habit because only at certain times, that is, during a rainy period, are the conditions suitable for the germination of seeds and the subsequent successful growth of the young seedlings. Also the shifting sand makes a very unfavorable bed for the development of seedlings.

THE HORSE.

Feeding the Horse.

The past season was a particularly trying one on many of the farm horses. The excessive rains, followed by a few weeks dry weather, caused the plowing to be extremely heavy work, especially in the clay districts. Consequently many horses were greatly reduced in flesh. The comparatively high price of fodder has made some farmers a little careless about putting their horses in good flesh. It may cost a little in time and feed to fit the horses, but once the flesh is put on the horse will eat no more than, if as much as, when in a poor condition. Besides, there is more satisfaction in working a well-fitted horse than a thin one; the horse has more life and does the work easier, and is in condition to command the highest price should a prospective buyer come around. Some horsemen appear to have difficulty in fitting their horses, while others find it no trouble. Possibly the difference is in the care more than the feed. The skill of the feeder enters into the very life of the animal.

The idle horse does not require heavy feeding of grain or hay in order to keep him in condition; in fact, it is believed that many horses are injured by over-feeding with hay. The amount that will be cleaned up in one hour and a half is sufficient. It is no cruelty to the animal to have him stand in the stall for several hours each forenoon and afternoon without having hay to eat. The digestive system requires a rest. The feeder must use his judgment regarding the amount of

grain to feed. A rule, which appears quite safe, is to feed one quart of oats daily to each 100 pounds of horse, when on ordinary work, the amount of grain to be reduced for the idle horse. Once or twice a week boiled oats, to which has been added a handful of flax seed, may be fed quite profitably. Carrots, turnips, or mangels may be fed each day and will assist in keeping the animal's system in good working order. The feeder must study and know the animal he is feeding; cater to its likes and dislikes and groom carefully.

Lameness in Horses, VIII.

SWEENEY.

Sweeney or Shoulder Slip consists in a sprain, followed by atrophy or a wasting away of the muscles of the shoulder, principally those covering the shoulder blade. In severe cases the shoulder joint (the bones of which are held together simply by a capsular ligament, there being no lateral ligaments) appears to slip out and in to a greater or less extent at each step; hence the name, shoulder slip. This lameness is noticed principally in the young horses that are put to work on soft or uneven ground, and especially in young horses that are worked in the furrow to the plow. The horse, not being accustomed to such work, will frequently place the near foot upon the land, while the off foot is placed in the furrow, and this uneven treading tends to sprain the muscles mentioned, and the bones of the joint, being practically held in position by muscles, will, when these muscles have wasted away to a considerable extent, show the slippery action noted.

Symptoms.—Lameness in the early stages is not well marked; in fact, no lameness may be noticed. The earliest symptoms noticeable are heat and swelling of the muscles, which is soon followed by a wasting or shrinking of them. In many cases there being an absence of lameness, the swelling escapes notice. The shoulder blade or scapula is a flat, triangular bone placed upon the ribs and held in place by muscular attachment. On the outer side of the bone is a ridge of bone running from above downwards, almost the whole length of the bone. This ridge is called the spine of the scapula. It divides the scapula into two unequal parts, about one-third in front of and two-thirds behind it. This spine, while easily felt just underneath the skin, in the healthy animal, is not visible, as the muscles on each side are of sufficient size to make the surface practically smooth; but when the muscles become atrophied, it is quite visible as a ridge running from above downwards, with a more or less well-marked hollow on each side. The skin appears to the touch to be quite close to the bone, but there is an absence of heat or soreness to pressure. Inflammatory action has become allayed, and as a consequence swelling has subsided, and as a result of the inflammation, the muscles have become atrophied or lessened in bulk. When the muscles passing over the joint have been involved and have become atrophied, the slipping in and out of the joint during progression is quite noticeable, but in a large percentage of cases these muscles are not involved. Lameness is not pronounced except in cases where this slipping is present. Action is defective, but it is not probable that the patient suffers pain. The lessening of muscular fibre renders the patient unable to use the limb properly. The limb is brought forward with a rotary motion of the foot, and more or less difficulty is experienced in lifting the foot over obstacles. The animal stands sound, and except in the early stages there is no heat or tenderness to pressure. As the disease progresses, the peculiarity of action and the wasting of the muscles become more marked, and in advanced cases considerable trouble in progressing is sometimes noticed. Horses affected with sweeney in an ordinary degree progress with considerable ease on the level ground, but on soft or uneven ground the defect in action is usually well marked.

Treatment is slow. It requires several months to effect a cure in a well-marked case. Treatment must be directed to cause a reproduction of muscular tissue. The muscular elements are still there, but have become so reduced in size and strength that the muscles are unable to perform their functions. It is better to give the patient absolute rest; but, at all events, he must not be used on soft or uneven ground, and should not be asked to do heavy work on ground of any nature. While a little light work on hard, level ground may be given without danger of serious results, recovery will be quicker if he be given rest. In order to cause a reproduction of the muscular elements, it is necessary to set up, and keep up, a local irritation. Different methods are followed. Some recommend seatons, extending from the top to the bottom of the shrunken muscles both in front of and behind the scapular spine. Some recommend often repeated friction with the hand or a smooth stick. Some recommend the daily application of a strong stimulating liniment and some favor repeated blistering. Probably better results are obtained from blisters than from other modes of treatment. The ordinary paste blister, made of two drams each of biniodide of mercury and catharides, mixed with two ounces vaseline or lard gives good results. The hair should be clipped off the surface of the shrunken muscles with a slight addition all around of the sound muscles and the blister well rubbed in. The effect of a blister depends greatly upon the manner of application. In order to get well-marked results it must be well rubbed in with smart friction. The animal must now be tied so that he cannot reach the blistered surface with his mouth, else he will get his nose, lips and mouth blistered, and possibly tear the skin off the blistered parts. In 24 hours the blister should be again well rubbed in, and in 24 hours longer the parts should be well rubbed with sweet oil or fresh lard. He may now

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behind, while easily felt just underneath
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covering it are quite wasted away as a ridge running
along the bone, with a more or less well-marked
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into motion of the foot, and more or
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cure a well-marked case. Treatment must
be a reproduction of muscular tissue.
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weak and strength that the muscles are
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rest; but, at all events, he must
work on uneven ground, and should not
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to tear the skin off the blistered
muscle. The blister should be again well
kept for hours longer the parts should be
rubbed with oil or fresh lard. He may now

be turned loose into a box stall, and the parts oiled
every day until the scale comes off, when he should be
tied and the blister again applied as at first. After this
the parts should be blistered every 4 or 5 weeks, and
between the blisterings (after the scale is off) it is good
practice to use friction by hand-rubbing, or the occasional
application of a strong liniment. The length of time
required to effect a cure varies in different cases. Any
length of time, from three or four months to a year,
may be necessary, but treatment should be continued
until the muscles have regained their normal bulk and
tone.

WHIP.

LIVE STOCK.

The Angus Breed's Triumphs.

Editor THE FARMER'S ADVOCATE:
The results of the past season of fat stock shows
in Britain have again afforded striking proof of the
superiority of the Aberdeen-Angus breed, and crosses
of that breed, over all other breeds, as regards the
production of the best type of beef cattle. The success
with which the breed is employed for crossing purposes,
as witness the cross-bred classes at all the important
Fat Stock Shows, is leading to a more general use of
sires of this breed, for not only are cattle of Aberdeen-
Angus characteristics prime favorites for exhibition at
the Fat Stock Shows, but in the ordinary cattle markets
they proclaim their superiority by the enhanced prices
which they command as compared with other breeds.
Of recent years no breed has established such a
record at the leading Fat Stock Shows as has the Aber-
deen-Angus. Take Smithfield, for instance, than which
the world can afford no better test. During the past
twenty years the Aberdeen-Angus has won the cham-
pionship of that great Fat Stock Show as frequently as
all the other breeds of cattle combined. The details of
the show as regards the championship for the past
twenty years are:

| | No. of Championships |
|---------------------|-------------------------|
| Aberdeen-Angus..... | 10 |
| Shorthorn..... | 6 |
| Hereford..... | 2 |
| Cross-breeds..... | 2 |

This record is excellent by the breed's performances,
as judged by the even more critical test of the carcass
competition in connection with the London Smithfield
Club, where Aberdeen-Angus and crosses of the breed
have had a very large measure of success. Over a
period of fourteen years the results of the carcass com-
petition as affecting the different breeds for which
classes are provided at Smithfield Show are as follows:

| Breed | Champion. | Reserve Champion. |
|--|-----------|----------------------|
| Sussex..... | 0 | 1 |
| Aberdeen-Angus..... | 5 | 5 |
| Welsh..... | 1 | 1 |
| Highland..... | 0 | 1 |
| Aberdeen-Angus and Shorthorn Cross..... | 7 | 6 |
| Aberdeen-Angus and Dexter Cross | 1 | 0 |

Equally eloquent is the record of the Aberdeen-
Angus breed at the Scottish National Fat Stock Show,
as is shown by the roll of honor since the shows were
instituted nineteen years ago:

| | No. of Championships |
|---------------------------------------|-------------------------|
| Aberdeen-Angus..... | 9 |
| Aberdeen-Angus-Shorthorn Crosses..... | 9 |
| Shorthorn..... | 1 |

The shows during the 1915 season were again fewer
than usual. At Norwich a pure-bred Aberdeen-Angus
heifer won the female championship and also the cham-
pionship of the show, while a pure-bred steer of the
breed was reserve for the best steer. At Smithfield
Show an Aberdeen-Angus was reserve for the best
yearling steer, and a heifer won the cup as the best
heifer under two years of age, while another Aberdeen-
Angus won the prize as the best steer in the show. A
heifer won reserve for the female championship, and
the breed had also the reserve for the championship of
the show. In the carcass competition, the cham-
pionship was won by a pure-bred Aberdeen-Angus, while a
cross of the breed was reserve.

That the Aberdeen-Angus is the popular cross was
shown by the fact that of the fifty-four animals entered
in the various classes for cross-breeds, Aberdeen-Angus
lines of breeding appeared in forty-five cases, the next
in order being Shorthorns, which had been used in the
breeding of thirty-nine of the animals.

At Aberdeen the championship was won by an
Aberdeen-Angus yearling heifer, which had, a couple of
days before, won similar honors at Forres, and the
reserve champion was another yearling heifer, bred
three-parts to Aberdeen-Angus blood. The best steer
was a two-year-old blue-grey cross of the breed, and the
best butchers' animal was a yearling, also largely bred
to Aberdeen-Angus blood. Similarly, at the Scottish
National Show at Edinburgh, a two-year-old Aberdeen-
Angus heifer won the supreme championship of the
show, and a black polled cross of the breed was reserve.
The best animal under two years of age and the reserve
for that honor were both three-parts Aberdeen-Angus,
and the best steer in the show was a cross-bred by an
Aberdeen-Angus sire.

ALBION.

To Remove Afterbirth.

A subscriber writes that he has found the following
a good remedy for the removal of afterbirth in cows:

Ground anise seed, 2 ozs.; ground grains of para-
dise, 2 ozs.; sulphur, 4 ozs.; baking or stock molasses,
1 quart. Give as drench, with a little warm water to
thin a little. Repeat in 36 hours if necessary. He says
he has had cows retain afterbirth for several days, but
would always come right when properly cared for with
this treatment and be practically none the worse;
whereas, when removed by hand, they are often not
much better than half what they should have been
had things been normal. Have had in hard cases to
give as many as four doses, but will generally yield to
two doses.

Waterloo Co., Ont.

SUBSCRIBER.

NOTE.—We pass this on for what it is worth. Our
Veterinary Editor has no faith in it, and frankly admits
that the Veterinary profession has nothing to recommend
for removing the afterbirth excepting by hand. He says
the drugs named would have no effect upon the uterus.
—EDITOR.

Sulphur and Salt for Vermin.

A subscriber advises mixing equal parts of sulphur
and salt together and keeping it in a box where the
sheep have access to it at all times as a remedy for ticks
He says it will kill lice on cattle.

ANOTHER WRITES AS FOLLOWS:

In reading THE FARMER'S ADVOCATE of January
20th, I notice J. T. enquiring how to kill sheep ticks in
winter. I have had good success in mixing sulphur
and salt, say two-thirds salt and one-third sulphur,



Stout Hearts Will Win.

Canadian Farmer—"Good-bye, my boy. We'll do our best here while you
strike the freeman's blow."

and keeping it in the pen where they can have access
to it at all times. I might also say I tried sulphur
alone on a litter of pigs that were very bad with lice
this fall. I gave them two handfulls of sulphur in their
trough every other day before putting their regular
feed in, for about two weeks, and then we examined
them and could find no lice on them at all. I also put
a little every other day on the silage when I mix the
straw with it for the cattle.
Manitoulin District, Ont. ERNEST A. LETTS.

To the credit of our transportation companies and
to the vigilance of the British fleet, be it said, that at
time of writing Canadian soldiers, to the number of
121,993, have been transported overseas, and 225,000
have been carried by our railways with only one fatality
and that in the latter number.

THE FARM.

Another Objection to Higher Licenses.

Editor "The Farmer's Advocate":

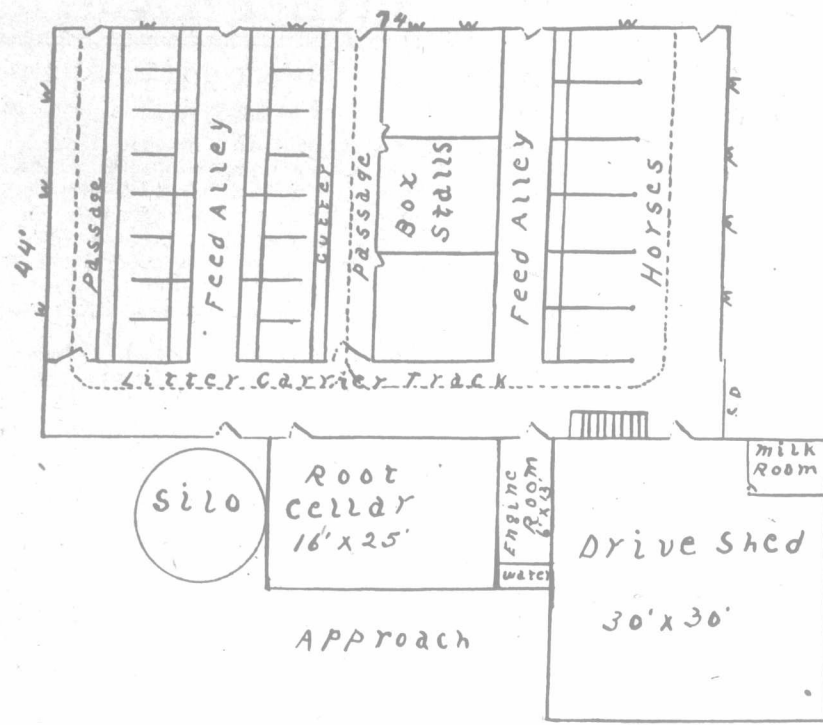
Permit me to voice my opinion of the prob-
able increase in automobile license fees. I
heartily agree with your correspondent in recent
issue of your most useful farm magazine. Who
is the farmer car owner or prospective owner in
the Dominion to-day who would not? Such an
absurd thing as to even propose an increase in
license fees is sufficient to put a keen edge on the
temper of the best-natured men. During the
past ten years automobile engineers and manu-
facturers have been hewing the motor car out of
the rough, designing and simplifying with in-
creasing efforts, till at last, first cost and up-
keep have so diminished that the average farmer
has come to the conclusion that the motor-car
is a good thing in which to invest a little
money. Now, since motor-car manufacturers
have met with such success that their product
has been brought within reach of the farmer, with
the result that 1915 was known as the farmer's
motor-car year, our government to all appear-
ances, sees fit to impose upon these well-deserved
rights and re-erect the barrier between the farmer
and the car, the barrier which the motor-car
manufacturer has been so successful in tearing
down, and ask him to pay steeply for the
privilege to make this addition to his farm equip-
ments; and also for the right to ride over roads
that by giving his own time, muscle and money,
have been put into such a condition that motor-
ing on them has been the hobby of city and
townsfolk for the last few years.

With the coming up of the self-binder the old
cradle and reapers were
laid away, so with the
coming of the motor-
car, the drivers, buggies,
and harness have been
laid aside. How many
farmers to-day would be
willing to pay ten dol-
lars for the privilege of
operating a six-foot
binder in order to save
their crops? With a
break in the hay or
harvest, or in fact any
time of the year, must
he pay for the privilege
of running to town for
repairs while the work
stands under the threat-
ening weather? Must
he pay for the privilege
of taking his produce to
market? If so, then
he would not be sur-
prised if stock and pro-
duce dealers taxed him
for the honor of being
offered market price for
his produce.

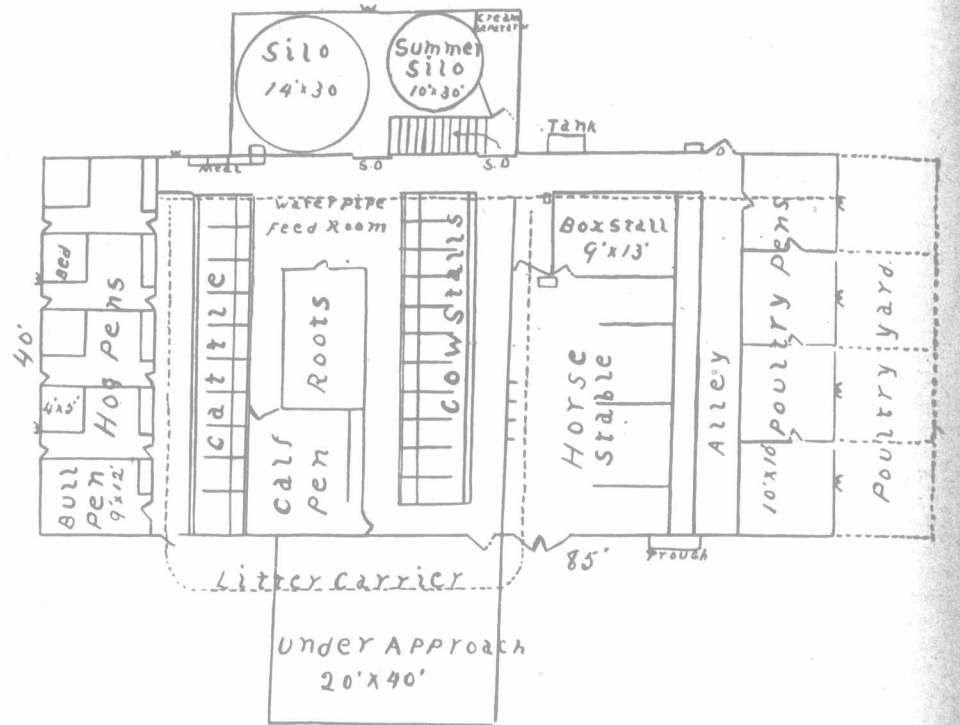
Now here can the
automobile be used to
better profit and ad-
vantage than on the
farm. No farm equip-
ment is complete with-
out the car. In it,
pleasure and profit are
combined. Almost every
car purchased by a farm-
er is purchased to take
the place of some old
equipment. He has not
time to utilize his car
as a source of pleasure,
and must pay an un-
usual fee in order to
employ improved
methods with regard to
carrying on the farm
work, and even to take
the family to church on
Sunday mornings.

It is an established fact that the majority of
city and townsfolk who operate cars outside the
city and town limits are mere pleasure seekers.
Their business does not demand that they should
ramble aimlessly about the country, and what is
more exasperating, they always choose a dry, hot
day when their speeding will do the highways
most damage, and subject the farmers along the
roadside to a first-class dust bath. Must the man
toiling in the hay field foot the same bill as
these pleasure seekers, while his car sits in the
drive shed instead of being raced along the road,
sucking the life-blood out of his statute labor and
laying it waste over the fields, choking and
blighting his crops?

Higher license fees would place in the way an
obstacle which thousands of farmers would not
feel able to surmount. Now is the time to pro-
test and object in earnest to such a ridiculous
scheme. If we must be placed on an even basis



Plan No. 1—A Wentworth County Barn.



Plan No. 2—A Glengarry County Barn.

with the city pleasure seekers or those of smaller towns who can stand and should be subjected to the proposed increase, it is high time they were introduced to the round-mouthed shovel.
Bruce Co., Ont. W. E. JACKSON.

in the alley, as shown, across this alley. Fresh air is admitted through the ventilators marked V on the plan. Large ventilating pipes extend from within three feet of the floor of the stable through the roof. These have side doors opening into the barn, through which bedding comes down behind the cattle. This barn is worthy of N.

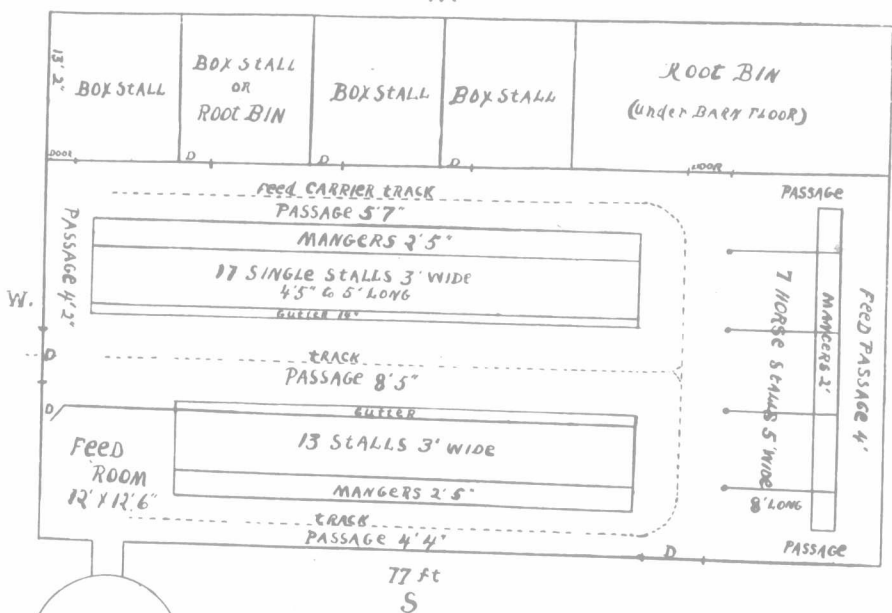
plenty of box-stall room for the average barn, and the cattle stalls permit of tying up thirty head of cattle. The feed room and silo are not very convenient to the root bins, but on the whole Mr. McBain has found this a satisfactory plan for his remodelled barn, 48 by 77 feet.

A Few Good Barn Plans.

In this issue we are publishing four barn plans, the details in regard to which are fairly well indicated on the plans themselves.

Plan No. 1 shows a Wentworth County barn, owned by Silas Echlin. This barn is a well-equipped structure, 44 by 74 feet in the main, with a root cellar under the barn approach, and a drive shed conveniently situated, with a milk-room in one corner, away from the stable but yet handy to it. Next to the root cellar, and under the barn approach, is an engine room 6 feet by 18 feet with a water tank at one end. Dimensions are placed on the plan, and from it readers may be able to get some ideas for improving their old buildings or for planning new.

Plan No. 2 shows a very complete barn indeed. It is one submitted to this office a year ago and our subscriber neglected to put his name on it, but we thought it worth using along with the others. The barn is a Glengarry county structure, and some of the particular features to notice are that the litter carrier track passes through a manure cellar under the barn approach. The owner dumps the manure from the carrier directly into the wagon or sleigh, and it is drawn to the field immediately. A root bin is shown under the barn floor, where the roots may be dumped through a trap-door. During the summer the boards from this are taken down, leaving a place for green crops to be stored before feeding. It will be noticed also that two silos are provided, one for summer use and the larger one for winter. The cattle are watered in the stable, but are let out for exercise on favorable days. A tap is provided to shut off the water in the tank, so that cold water may be pumped directly to the tank for milk cans, situated as shown on the plan, just to the right of the silo enclosure. A movable pipe carries the water from the pump situated



Plan No. 3—A Remodelled Barn.

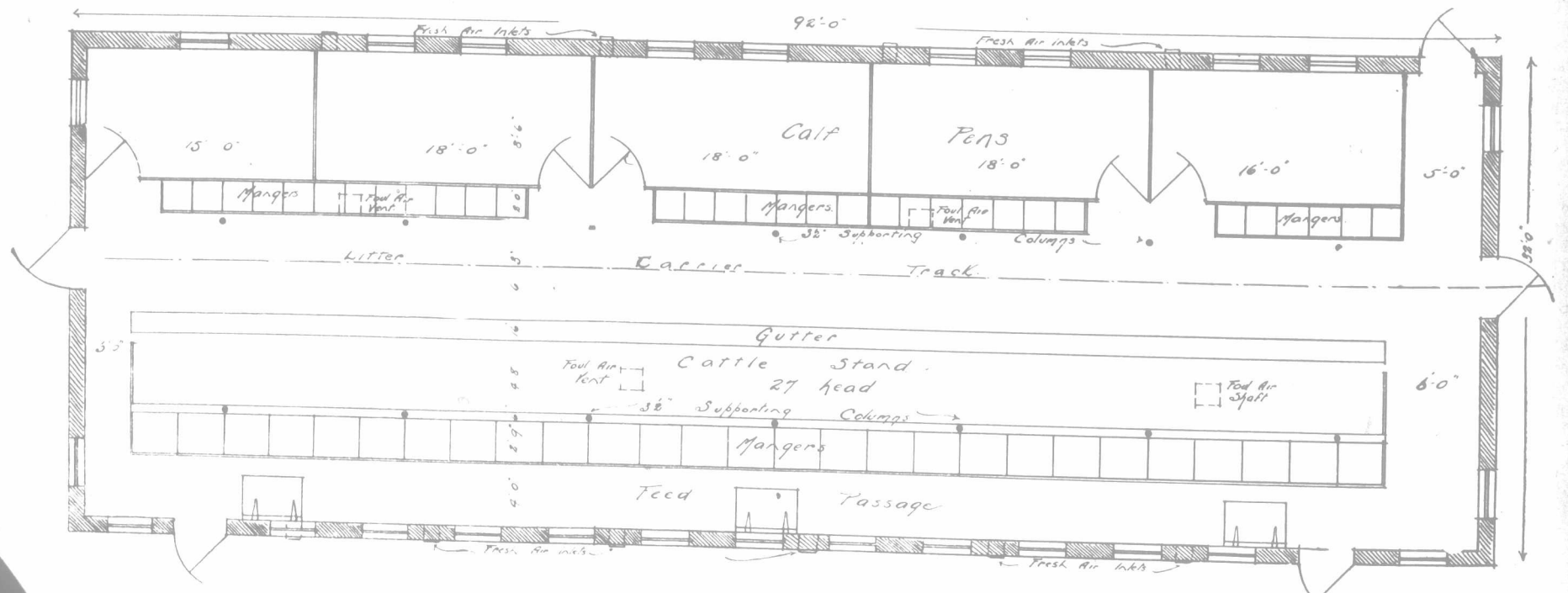
some study, and we hope readers will be able to get some good ideas from it.

Plan No. 3 is of a barn owned by J. W. McBain, of Glengarry County, Ontario, and shows what may be accomplished in the making over of an old barn. The root bins, as shown on the plan, are directly underneath the drive floors of the barn, so that the roots may be dumped from a dump box into these. There is

baby beef in the stanchions the next year. The barn has plenty of light, and the King system of ventilation, which was described in a recent issue of this paper, is used throughout.

We hope these plans will be of some use to our readers in their work in connection with planning the lay-out of their farm stables. Any reader who has a particularly good plan of house or barn is invited to send it to us for publication.

Plan No. 4 shows a very large and well-laid-out barn on the farm of Morris Scovil & Son, Queen's county, New Brunswick. This is a very complete plan, and should interest some of our readers who require a large barn. The barn is equipped with stanchions, manure carriers, etc. It is on a concrete foundation, as shown in the photograph, and the stables hold 27 head of cattle in the stanchions, with a large number of box stalls for calves. A big root cellar is provided. The barn is used particularly for fattening cattle, the calves being raised in the box stalls, and fed off as



Plan No. 4—Morris Scovil's Barn.

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What About the Future of the Winter Fair?

Editor "The Farmer's Advocate":

The crowded condition of the last Winter Fair held at Guelph, Ont., was proof positive that it is scarcely possible to expand it any further under the present conditions. Indeed, the exhibit that was enclosed in the buildings at that show would have made a much grander sight if it could have been spread out, saying nothing of the great numbers of horses that were stabled around the city. No doubt something should be done, and that very soon, to accommodate the growing needs of this great educator. Some, no doubt, will say, wait until the war is over and business becomes normal again. I am not so sure that we can afford to relax our energies even that long in a business that plays such an important part in the feeding of the millions, and in meeting the war debt of our land. Possibly property can still be procured for increasing the stable accommodation, but if that were done would things be satisfactory? I submit that they would not. The present arena and seating capacity is far from satisfactory now. What would it be when the Fair expands one-half more, which it will do in a very few years if it is not retarded, judging from the way it has grown in past years.

I think that the Provincial Department of Agriculture has this problem to meet, in the best interests of the Province, and I believe the sooner the better; and I further believe that almost everyone who has the best interests of the educative value of this show at heart, believes it should remain closely allied with the Ontario Agricultural College. My proposition would be, to make the best possible arrangement with the city of Guelph, re the old building, and then erect a building worthy of the industries that it represents, on the College farm, viz., on the northeast corner of the dairy farm, being the nearest point to the city. The very first saving would be many thousands of dollars that a suitable site elsewhere would cost, and ground would always be available for extensions, as the expansion of the show demanded. This building could possibly be made a source of revenue in connection with the College if taken in time. It seems to me that the first thought that strikes people who have attended shows at Guelph in the past, is that the College site would be too far from Railways, Hotels, etc. To such I would say we must make up our minds that we must leave the present site very soon, because it cannot be made adequate. Where is there another site more convenient? Where can one be supplied more cheaply, within 20 minutes walk of Hotels and Railways? The only other place that seems anxious to secure the show is Toronto, where either site, viz., Queen's Park or the Union Stock Yards, is 30 minutes or more car ride from hotel accommodation. The present car lines to the College could be arranged to handle all freight as well as visitors, and if this matter were taken hold of soon, perhaps the proposed Hydro Radial could be arranged to land both passengers and freight right on the spot. Middlesex Co., Ont. R. H. HARDING.

Adds Plenty of Water to Dry Corn.

Editor "The Farmer's Advocate":

I thought perhaps the results of our experience in putting corn into silos, under different conditions, might be of interest to some of your readers. We have a large-size silage cutter for our own use in partnership with one of our neighbors, and we filled eight silos besides our own two, and the condition in which the corn was put through the machine varied greatly, but the conditions which we have in mind as widely different, are as follows: The corn for one silo was cut before it was frosted, while it was quite green. The corn for our own silo was slightly frosted, and was advanced to mature stage; in fact, we saved something like three hundred ears for seed, which has been tested and found to show a splendid germinating percentage. In our own case about one-quarter of our corn was stood up in a long stook near the barn, after having filled the silo, and left standing there until two weeks ago, when it was put into the silo one fine day, filling the upper 16 feet. Two other silos were not filled, nor was the corn cut until it was quite badly frosted and was allowed to get quite dry. These two silos were filled with this dry corn about the middle of October, and in filling them the silo owners used some water. They allowed some water to run into the machine and was blown up with the corn, and just here is where we think we learned something. In both cases they allowed about a quarter inch stream to run in with the corn, and before we filled our silo, a couple of weeks ago, we found out that in neither case was there enough water put with the corn, as it came out very moldy and too dry to make good silage. When we started filling our own silo the last time, our corn was just as dry as that of either of these others. We filled our water tank and

set it on the barn floor so as to get the elevation, and attached a garden hose with a tap on the end, and while the machine was running we put a full half inch stream into the machine and blew it up with the corn. As a result our silage is coming out in grand condition. After filling the second time we did not stop feeding at all. Of course, for a few days, while the silage was making, it was very warm and a little mouldy, but not a dry mould like the others, and the cattle have eaten all of what was given them without any ill results so far; and now the silage is fine, and if we were putting corn that was the least bit dry into a silo again we would put plenty of water with it. We see no difference in the silage made from dry corn well matured and corn freshly cut and put into the silo before being dried out. The quality of the silage in both cases seems to be about the same.

We are awaiting with a good deal of interest the results of the experiments carried on at Weldwood, regarding the sowing of corn in rows as against planting in hills. Our idea that we have taken so far from your experiment is that we should sow corn that will mature, and sow it thickly in rows so as to get the tonnage, and sow it early so that it will mature, and even though it does not have the ears it will have the same feeding value in a more digestible form than if the ears were in evidence. Is this right? Northumberland Co., Ont. B. ARMSTRONG.

[Note.—We would draw our correspondent's attention to articles in our issue of Jan. 27, in which we attempt to further explain thick-sown corn. By all means plant early-maturing varieties if trying this experiment. We do not claim that the thick-sown is more digestible than the hill-planted, although it may be. Our analysis showed it to be nearly equal to hill-planted in feeding value. But the thick sown last year yielded almost double the weight per acre.—Editor.]



A Big Barn.

Barn of Morris Scovil, shown in plan 4, this issue.

How Was It Done?

Editor "The Farmer's Advocate":

I noticed in a recent issue of your paper that the winner in the seed corn competition that got the Free Course at Guelph, grew 154 bushels of shelled corn to the acre. At same percentage that other competitors who also went to Guelph figured their amount of shelled corn, this young man had 221 bushels of ears, which would mean a large ear of corn on each of four stalks in every hill on the acre. We, who have grown corn in a corn belt, know that it is impossible to be free from a large percentage of barren stalks, and Government experiments show that four, or fewer, stalks will give the larger yield of ears. It looks to me as if some mistake has been made in this case. I would think that good judgment should teach editors and Government officials that a case of this kind should demand their attention. I also notice that he has grown this enormous crop with a cost of \$12.32. I may not be familiar with all rules governing this competition, but understand that \$5.00 an acre shall be paid as rent, and 15 cents an hour for man labor, and 10 cents an hour for horse labor. Allowing \$1.75 for plowing an acre, and \$1.75 for fitting it for planting, and 82 cents for planting, leaves \$3.00 for cultivation. This, if correct, is a very large crop to grow without manure or fertilizers. If this corn is to be cut it could not be cut for less than \$2.00, and if it is to be husked and cribbed it could not be done for the whole amount, \$12.32. I have heard several speak of this report in your paper. Perhaps you could give your readers a little more information in regard to this acre of corn. Essex Co., Ont. CECIL STOBBS.

[Note.—We can give no further information on the acre-profit competition. We published results as sent us by those in charge of the competition, and are not responsible for them. Corn was not the only crop which seemed to give phenomenal returns. Other crops, as oats and mangels, gave very high returns, according to the report. We are glad practical farmers are questioning these, for it seems that either the average practical farmer is a poor success or there is something

left out in some of the figuring. We published the results as a matter of agricultural news as sent out by the Department. If there is any explanation required those in charge of the experiments are invited to make it through these columns.—Editor.]

Never Buy Till Needed.

Editor "The Farmer's Advocate":

I take much pleasure from reading the "Editorial" pages of your valuable paper, finding many instructive and timely hints therein, but I take exception to the motto as emphasized by the practical farmer at the Experimental Union, viz., "Never buy anything till you need it."

Now, for instance, let us take our clover and grass seeds, our seed grain and our seed corn. Must we wait till we need these? If so how can we test our clovers for purity and germination? And we may as well say the same regarding the grain and corn. If we wait till we need these the rush and hustle at seeding time will turn our minds from these all important acts, and the results will probably not be nearly so satisfactory as though the buying had been done at a less busy time. Also, time will not permit of our buying the most economical way, the price will probably be higher, and we run a much poorer chance of getting what we want. The writer makes a practice of having on hand several months before seeding, all the seed required. If in doubt as to any seed we take advantage of the free service offered from the Seed Laboratory, Ottawa, and have some tested for purity or germination, or both, and such a habit formed will seldom be regretted.

Probably what this practical farmer had in mind when he made this broad statement was in regard to buying farm machinery. May I offer a bit of advice regarding this? Never buy a piece of farm machinery from an agent traveling through the country. When that individual calls let him leave you literature regarding same, prices, terms, etc. If you think you need it, then at your leisure you can look over his pamphlets, compare his machine, prices, etc., with other standard makes, and then buy what you (not any agent) considers best value. Ontario Co., Ont. H. W.

A Letter from the Trenches.

"Farmer's Advocate" readers will be interested in the following letter, written by Captain C. F. McEwen, son of Lieut.-Col. Robert McEwen, a prominent live-stock breeder of Middlesex Co., Ont. Captain McEwen is at the front with a cavalry division, and his cleverly-worded rallery at two Canadian papers, one of them "The Farmer's Advocate," shows the spirit of the Canadian lads on the firing line. The same jocular spirit was shown throughout the entire letter. We can imagine we see the boys eagerly grabbing papers from home. The letter was written to Captain McEwen's sister, and after acknowledging the receipt of the two papers mentioned, and besides references to personal matters, and to Captain McEwen's brother, Allan, who is a Major in the 10th Field Battery, also at the front, it reads:

"It was interesting to get a Farmer's Advocate again and note that the Advertisement is still running a full inch, having been promoted from among the sheep ads. to those of cattle. By the time this war is over, and business really starts again, Dad will have everyone who reads "The Farmer's Advocate," persuaded that small, early-maturing sheep are the only kind to make money out of, and after that just suggesting South-downs will solve the problem.

"It is so refreshing to again see the dry humor of the Editorial columns of Canada's leading agricultural journal, I never thought them so humorous before. About December, along would come all kinds of advice about getting ready for Christmas and the winter. During January you keep your stables ventilated and keep putting in more windows, also get up a little firewood for the good wife. In February you start an elaborate book-keeping system, which you let drop about April, attend live-stock courses, and keep poking more light in the barn. During March you always have your memory jogged to get out the harrows, and send them down to the blacksmith to be sharpened; and, you should be collecting a pile of old bricks to rub the dust of the mould board of the plough. You should now start to cut down the heavy winter's reading, and try pitching manure to harden yourself for the spring's work. Also rub a little salt and water on your shoulders to toughen the skin and prevent collar boils in the warm, spring weather. If you find this a success, try a little on your horses. Try and get a little more sunshine in the stables. It is a great help in keeping the old blue-grey in good humor. The windows you placed on the north side of the barn earlier in the winter, when you had forgotten about the sun, you can move around to the south. At Weldwood we found that washing the windows made them cleaner, but as one experiment is

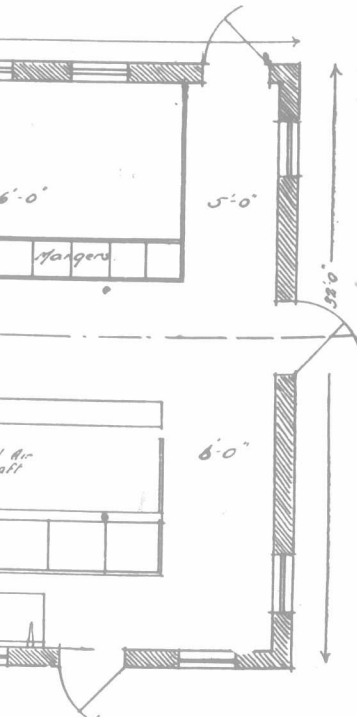


County Barn.

all room for the average barn, stalls permit of tying up thirty cattle. The feed room and convenient to the root bins, but McBain has found this a satisfactory remodelled barn, 48 by 77

Plan No. 4 shows a very large and well-laid-out barn on the farm of Morris Scovil & Son, Queen's County, New Brunswick. This is a very complete plan, and should interest some of our readers who require a large barn. The barn is equipped with stanchions, manure carriers, etc. It is on a concrete foundation, as shown in the photograph, and the stables hold 27 head of cattle in the stanchions, with a large number of box stalls for calves. A big root cellar is provided. The barn is used particularly for fattening cattle, the calves being raised in the box stalls, and fed off as the stanchions the next day. The barn has plenty of light, and a system of ventilation, which was described in an issue of this paper, is used

plans will be of some use to our work in connection with plans of their farm stables. Any particularly good plan of house to send it to us for publica-



hardly a safe guide we would not advise it until we have had the experience of more of our readers. The little quotations I have made will show you the information I got out of the first column of the paper, so you will know I have expanded mentally after going through the whole affair. I can remember when I used to read all that good advice and vow that I would start right in to improve conditions. I even once read half way through the reports of Farmers' Institutes for the Province of Ontario! Do you remember along about June when some of us would scour the country at night to get a skeleton squadron to go to camp, how sweet-tempered some of our dear 'Advocate's' articles made me. Some poor hired man who had enjoyed his two weeks at camp would be induced to write about it. Some sharp-tongued female peace-advocate would be turned loose on the soldier in the next issue, and anyone who was not convinced that eternal peace was assured after she got through, certainly took a very small view of the matter. Of course, anyone can tell from the patriotic tone of the editorials in our paper now that the editors, at least, were of a most war-like nature, but those articles had to be published to show the dangerous lethargy into which the country was falling.

"And then I have ahead of me a full evening's entertainment in the good old Family Herald. No matter what course in life you take you will find something to interest you in this weekly edition. If there is not a department in the paper just along your line, you can always read someone else's and find it sufficiently interesting. No strong views of any kind are forced on you. You are provided with amusement and entertainment of a kind that you can recommend to your wife's relations.

"Take the 'Practical Agriculturist' portion, with which we are both, of course, most familiar. You get a nice range of topics: artificial fertilizer, growing turnip seed, leaf hoppers (and why they do it) and the Alkali lands of the West. None of these are gone into too deeply, and it just suits the farmer who knows that he runs into trouble if he goes into the whys and wherefores of the case. The city man reads the article and grasps the whole thing; it tickles him to know that without any actual experience he has as good a grasp of the science of agriculture as have most farmers. In this issue, as is the rule, there is a very plausible article on 'Swiss Farming Methods.' It ends this way, 'Swiss thrift, if once established in Canada and the United States, would revolutionize agriculture.' Now, anybody knows that the only things that are really farmed in that bunch of crags are tourists. Anyone who can live on a farm that you have to tie yourself to, to keep from sliding off, has to be thrifty to make a living. I will admit that they must know how to breed goats in that country, and they must be whales to milk. I think climbing around the mountains possibly hardens them down until they give condensed milk that is easily shipped, because Swiss milk chocolate is made everywhere.

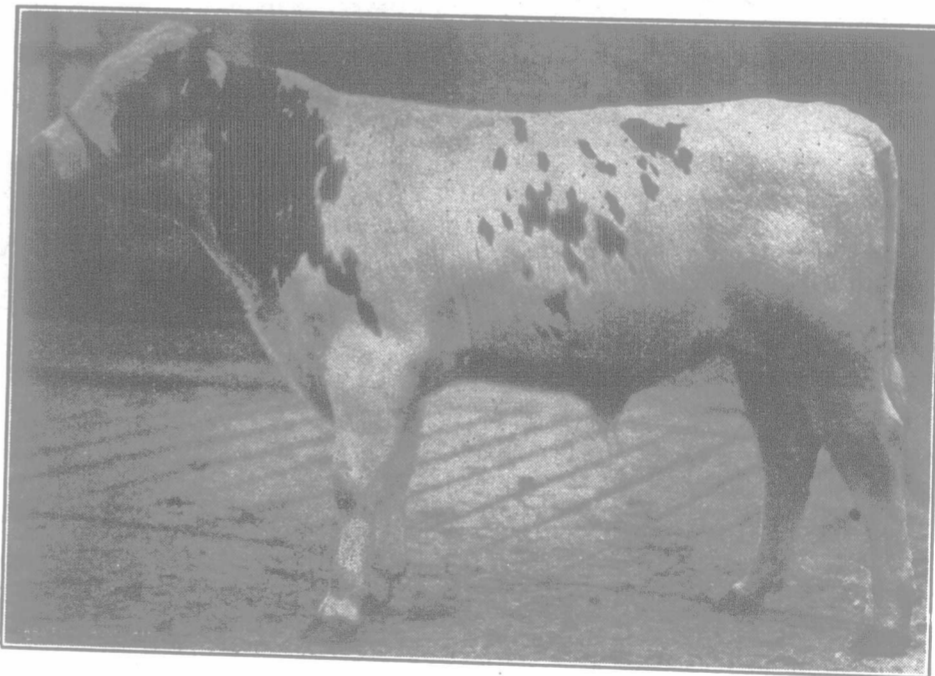
"What interests me is to know how many Canadian farmers want to be thrifty like Swiss or German or Belgian farmers. The next time some well-paid official makes such a hit with the government, that they send him over to study conditions, and he comes back and says he is thrifty like a Belgian, he is going to lose one of his most interested listeners. Why not be strong like a horse, contented like a cow, and have a healthy appetite like a pig. Don't you ever let anyone tell you that the European farmer is of a higher grade of intelligence than is the Canadian, because they infer, when they say that, that they are better farmers. With the present amount of brains Canadians put in their work when Ontario is as thickly populated as this part of Europe, it will be better cultivated. But when they have been at it as long they will likely get into ruts and make class distinctions, the same as has been done over here. This brings up every man to his job, and enables a man to do his work and use a minimum amount of brains.

"I will be 'busted' if I know why I started to favor you with a light criticism of two of our leading papers. I had a whole lot of things about Christmas that I wanted to tell you in the worst way. I think a fellow gets in a rather critical mood over here sometimes, and is usually waiting for a chance to show what a capable man he would make at someone else's job. He even forgets sometimes that there is not such a wide difference between a critic and a knocker, and that very few of us would qualify for the former.

"I have had a nice, quiet morning bringing home a few heavy-draft remounts. While I was back at the station I incidentally looked up some horses we had that have been attached to the flying corps for the use of the officers. I found one with a beautiful girth gall, and all looking a little tough. Our men there complain that when one of those fellows gets on a horse he immediately thinks he has his hands on the levers again, and when the horse comes in it looks

very much as though it has been playing aeroplane, or at least the engine part of it. I went over to the flying sheds and gently remonstrated with the young officer who had charge of the horse end of the corps, and think conditions will improve. The young chap really meant to do the best he could but he had been in the artillery once, and had the idea that he must be very horse wise.

"There was mighty little truce proclaimed this Christmas in no man's land, and Mr. Bosch may not expect many more until this war is finished. The O. C. being away in England for eight days' leave, has, of course, loaded me down with responsibility. I am able to eat a little bit of soft food, but I do not sleep hardly at all at nights, except from nine until six. Christmas was a particularly busy day. Our men had five different dinners at various places during the afternoon and evening, and I had the painful duty of going around to see that everyone was in good humor. I started at one o'clock in the afternoon, and wound up at this billet at ten at night. I was unfortunate enough at two places to get there in time to see the eats still going, and had to help out. I can quite understand now what started the rumor that those ships coming across the Channel loaded with Christmas pudding had gone down. Anyway, we had some day; the dinners were in huts, lofts of cow stables, and kitchens of billets, but they tasted equally good everywhere, and there was plenty to eat. I managed to dig up some toys in a town near here, and gave them to the little refugee mother here for her three children. They were of a variety that would amuse a Canadian kid for about half an hour, but these youngsters thought they were wonderful. Christmas morning these little kids came in and each presented me with a little sprig of holly tied up in a piece of ribbon. Where they got the ribbon I cannot guess, and the smallest kid could hardly toddle, but he got there with his presentation just the same.



Plus Inka Artis.

First-prize senior Holstein bull calf, and champion at the Guelph Winter Fair, 1915, for S. Lemon & Sons, Lynden, Ont.

"Contrast this with the old woman here in the billet whom I tried to sweeten up with a cake and a bottle of champagne. I thought at least she would distribute the cake and uncork the bottle for the family at Christmas, but no, she races it in and sticks it under the bed, where she can keep it, I suppose, as an iron ration. She may have had her reasons, of course, for not eating the cake, but I am not saying whose it was, and, anyway, it did not look to me as though it required so much nerve to tackle it. This, however, is just one of the many little habits one would acquire in being thrifty like a Belgian. Conservation is one of the first principles."

Small Silos.

Editor "The Farmer's Advocate":
"In looking over last week's issue of your paper I noticed an enquiry about small silos, and noticed that you do not advise making one less than eight feet in diameter. Perhaps you are right, but it reminded me that about a year ago I read a report in a Montreal paper, given by a party who claimed to have a silo forty-four (44) inches in diameter, which was keeping silage perfectly. It do not remember whether or not he said how it was built. I am writing about it. Am interested in the subject myself, as I am thinking of a small silo to supplement the grass for ten cows."

Our subscriber could do with a silo eight or ten feet in diameter for the ten cows. We would not advise one so small as four feet or less.

THE DAIRY.

Cream Substitute for Feeding Calves.

Whole milk is a balanced ration in itself for all young animals, consequently when a calf is weaned from whole milk and left to subsist on skim-milk, the ration becomes one-sided. In order to have the young animal grow as rapidly as possible, some feed should be substituted for the fat taken from the whole milk. Clover or alfalfa hay makes splendid roughage, and should be supplied the calf as soon as it will commence eating. These feeds are rich in protein, which go to build up the animal body, but they do not tend to balance the ration when skim-milk is fed. Oats form almost a balanced ration, and are considered an excellent feed for any young animal. When it comes to supplying the fat removed from whole milk, a mixture of four pounds rolled oats and corn meal, in equal proportion to one pound of ground flaxseed has given splendid results. With careful attention as to housing, and feeding skim-milk at the proper temperature, in clean utensils, along with the feeds mentioned, calves have been raised more economically and almost as well as when receiving whole milk.

Summer Care of a Winning Herd.

In an endeavor to encourage patrons of cheese factories and creameries, to feed and care for their cows, so that they will produce the maximum amount of milk, the Western Ontario Dairymen's Association offers prizes each year to the patrons who furnish the largest amount of milk per cow to any cheese factory in Western Ontario, from the first of May to the thirty-first of October. In the case of the creamery the amount of butter-fat per cow is considered rather than the amount of milk.

In 1915 J. S. Burton & Son, of Sparta, were successful in winning first place with their herd of 18 grade Shorthorn and Holstein cows. They were able to produce all the roughage and the bulk of the concentrates fed on their 190-acre farm. During the six months, the entire herd averaged 7,175 lbs. of milk per cow. This is an exceptionally good yield, and goes to show that grade cows, as well as pure-breds, can be bred and fed to produce large quantities of milk. This firm's method of feeding and breeding, may not be according to what some dairymen believe to be correct, but it has given

them results.

Only high-producing cows are kept on this farm; a careful weeding out of unprofitable animals takes place each year, and their places are filled with producers. Mr. Burton & Son do not raise any calves, but depend on buying cows to keep their stables filled. As they seldom have to pay more than ninety dollars for a cow, it is considered cheaper to buy mature cows than raise them. The aim is to have the cows freshen in the spring. A bran mash is usually given for a few days after freshening to bring them to their milk. Bran and corn chop with sugar beets, and all the roughage the cows will eat make up the ration. The cows are always kept in the stable until about the twenty-fourth of May, in order to give the pasture a start so it will last through the season. For the first week or two on pasture the cows are fed grain, but once they get accustomed to grass the grain feed is discontinued until about the middle of July or first of August, when two quarts of bran is fed each cow twice a day. About the first of October oat chop is added to the bran, and three quarts fed is fed during the summer, but an endeavor is made to move the cows from one field to another every few days. This method keeps the pasture fresher than where cows are kept in one field for a considerable length of time. The aim is to have the cows dry up about the first of the year, and give them six weeks or two months usually give a good account of themselves during the cheese-factory season.

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POULTRY.

Incubation and Brooding.

By F. N. Marcellus.

Poultry-raising is old as an art but new as a science, and it is a well-established fact that of the various branches of the work the production of eggs is the most important and also the most profitable. The productive capacity of a hen depends somewhat upon the age of the bird, as the older the bird the less productive she becomes. It is now conclusively proven that on the average the most productive period in a hen's life is during her pullet, or first year of laying. Hence, the necessity of hatching and rearing a sufficient number of pullets each year to replace a part of the old stock, and the more the better. It is not advisable to keep laying hens longer than two years, and one is better, with the possible exception of Leghorns, or breeds of similar type and characteristics.

WHEN TO HATCH.

The time at which the hatching of chickens should be done in the spring, is a debatable point. With the majority of breeders it is felt that too early hatching in the spring will result in a more or less serious moult of the pullets in the fall or early winter. This is, no doubt, a serious point. In comparing the production of birds hatched at different dates at the Poultry Department of the Ontario Agricultural College for the past three years, taking into consideration the total eggs laid up to a certain date in the winter, it was found that in practically every case the birds which were hatched earliest in the season obtained a lead which was not overtaken by later-hatched pullets. Comparing the average production up to the end of the year two lots of pullets hatched last spring, one on the 8th of March and the other on the 7th of April, we found there was a difference of sixteen eggs per bird, which on a flock of one hundred birds would mean sixteen hundred eggs. This, at the prices prevailing during the past fall, would make the earlier date of hatching worthy of serious consideration, irrespective of the possibility of a slight moult in the fall. It would certainly appear as if the hatching of such breeds as Plymouth Rocks, Wyandottes, Rhode Island Reds and birds of similar body weight might be profitably carried on as early as the 1st of March while with the light-weight breeds, such as Leghorns, the first half of April will be found sufficiently early.

SELECTION OF STOCK AND EGGS.

In order that our hatching and rearing results may be satisfactory it is necessary that we give some attention to the selection and care of the parent stock. Select those birds which are especially strong and vigorous. Where egg-production is the object sought after pay particular attention to the laying qualities of the females, but more particularly the laying qualities of the parentage of the male. The breeding stock should be compelled to exercise freely, both during the breeding season and the winter months previous, receiving an abundant supply of green feed, but must not be fed heavily on mangels and wet mash.

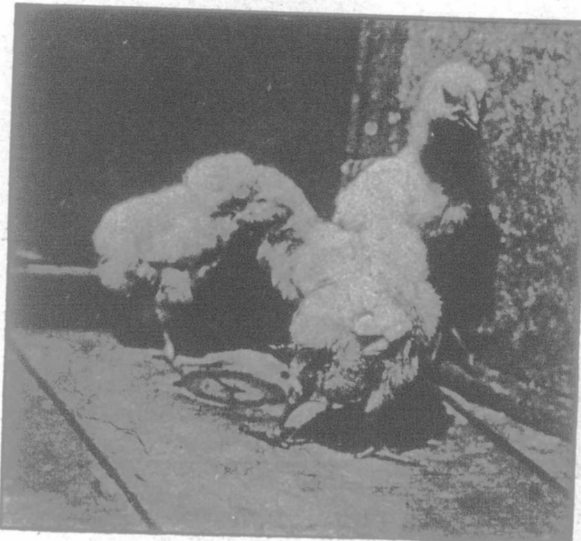
The eggs which are used for hatching purposes should be normal in shape, of good color for the breed of birds kept, and weigh at least twenty-four ounces per dozen or two ounces per egg. During the period before setting, the eggs should be kept in a room where the temperature does not fluctuate more than a few degrees, storing eggs small end down and turning daily, but it must always be remembered that the sooner eggs are set after being laid, after the first two or three days, the better will be hatching results secured.

HOW TO HATCH.

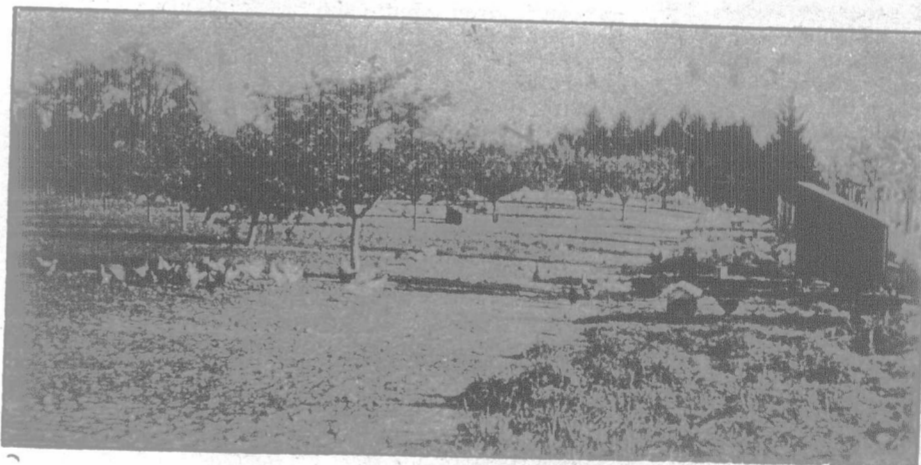
Two common methods of hatching are in general use to-day, i. e., natural and artificial. Both methods have their commendable features, and also their faults. Where one desires to hatch chickens early in the spring, or where keeping the non-setting varieties, or desire to hatch several hundreds or thousands, then the artificial method becomes a necessity. As to the labor and cost apart from the initial cost of the incubator, which amounts to from twelve to seventeen cents per egg capacity, the cost of the two methods does not differ greatly. The fuel cost of incubating one hundred eggs with kerosene at twenty-five cents per gallon is, approximately, forty cents. To incubate the same number of eggs by natural means will require six or seven hens. The cost of feeding six hens for three weeks, based on arbitrary figures of ten cents per month, which is low, is forty-five cents. The labor of caring for one hundred eggs in an incubator is considerably less than that of caring for the required number of hens. There is also the question of the freedom from vermin in the case of the incubator-hatched chickens which is important.

In the selection of hens for hatching purposes, those which are quiet, easy to handle and of the medium-weight breeds, are to be preferred. The light-weight breeds are unreliable, and the heavy breeds are too clumsy and likely to break the eggs.

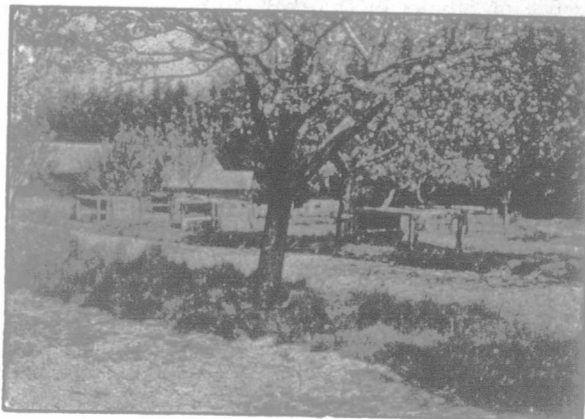
The nest for a hatching hen should be about sixteen inches square and eight inches deep, and so located that the other birds will not be able to get on the nest. It is never advisable to set birds in the pen with the laying hens. The nest should either be placed on the ground or a piece of sod the size of the nest inverted in the bottom, slightly hollowed out and the nesting material, preferably oat straw or chaff, placed on the sod. During the early part of the season eleven to thirteen eggs may be placed under the hen, while in the latter part of the season, when the weather becomes warmer, fifteen to eighteen may be given to each hen, depending somewhat on the size of the bird.



Strong and Weakly Chicks.



Chicks in Colony Houses.



Raising Chickens in an Orchard.

One of the greatest objections to hatching with hens is the difficulty encountered with vermin from the hens getting on the young chicks. It is, therefore, necessary to treat the hen for body lice by dusting with insect powder. This powder may be made at home by mixing together one part carbolic acid (90% to 95% pure) with four parts of gasoline, and when thoroughly mixed adding sufficient plaster of Paris to take up the moisture. Allow this to stand for a short time until the gasoline evaporates, when it can be readily dusted into the birds. Apply this material around the vent and under the wings just before setting the hen, and again on the sixteenth day of the hatching period, but not later as it may cause blindness in the young chicks. Supply the hen with plenty of fresh drinking water, a dust bath and whole grain, but under no condition give feed which might have a loosening or laxative effect on the bowels. Should the nests become fouled they should be

cleaned, but the eggs should not be washed if it can possibly be avoided.

It would not be possible nor advisable to go into the details of the operation of an incubator, for the reason that different makes of machines are differently operated. All makes of machines are first operated and tested out by experts before being placed on the market, and the instructions which are sent out with each machine will be found the best guide for operating that particular machine. The machine should be operated for several days by a beginner before putting the eggs in place. After the third day from putting eggs in they should be turned or shined twice every day, but when filling and trimming lamp the eggs should be turned first so as to be certain that no oil comes in contact with them. On the ninth day the first test is made, when the infertilities and dead germs, are removed. The latter are distinguishable as small, dark spots from which the blood lines have disappeared, and also by a circular red line which is also termed a blood-ring. A second test may be made about the sixteenth day, and the balance of the dead germs removed. On the eighteenth day the eggs are turned for the last time, and the machine should then be closed and left closed until the hatch is over. If the chicks start panting the ventilators or door of the machine should be opened sufficiently to supply air.

HOW TO BROOD.

Artificial and natural methods of brooding are both used as in the case of incubation. It is usually found best where either method of incubation is used to brood the chicks by the same method. Regardless of which method is used, the young chicks should not receive any feed until they are forty-eight hours old, and better sixty or even seventy-two. The young chick, when it emerges from the shell, has sufficient food in the digestive tract to keep it alive for at least five days, and feeding should not take place until the greater part of this supply has been assimilated. During the period before feeding starts, however, the young chicks should receive plenty of fresh drinking water and some coarse sand or fine frit. They are, of course,

with the mother or in the brooder at this time, the brooder having been running previously at a temperature about ninety-nine degrees under the hover.

EARLY FEEDING.

The first feed of the young chicks may consist of stale bread slightly moistened in milk or rolled oats mixed with hard-boiled eggs (boiled for thirty minutes) shell and contents. This is fed in small quantity and at frequent intervals during the day, preferably five times per day for the first three

weeks. Fresh drinking water should be before the young chicks at all times. It is possible and advisable after the first few feeds of the above feeds to feed a small quantity of chick food in the litter of the brooder so as to start the young chicks scratching. The chick food may consist of any of the commercial chick foods or be made up of cracked wheat, thirty-five pounds; finely-cracked corn, thirty pounds; pin-head oatmeal, thirty pounds; and chick grit, five pounds. In many cases the commercial chick food will be found cheaper than home-mixed. About the third week gradually replace the rolled oats or bread with a mash composed of one hundred pounds wheat bran, one hundred pounds wheat middlings, two hundred pounds corn meal, fifty pounds fine beef scrap, and thirty pounds bone meal. This is fed in a slightly moist, crumbly condition. In case sour skim-milk or buttermilk is available for drink then it should be used as such; also to moisten mash in which case the beef scrap would be reduced to twenty-five pounds. The number of feeds per day should be reduced to four times in the third week, and to three times in the fifth week. Whole grain should replace the chick food as soon as the chicks are large enough to eat it. The chicks should be gradually accustomed to going without extra heat as soon as they show much feather growth on their bodies. Care must be exercised not to overheat the chicks at any time, nor to chill them, as either is most surely fatal. In the case of hen-brooded chicks where they become infested with lice the top of the head should be greased with lard.

Poultry-keeping is a business of details, and it is only by close attention to the various little things that we may hope for success. It is a business demanding long hours of labor and seven days a week, and it is usually due to lack of staying qualities that some people who start in the business give it up. It is, however, one

branch of the farm which pays well under proper care and direction, and with the large markets, which are opening up to this country at present and still greater after the war, it will certainly prove highly profitable to those who stay with the business and hatch and rear more and better birds to help supply the demand.

HORTICULTURE.

Concise Answers to Questions Re Fruit.

At the recent convention of the Ontario Fruit Growers' Association, held in Toronto, a number of questions regarding tender fruits and apples were placed on the program. These were answered by individuals who had had experience in the field of work regarding which each question was asked. We are reproducing here a number of these questions, also the answers, and the names of the individuals who answered them.

Would barrelled apples sell for more money if they were machine graded?—"Restaurants and such want large apples, for they can be peeled speedily. Many want smaller apples suitable for dessert purposes. All No. 1 apples in the same barrel would vary in size from 2½ to 3½ inches. The small apples in a barrel would, with large ones, look like culls. However, the small apples are quite as suitable for certain purposes as the large ones, and would sell for as much if barrelled by themselves. One of the largest dealers in Toronto said he could sell apples for more money if they were graded, probably in three sizes. It is now possible to purchase first-class grading machines that will cost little money and bruise no apples."—W. F. Kydd.

What prospects have the tender fruit growers for disposing of more of their low-grade fruit in the form of by-products?—"Owing to the falling off in wine making, which absorbed many varieties of grapes, and the increase in grape juice manufacture, which consumes only the best Concords, the prospects are: Red varieties, Wordens, some Concords and other varieties, will be sold fresh on the market. The best Concords will be used in the manufacture of grape juice. Culls consisting of small and unevenly ripened bunches of all varieties, may be used for jelly making. With regard to peaches, the low grades consist of under-sized specimens, over-ripe fruit of all sizes, split peaches, gum spots and scabby peaches. Under-sized, gummy and scabby peaches of fair texture may be used for canning, being sliced and put up in water for pie-making purposes. Over-ripe fruit may be used best for jam purposes. There are possibilities for this quality of jam for war purposes. The prospects for evaporating peaches are promising but untried."—P. E. Culverhouse.

Of what value are later sprayings in seasons like 1915?—"One application put on about the middle of July would increase the percentage of clean apples 40 per cent. in a season like 1915. If many growers, during the past season, had put an application of spray material about the middle of July, they would have had 40 per cent. more apples clean. During a season such as 1915, it was possible to grow clean apples."—W. F. Kydd.

Is it necessary to cultivate the entire surface of the ground under the trees in an apple orchard?—"A few of the most successful apple growers are not cultivating the ground underneath the trees. It is considered unnecessary to cultivate closer than four or five feet from the trunk of the tree. There are no feeding roots so close to the tree, so there would be no benefit accrued from cultivating that ground. These remarks apply, of course, to bearing orchards. Young trees should be started by cultivation."—W. F. Kydd.

What have been the results to date from the irrigation system at the Vineland Experiment Station?—"In strawberries, there was an increase in returns from the irrigated land over the non-irrigated land amounting to \$103.00 per acre. The cost of operating the system, interest on investment, depreciation, etc., amounted to \$37.00 per acre, leaving a profit of \$66.00 per acre from the irrigated field more than from the non-irrigated. Ten and three-tenths inches of water were applied during the months of May, June and July. Considerable loss resulted from irrigating raspberries, but asparagus, celery, beets and carrots, gave profitable returns for the water applied."—O. J. Robb.

Are we cultivating our orchards too late in the summer?—"Growers must judge for themselves at picking time whether they have made a practice of cultivating too late in the summer or not. Some soils will stand more cultivation than others. In Eastern Ontario, for instance, east of Trenton the climate warrants only a short period of cultivation in the spring. The land should be well worked up in the orchard, and a cover crop sown. East of Toronto, the middle of June would probably be the proper time to

cease cultivation in orchards. There are few places in the province where it is wise to cultivate any later than the first of July. The season, however, has very much to do with cultivating orchards. During a season with abundant rain, such as in 1915, it is not necessary to cultivate as much as in a dry season."—L. Caesar.

Should the grower be compelled to put his name on open as well as closed packages?—"Nine violations out of ten are found where packages are stamped with the packer's number, instead of his name. All men, however, who use numbers are not bad packers. The name is a guarantee of quality and a safeguard to the consumer."—P. J. Carey.

FARM BULLETIN.

Nova Scotia Farmers Hold a Good Meeting.

Back again in Windsor, the place where we always get a hearty welcome. The meetings of the Nova Scotia Farmers' Association, opened in the opera house, on Tuesday evening, Jan. 27. The evening was spent very pleasantly, by short congratulatory and welcoming addresses, interspersed with music by local artists.

G. C. Cunningham, Plant Pathologist for New Brunswick, gave a very practical talk on potato growing. It is becoming more difficult each year to grow a good crop of fine, smooth tubers. The average of New Brunswick was 117 bushels per acre, while three hundred and fifty was only a good yield. The farmer who wants heavy yields must be very careful in the selection of his seed, which must come from record crops. There are two methods of selection of seed—that of a uniform, medium-sized potato from the bin after they have been stored, and what is better, selection from the field. Mark the most vigorous hills, and keep the potatoes from these hills separate when digging. In this manner we get parent seed of great vitality and strong growth. Experiments had shown that seed from strong hills had given from 150 to 200 bushels per acre increase over seed from weak plants; also seed from different parts of the country varied greatly in yield. Late Blight could be pretty well controlled by the use of Bordeaux mixture—4 lbs. bluestone to 40 gallons of water. An experiment in which one part of a field was thoroughly sprayed with Bordeaux, and an adjoining part left unsprayed, showed an increase of 220 bushels per acre in favor of the sprayed part. The disease called Mosaic was shown by a light, yellow, mottled and puckered state of the leaves. This disease, under ordinary conditions, will decrease the yield from 8 to 10 per cent. Blackleg is a disease that rots and discolors the stalk of the growing plant, wilting and turning the leaves light color. The stalk often becomes decayed and putrid with mould. The tubers stop growing, and the hill should be removed and burned. Treatment consists in soaking seed which is thought to be infected, with formaldehyde 1 pint to 30 gallons water. Also, a long rotation is recommended. Scab spreads by the presence of fungus in the soil, and is increased by the addition of lime, barnyard manure or ashes, and is a difficult disease to cope with on account of the above means of spread. Treat seed thoroughly with formaldehyde, as in the case of blackleg, soaking the potatoes about two days before cutting and planting. The discussion of this paper brought out the facts that slightly immature seed was often best for planting; if whole seed is used, the larger the better; and if seed is cut very long before planting it is well to coat it with lime or earth to keep it from drying out.

Two half days were devoted almost entirely to business. In fact, there was more business and less educational work done than at any previous convention.

The Director's Report showed increased activity in almost all lines or departments of agriculture. The call for greater production had met with a splendid response, and in spite of many drawbacks, due to the war and weather, the production of farms showed up well as compared with other years. The New Science Building erected at a cost of one hundred thousand dollars is a costly monument. The Women's Institutes, under the energetic superintendence of having raised seven thousand dollars for patriotic purposes. Agricultural Societies and County Associations are holding their own and improving stock and farming methods.

In a popular talk on horses, Dr. Sinclair recommended great care in breeding, that brood mares be the best available, and that stallions be free from transmissible weaknesses or diseases. The conformation of horses, in many cases, predisposed them to the different diseases, such as a contracted jaw to roaring, a bent hock to curb, or an upright pastern to navicular disease. These conformations were to be shunned in choosing a sire. When the mare is safe in foal care-

ful work is rather beneficial than otherwise. The young foal should not be allowed to run in the field when the mare is working, but kept in a box stall and taught to stand tied as early as possible. The foal should be weaned at about five months of age, and at this time the colt should be fed carefully and well, as this is the most critical period of his life. The colt's feet should constantly be cared for, and by paring kept in good shape. The prices of horses, while now rather unsatisfactory, will undoubtedly be better inside of a year. Prices are very high now in the warring countries, and buying will probably soon begin in Canada.

In the discussion which followed several showed splendid results from the use of skim-milk for weanlings.

Professor Trueman, of the Agricultural College, gave results on a college farm of the use of ground limestone on different crops and soils. While the difference between the limed and unlimed plots, where oats was the crop grown, was not especially marked; the clover catch and the following crop of clover hay showed very plainly in favor of the application of lime, there being an increase of over a ton per acre on the limed plots. Some parts of the field under experiment, however, did not show any appreciable difference, the reason being that these parts were already in good fertility and were not affected by the treatment. The best results from the use of limestone are found to be on reasonably poor and acid soils when a dressing of manure or fertilizer is used with the lime. The question of whether or not its use is profitable depends largely on the price and the cost of delivering it to the farm. In many cases it may be profitable to use even when costing from four to five dollars a ton delivered. In some sections of the United States where large quantities are used in small districts, and the railways haul it at specially low freight rates, the farmers get it delivered for (\$2) two dollars per ton and less. An application of four tons per acre is supposed to be effective for four or five years.

Professor Cunningham said that club root was a disease peculiar to turnips and cabbage, and in fact, all plants of the mustard family. It is caused by organisms in the soil, and is difficult of eradication, being spread by affected seed, by removal of the soil to different places through harrowing and cultivation, through the use of manure from cattle which have been fed plants with club roots, and also from seedling plants taken from affected soil. When the soil has once become infected it is better not to raise any cabbage or turnips on it for a few years, and in the meantime to treat it with limestone, and practice a rotation of crops, clear the soil of all weeds belonging to the mustard family, and make an application of five tons of limestone per acre. With this treatment club root germs should entirely disappear from the soil inside of three years.

A discussion of some three hours took place on the benefits that might be derived from co-operative associations for farmers throughout the Province, made up of different units, or local societies, governed and operated by a central union, which would be able to buy all necessities of the farm in large quantities and at greatly reduced prices, or sell the farmer's produce in the best markets to the best advantage. Some favored the amalgamation and incorporation of the County Farmers' Associations, and Agricultural Societies in each county. Others thought it better to form units altogether independent of these. A. E. McMann, Manager of the United Fruit Companies, and A. E. Adams, Secretary of the same, gave figures to show the saving to the farmers which had been effected through that organization.

Prof. Trueman gave a very practical talk on feeding the dairy cow, and distributed a chart showing the comparative value of feeds grown on the average farm in the Province. To improve the ordinary farm he recommended a short rotation with the growth of clover hay and silage crops consisting of oats, peas and vetches.

Officers elected: President, R. J. Messenger, Lawrencetown, N. S.; First Vice-Pres., William Murray, Pictou, N. S.; Second Vice-Pres., S. A. Freeman, Amherst; Commissioners to the exhibition at Halifax, F. W. Foster, Kingston; H. S. Kennedy, Pictou.

Resolutions: That we earnestly recommend the elimination of the so-called fakir row in connection with the exhibition at Halifax.

That steps be taken to form co-operative societies for the buying and selling of farm produce and other necessities.

That legislation be enacted to prevent the use for public service of grade or mongrel bulls within certain limits where pure-bred bulls are kept for service.

That transportation companies be approached with a view of obtaining greatly reduced freight rates on ground limestone.

That the government be asked to remove the duty on all fertilizers.

That we ask for more stringent temperance legislation.

R. J. M.

500 Fairs and Exhibitions Delegates in Session.

From every part of the Province representatives of agricultural societies gathered at the annual convention of the Ontario Association of Fairs and Exhibitions, held in the Canadian Foresters' Hall, Toronto, Feb. 1 and 2. The past year satisfactory crops were harvested by the farmer, and the delegates were optimistic regarding the outlook for agricultural work in the future. Reports showed that Agricultural Associations were doing a great work in encouraging the growing of cleaner and larger crops, as well as breeding, feeding and fitting a higher quality of live stock. With the continued assistance of the Department of Agriculture it was the opinion of those present that even more would be accomplished in the future.

The President of the Association, J. C. Stuart, Osgoode Station, in his opening remarks expressed satisfaction with the success attained by the various fairs and exhibitions throughout the Province. He believed the expert judge system as worked out, for supplying judges to the fair boards, was the best in the land. Some dissatisfaction was heard at times regarding the work of the judges sent out by the Department, and Mr. Stuart criticized the directors of the various fair boards for not reporting the failure of any judge to do his work satisfactorily. Any judge who failed to give satisfaction is not sent out the following year. It was believed that unfair judging was a means of keeping exhibitors away from the fair, and no fair could be held without the exhibitor; attractions were not enough in themselves. The President saw in the School Fair movement a means of education for the boys and girls that would be of great assistance in making the fall fairs of the future even a greater success than at present. The opinion was expressed that it would be better for both School Fairs and Township Fairs to hold their shows on the same grounds the same day. If that were not possible it was believed to be to the interests of both to hold the Township Fair first. A plea was made for farmers to raise more live stock, as that could be attended to without extra help.

Leading in the discussion, J. Farrell, of Forrest, pointed out the need for more co-operation and unity between fair boards of a district. It was suggested to have the dates set well in advance, and advertise the main features of several fairs on one large poster. The method was considered economical, and where it had been tried gave splendid satisfaction. Every fair board was advised to publish on their prize lists the dates of all fairs held in the district, in order that exhibitors, as well as visitors, might know what events they could conveniently attend. Mr. Farrell is a strong advocate of the School Fair movement, and believed every agricultural society should encourage the boys and girls.

A Prosperous Year.

The Secretary, J. Lockie Wilson, in his report, pointed out that 1915 had been the most successful in the history of the Association. The Standing Field Crop Competition was meeting with decided favor. In 1915 there were 184 societies entered in 308 crops, an increase of 50 over the previous year. This represented 6,500 farmers and 65,000 acres of crops. To judge this large number of crops was no small task, especially when several varieties of one kind of grain were entered in one competition. Mr. Wilson suggested that farmers in each locality specialize more and sow the one variety of grain which had proved to be satisfactory in the district. Not only would growing one variety make it easier for the judges, but from a financial viewpoint it was believed that a locality would profit by becoming noted for a special and pure variety of grain or potatoes. Each year shows a marked improvement in the work done by the Departmental judges. This was considered to be due to judging courses held at Guelph and Ottawa each summer; a greater uniformity of judgment is secured, and the judge is in a better position to impart information to the farmer by attending these courses. An endeavor is being made to have the judges from Western Ontario visit the Experimental Farm, Ottawa, next summer, when the regular judging course for Eastern Ontario is being held there.

During 1915 the gate receipts of 31 societies were seriously affected by wet weather. Two received the maximum amount of insurance, \$300. The total amount paid out for weather insurance was \$3,403. Mr. Wilson reported that societies are now practically free from gamblers at the fairs. In the future there will be absolutely no excuse for societies which allow these law-breakers to operate on or near their grounds. Every member of a society was advised to see that enthusiastic and energetic officials were elected to office. The proper time to make preparations for next year's fair is immediately after the annual meeting. In Northern Ontario there are 57 societies, and more are being organized each

year, but care is taken not to have too many societies in a district.

The poultry branch of the agricultural industry is becoming more important each year, but it was believed that officers of many societies failed to meet the new requirements. Mr. Wilson was of the opinion that every society should have proper coops for exhibiting the birds, and have them placed so the public could see the exhibits. It was believed that the prize list should be revised from year to year and classes added or removed in order to serve to the best interests of the locality. In regard to Ladies' Work, the speaker believed the time had come when parties, who make a business of carting fancywork from fair to fair, oftentimes not the product of the exhibitor, should be debarred from exhibiting. The people who are professional exhibitors and travel from fair to fair, often buying the best products they can in order to win, are discouraging the amateur exhibitors of the locality, and the opinion was expressed that every consideration should be given the amateur. Mr. Wilson would like to see some provision made for the comfort of the visitors at the local fairs. It was believed that a few benches placed at different parts of the exhibition grounds, for a resting place, would be appreciated very much by many who attend the fair.

The financial statement showed a balance of \$134.13 on hand on January 1, 1916.

In discussing the Secretary's report, W. J. Connelly, of Cobden, advised that the Field Crop judges leave a score-card with the farmer in order that he might know where his crop fell short, so that he might endeavor to improve the showing of his field the coming year. It was believed that there should be no retrenching in money for agricultural work, as it was considered poor economy.

A representative from each district reported on the work carried on in their particular district. It was an experience meeting, and many ideas regarding ways and means of managing fairs were expressed. Throughout the Province the fairs were well attended, and there was a tendency to increase the showing of pure-bred stock. Field Crop Competitions encouraged the sowing of the best possible seed available, and the eradication of noxious weeds.

Field Crop Competitions.

R. E. Mortimer, Honeywood, reviewed the work of the Field Crop Competition, and showed the steady growth it has made since its inception in 1907, when 11 societies connected themselves with the movement. It was believed that these Competitions have done a good deal toward improving the quality of crops grown throughout the Province. They encourage better cultivation, more careful selection of seed grain, and the destruction of weeds, which leads to larger profit. Mr. Mortimer suggested that each society endeavor to increase the number of farmers taking part in the competition. At present the Government makes a grant of \$50, which is supplemented by \$25 from the society. The speaker was of the opinion that the societies could well afford to increase their grant to \$50, thus making a total of \$100 to be distributed as prizes in each competition.

Wm. Hickson, Bobcaygeon, outlined methods he practiced in judging field crops, and advised the farmer to make careful preparation for his crop. It was believed that the whole field of grain should be exhibited instead of only five acres, as is now the rule.

Mutton and Wool.

Competition was considered by T. Reg. Arkell, of Ottawa, to be one of the most wholesome means of encouraging better production. At too many fairs the sheep section is looked upon as a side issue in connection with other live-stock exhibits. The speaker thought that from the standpoint of both mutton and wool, sheep should be accorded a prominent place at Ontario fairs. They form a double attraction, drawing to them the attention of farmers and sheep breeders, drovers and woollen manufacturers. The latter are becoming more interested in the development and encouragement of the Canadian sheep industry, and recognize the value of the fair in aiding its promotion on a sound and stable basis. Mr. Arkell believed that no class of exhibitors have brought more fame to Canada through their winnings at International Expositions on this continent than the Ontario sheep raiser. The speaker believed the classification at most Fairs for sheep is generally satisfactory and adequate, but at some exhibitions the classification has extended too far, with the result that the prizes were so meagre as not to make it worth while for even local sheep-raisers to take the trouble to show their animals. It was advised to place more emphasis on lamb classes at the local Fairs, and restrict competition to animals bred and owned by the exhibitor. In this way small flock holders will

be given an opportunity to show what they can do in breeding, feeding and fitting.

The speaker believed that if prizes were offered for wool in the fleece, it would be an advantage. As wool is purchased upon the basis of both fineness of fibre and shrinkage, or in other words, the higher the shrinkage the smaller the price, the quality being the same. Therefore, it is necessary to impress on all sheepmen the advantage of cleanliness, and it was considered that there was no better place to show the proper grading of wool than at the fairs.

Poultry Deserves Suitable Quarters.

Prof. Graham, of Guelph, speaking on the question of Improvement of Poultry Exhibits, at Rural Fairs, criticized the deplorable accommodation offered poultry at many fall fairs. Everybody is interested in the poultry business, yet a poor attempt is made to display the birds or make the poultry department at the fair of educational value. Prof. Graham urged the fair boards to supply uniform coops in which to exhibit the poultry, so that the judge would have an opportunity to examine the birds, and visitors could easily see the conformation and appearance of the birds, or be able to make comparison if they so desired. Instead of placing the poultry exhibit beside a board fence, the speaker stated that the feathered tribe should be accommodated in a building free from drafts. Many poultrymen will not show their best birds where the accommodation is poor. Much could be done along these lines to improve poultry exhibits. In regard to the prize list, it was considered a mistake to award prizes to pairs of birds, as it made judging much more difficult, and the educational value to the public was more or less lost. Showing singles is a more satisfactory method. It was deemed advisable to extend the prize lists, and include with the fancy and utility birds, Pigeons and Bantams. This will please many boys, and possibly train them to take an interest in and exhibit the larger birds. The suggestion was made that there be classes for fat chickens, either pure-bred or cross-bred, shown in singles or dozen lots. This class might be sub-divided for birds weighing from 3½ lbs. to 4½ lbs., and another class for birds 4½ lbs. and up. Eggs were considered important, and prizes should be given at every fair, but the judging should be done on a quality basis rather than according to size. Canada is now an exporter of eggs, and Prof. Graham urged the producer to market the product so it would reach the consumer in good condition. As eggs deteriorate quickly, it was believed that grading and candling eggs at the fair would be of educational value.

Classify Horses at the Fairs.

Speaking of the proper classification of horses at the fairs, W. J. Bell, Toronto, believed that the agricultural societies could do much, through a proper classification of market horses, for the breeder of horses in assisting him to establish correct ideas, by properly setting forth the true market standards at the fairs. Not enough horses are bred expressly for the market, but rather for the farm and road. The suggestion was made that all entries of draft horses at the fairs conform to the following classifications: Heavy-draft, weighing 1,600 lbs. and up, standing 16 hands and up; light draft 1,350 to 1,500 lbs., 15.3 hands and up, in height; farm chucks, 1,350 lbs., and less than 15.3 hands. Mr. Bell claimed there was no place for an "agricultural" or a "general-purpose" horse on the market. The terms admit too much latitude to justify agricultural societies having a class for them. It was the opinion that directors of fair boards should be careful to see that horses were entered in their proper classes. The speaker suggested having the judge give reasons for his placings, in order to show the young exhibitors in particular the weak and strong points of their animals. In order to obtain the best satisfaction, exhibitors should keep away from the judge, and also the practice of crowding the show-ring should be prohibited.

Training for Department Judges.

The benefits of short courses for department judges was discussed by Prof. C. S. Archibald, of Ottawa, and it was his opinion that by having the judges of field crops or live stock meet before the season's work commenced, more uniform judging was done. The course tends towards advanced judging. The day was past when any ordinary stockman could act in the capacity of judge. As time advances, types of animals change, and the exhibitors look to the judge to give information, or at least his judgment tends to set the type in that district. It was believed that every judge should be capable of giving reasons for his placings, and be willing to give information that would assist amateurs in fitting and exhibiting their stock. By spending a few days in conference the judges all go to their work with the same idea regarding type,

conformation and quality of an animal, so that if a different man acts as judge at a fair the following year, he will have the same type of animal in view, as did his predecessor. With the field crops, judges should all put the same stress on the various points, as stand of crops, freedom from weeds, and purity, so that uniform judging may be done over the Province.

Prof. F. C. Elford, Experimental Farm, Ottawa, emphasized the importance of having capable poultry judges at the fairs, and also urged the directors of the various associations to revise their prize list; supply adequate accommodation for the poultry, and to have a proficient director in charge.

In view of the assistance given the Canadian National Exhibition by the Fairs and Exhibitions Association, the meeting decided to request that they be allowed a representative on the Board of the National Exhibition.

At the evening meeting Hon. F. G. Macdormid, acting Minister of Agriculture for Ontario, gave a resume of the value of the different crops in the Province. The speaker felt confident that the Association would receive the same assistance from the Government as it had in 1915. The farmer was urged to do his utmost in production in order that Canada might pass through the present crisis with her credit unimpaired.

N. W. Rowell, K. C., Leader of the Opposition, stated that the basis of the prosperity of any country lies in the prosperity of the farmer. The cities have been over built at the expense of the rural communities. Mr. Rowell believes there is a great gulf between the rural school and the Agricultural College, which should be bridged, and favors the system of agricultural schools in different parts of the Province.

A very interesting address on "Our Friends,

the Allies" was delivered by Dr. Jas. W. Robertson, of Ottawa.

Following are the officers elected: President, J. C. Stuart, Osgoode Station; 1st Vice-President, Wm. Scarf, Durham; 2nd Vice-President, L. J. C. Bull, Brampton; Treasurer, Alex. McFarlane, Otterville; Secretary and Editor, J. Lockie Wilson, Toronto; Auditors, R. Agnew, Meaford; and Dr. H. B. Atkinson, Embro. Directors: J. E. Montgomery, Osgoode Station; W. J. Connelly, Cobden; J. E. Johnson, Tweed, Edward Hawthorne, Warsaw; Geo. Downey, Bolton; J. V. Williams, Marshville; Geo. L. Telfer, Paris, R. R. 2; Jno. J. Johnson, Fordwich; J. B. Clark, Blenheim; R. Brigham, Hanover, R. R. 1; W. J. Hamilton, Raymond; E. F. Stephenson, New Liskeard; and J. D. McColeman, Spring Bay.

Canada's Live-stock Men Assemble in Toronto.

It was live-stock week in Toronto, beginning on January 31, 1916, when the breed associations held their annual meetings, and outlined their work and policies for the ensuing year. The Carls-Rite Hotel was headquarters, and all breed associations held their meetings there, except the Holstein-Friesian.

Dominion Shorthorn Breeders Prosper.

One breed society that has made steady progress, and one that is increasingly prosperous, is the Dominion Shorthorn Breeders' Association. The remarks of the President and the financial report of the Secretary at the annual meeting, held on Tuesday, February 1, substantiate this remark. The Association has been criticized as being too conservative, but one can easily understand how a breed society with such prestige and such an enviable record would be loath to depart from established customs and adopt new policies, regarding the outcome of which the breeders are uncertain. A good attendance was on hand at the meeting, and business was transacted in such a way as to indicate unanimity of purpose and confidence in the future.

The address of the President, J. M. Gardhouse, Weston, Ont., was a short review of the accomplishments of 1915. In the past year there were 11,135 registrations, being an increase of 948 over those of 1914. Memberships increased in 1915 by 250, giving the Association at the present time a membership of 2,244. The past year also saw many importations made; in fact there were more than in several previous years combined, and Mr. Gardhouse stated, "I am credibly informed that as soon as the embargo against cattle from Great Britain is removed that a considerable number more will be brought over. The results of the Record of Performance tests with Shorthorns have been gratifying, and there has been a steady increase in the number of applications for the test. Beginning in April, and up to the time of meeting, the following animals have qualified: 12 two-year-old heifers gave an average of over 6,000 pounds of milk, testing 4.2 per cent. fat; 19 three-year-old cows gave an average of slightly over 6,500 pounds of milk, testing 3.99 per cent.; 6 four-year-old cows averaged 7,100 pounds of milk, testing 3.85 per cent., and 33 mature cows averaged over 8,700 pounds of milk, testing 3.9 per cent. "Thus we are proving," said the President, "what we have long maintained that the Shorthorn ran's high from the dairy point of view, while from the beef standpoint the breed stands out pre-eminently." Mr. Gardhouse further explained the excellencies of the Shorthorn and the breed's many qualifications, both for beef and milk. One splendid feature of the trade was commented upon, viz., the demand for what is known as farmers' bulls. The advice was given to breeders to record as soon after birth as possible. "It helps the Association; it helps the breeders individually; and it helps the conducting of records."

The financial report of the Secretary, H. M. Pettit, Freeman, Ont., showed an excess of assets over liabilities amounting to \$33,541.44. There was also a balance of cash on hand stated as \$19,269.43, which is an increase over last year's balance of \$8,114.90. Memberships, registrations and books sold, totalled \$26,296.89, being an increase of \$1,146.98 for receipts for like items in the previous year.

The members of the Association authorized a grant of \$500 to be equally divided between the Canadian Patriotic Fund and the Canadian Red Cross Fund. The Executive was also empowered to invest as much of the surplus funds in such investments as they may deem advisable.

A proposition was suggested to being before the public the eye-balls of the Shorthorn breed, and in every way further the interests of the Shorthorn and patrons of the breed. The possibilities of such a scheme were enumerated in part

by Robt. Miller, Peter White, W. A. Wallace and W. H. English. The discussion culminated in the following resolution, which was carried:

"That the Executive be empowered to take such action as may be deemed advisable in the matter of an active campaign for furthering the interests of the Shorthorn breed, and that they consider the appointment of a field man or men in connection with the work, and that they be empowered to expend the necessary money."

Breeders have found it difficult to secure auctioneers to officiate at public auction sales who are acquainted with Shorthorn pedigrees and understand the breed. The discussion relative to this question is practically all involved in the following resolution, moved by Robt. Miller and seconded by T. A. Russell:

"That the Dominion Shorthorn Breeders' Association, at its annual meeting, hereby petition the Ministers of Agriculture in the various provinces to appoint official auctioneers to sell live stock at public auction sales made or controlled by the Department of Agriculture or its representatives in the provinces, and that the law be amended so that any auctioneer may secure a license for the whole province, and that a copy of this resolution be forwarded to the Ministers of Agriculture." This resolution carried unanimously. Breeders from Western Canada stated that they had experienced similar difficulties to those described by stockmen of Ontario.

Readers will probably remember that, in previous reports, mention was made of the agitation of representatives from the West to secure some fixed rule by which Directors would be appointed. A meeting of the Eastern and Western breeders was held in Winnipeg on July 16, 1914, and they recommended that it would be advisable that Sections 1 and 2 of Article 5 of the Constitution of the Dominion Shorthorn Breeders' Association be amended so as to provide for the election of Directors on the basis set forth in the following resolution:

"That this meeting of representatives of the Live Stock Breeders of Eastern and Western Canada recommends that in order to furnish adequate representation to all parts of the Dominion, the election of Directors on the Boards of the various Breed Associations should be based proportionately on the amount of bona fide membership fees paid by each province. This to be done by dividing the total membership fees by the number of Directors in each Association, and then dividing the membership fees received from each province by the unit thus furnished, which will give the number of representatives to which that particular province is entitled. In the event of any province not furnishing a sufficient amount of membership fees to be divisible by the unit in question, or if any province does not furnish fees to an amount greater than one-half the unit, such province may for purposes of representation be united with an adjoining province. When the amount of the fees derived from any province, after being divided by the unit, leaves a larger balance than one-half the unit, such province to be entitled to another representative; or on such basis as may be found feasible."

This resolution was moved in the annual meeting by Dr. J. G. Rutherford, and seconded by Robt. Miller. The same resolution must, of course, be carried by the other breed societies, but the Shorthorn Association adopted it. It was thought advisable to give it more attention, and was appointed as a committee to consider it in detail, and make it feasible in all regards. The meeting approved of the resolution, which they adopted, but after it is completed, it will come again before the Association for final acceptance.

An official seal for the Association was given the attention of the meeting, and a design was adopted for future use.

The action taken with regard to grants to fairs and exhibitions is fully explained in the following resolution, moved by Harry Smith, and seconded by J. G. Barron:

"That we place \$4,700 in the hands of the Executive Committee for grants to fairs, and that they be instructed to make the same grants as last year, with such additions as they may see fit."

Representatives from Western Canada, including Hon. Duncan Marshall, Minister of Agriculture for Alberta; Dr. S. F. Tolmie, Victoria, B. C.; Dr. J. G. Rutherford, Calgary, Alta.; and W. H. English, Harding, Man., gave interesting addresses. The Hon. Duncan Marshall advocated such a change in the policy of the Association as would permit animals duly recorded in the United States or Great Britain to be registered in the Dominion Shorthorn Herd Book. Great difficulty was experienced, he said, in obtaining suitable bulls to mate with milking Shorthorn cows, simply because the Record Board in Canada would not accept good sires that perhaps did not qualify as the requirements now stand. He furthermore thought it advisable to accept and register animals that had been bred up after a sufficient number of crosses. This, he claimed, would encourage the use of more good pure-bred bulls, for the breeder could look forward to registering his stock after it was improved to the required extent.

Officers: President, J. M. Gardhouse, Weston; First Vice-President, W. A. Dryden, Brooklyn, Ont.; Second Vice-President, J. F. Mitchell, Burlington, Ont.; Sec.-Treas., H. M. Pettit, Freeman, Ont.; Registrar, R. G. T. Hitchman, Ottawa. Board of Directors, A List: Hon. W. C. Sutherland, Saskatoon, Sask.; C. A. Archibald, Clifton, N. S.; John Gardhouse, Highfield, Ont.; J. A. Watt, Flora, Ont.; P. M. Brett, Calgary, Alta. B List: Wm. Smith, Columbus, Ont.; J. G. Barron, Carberry, Man.; Robt. Amos, Moffat, Ont.; J. A. McClary, Lennoxville, Que.; Jas. Kyle, Drumbo, Ont. C List: S. Dymont, Barrie, Ont.; W. R. Elliott, Guelph, Ont.; J. G. Washington, Nings, Man.; W. A. Wallace, Kars, Ont.; Jas. Douglas, Caledonia, Ont. Executive and Finance Committee: J. M. Gardhouse, Chairman; Harry Smith, Peter White, Robt. Miller, and W. A. Dryden.

Delegates to National Record Board: Harry Smith, Peter White, Robt. Miller, J. M. Gardhouse, W. A. Dryden, and J. A. Watt. Delegates to Dominion Cattle Breeders' Association: Harry Smith and J. A. Watt.

Representatives to Exhibition Boards: Canadian National Exhibition, Toronto, Robt. Miller and J. A. Watt; Western Fair, London, Capt. T. E. Robson, London, and J. T. Gibson, Denfield; Central Canada Exhibition, Ottawa, J. M. Gardhouse, and W. H. Martin, Twin Elm; Intef-Provincial Fair, Brandon, Geo. Gordon, Oak Lake; J. G. Barron, Carberry, Man.; Provincial Exhibition, Regina, Jos. Barnett, Moose Jaw, Sask., and Geo. Kinnon, Cotcootwood, Sask.; Inter-Provincial Exhibition, Saskatoon, Hon. W. C. Sutherland, Saskatoon, Sask., and R. W. Caswell, Saskatoon; Provincial Exhibition, Edmonton, James Sharpe, Lacombe, Alta., and Hon. Peter Talbot, Lacombe, Alta.; Industrial Exhibition, Calgary, Chas. Yule, Carstairs, and J. L. Walters, Clive, Alta.; Vancouver Exhibition, A. D. Patterson, Ladner, and Exhibition, Sherrin, J. H. M. Parker, Lennoxville, Que., and F. R. Cromwell, Cookshire, Que.; Provincial Exhibition of New Brunswick, R. A. Salisbury, N. B.; Provincial Exhibition, Halifax, A. N. Griffin, New Minas, N. S., and A. E. Crowe, Old Barns, N. S.; Provincial Exhibition, Charlottetown, Hon. John Richards, Bideford, P. E. I., and J. M. Laird, Kelvin Grove, P. E. I.; Ontario Winter Fair Guelph, J. M. Gardhouse, and W. R. Elliott; Ottawa Winter Fair, Jas. Smith, Rockland, and W. A. Wallace, Kars, Brandon; Regina, and Calgary Winter Fairs, same delegates as appointed to summer fairs; Maritime Winter Fair, Anherst, A. N. Griffin, New Minas, and Albert Boswall, P. E. I.

delivered by Dr. Jas. W. Robert-

the officers elected: President, Osgoode Station; 1st Vice-President, Durham; 2nd Vice-President, Brampton; Treasurer, Alex. H. B. Atkinson, Embro. Directors: Osgoode Station; W. J. Johnson, Tweed, Ontario; Geo. Downey, Williams, Marshville; Geo. L. R. 2; Jno. J. Johnson, Ford-Blenheim; R. Brigham, Hamilton; Raymond; E. F. McKearney; and J. D. McColeman,

Ontario.

\$4,700 in the hands of the committee for grants to fairs, and to make the same grants such additions as they may

from Western Canada, including Marshall, Minister of Agriculture; S. F. Tolmie, Victoria, B. C.; Herford, Calgary, Alta.; and Mr. Duncan Marshall advocated a policy of the Association as to the animals duly recorded in the Great Britain to be registered in the Northern Herd Book. Great interest was shown in obtaining the Record Board in Canada to accept good sires that perhaps the requirements now stand might be advisable to accept that had been bred up after the use of more good pure-bred sires could look forward to after it was improved to

J. M. Gardhouse, Weston; W. A. Dryden, Brooklin; President, J. F. Mitchell, Burroughs, H. M. Pettit, Freeman, G. T. Hitchman, Ottawa. A List: Hon. W. C. Sutherland; C. A. Archibald, Clinton; J. A. M. Bredt, Calgary, Alta.; Columbus, Ont.; J. G. Barrow, Amos, Moffat, Ont.; Oxville, Que.; Jas. Kyle, St. S. Dymet, Barrie, Ont.; J. G. Washington, Wallace, Kars, Ont.; Jas. Gardhouse, Chairman; Harry Robt. Miller, and W. A.

onal Record Board: Harry Robt. Miller, J. M. Gardhouse, and J. A. Watt. Delegates: Harry Robt. Miller, and W. A.

Exhibition Boards: Canadian, Toronto, Robt. Miller; Ontario, London, Capt. T. J. Gibson, Denfield; Ontario, Ottawa, J. M. Gardhouse; Twin Elm; Intaf-Ford, Geo. Gordon, Oak Barron, Carberry, Man.; Regina, Jos. Barnett, and Geo. Kinnon, Cottonwood, Saskatchewan, Sask.; Saskatchewan: Provincial Exhibitions, Lacombe, Alta.; Industrial, Chas. Yule, Carstairs, Alta.; Vancouver Exhibition, Ladner, and Great Eastern, J. H. M. Parker, Lennox-Cromwell, Cookshire, Que.; of New Brunswick, R. A. N. B., and A. E. Trites, Provincial Exhibition, Halifax, N. S., and A. E. Crowe, Provincial Exhibition, Charlottetown, Bideford, P. E. I.; Ontario, J. M. Gardhouse, and Winter Fair, Jas. Smith, Wallace, Kars, Brandon; Winter Fairs, same delegates; Marquette, N. W. Minnis, and

Dominion Cattle Breeders Discuss Funds.

Many efforts of the associations representing the different breeds of cattle, are influenced by the standing and policies of the Dominion Cattle Breeders' Association, which is made up of directors from the various breeds.

The words of the President, John Gardhouse, Weston, at the annual meeting were few, but in them he very nicely explained the position of the industry at the present time. "The cattle trade," he said, "and the outlook for trade in cattle is very good. There is a shortage of the world over. All stockmen should endeavor to produce more cattle and better cattle. If it pays to breed poor cattle, it will pay better to breed good ones." Last year Mr. Gardhouse, R. W. Wade, and Prof. M. Cumming, Truro, were appointed as a committee to investigate the possibilities of arranging for Association Cars going East as they go West, and thus work up a trade for live stock in the Maritime Provinces. Many difficulties must be confronted before the enterprise can be put on a practical and working basis, and the committee could not report through Mr. Gardhouse any definite or satisfactory conclusions.

For the last few years cars have been sent West at fairly regular intervals, on which stockmen in Ontario could ship animals to purchasers in the Western Provinces. These are known as "Association Cars," and they have been instrumental in furthering the trade in live stock between the Ontario breeder and purchasers in Saskatchewan, Alberta and British Columbia. The rates on two or three animals would be prohibitive, but by assembling the many consignments into one or two cars it has been possible to carry on a fair amount of business. The seven Association Consignments, which were made in as many months, carried 28 horses, 103 cattle, 76 sheep and 8 swine. The rates paid by the individual shippers have not been sufficient to defray expenses, and it was felt that a higher rate would make the practice of shipping in this way out of the question. To go into the matter fully, a committee, comprising John Gardhouse, H. D. Smith and W. A. Dryden, was appointed. They were authorized to wait upon the Provincial Minister of Agriculture as to a grant to carry on the work, and also to study the details as to transportation, and other factors influencing the financial success of Association Cars.

All but two of the directors of the Dominion Cattle Breeders' Association are appointed at the meetings of the various breed societies, as can be learned from a report of their conventions. The two directors appointed at this meeting were Prof. G. E. Day, of the Ontario Agricultural College, Guelph, and John Gardhouse, Weston. Representatives to the various fair boards are as follows: Canadian National, Toronto, John Gardhouse, Weston; Western Fair, London, W. W. Ballantyne, Stratford, and Harry Smith, Hay; Central Canada Exhibition, Ottawa, the President of the Dominion Cattle Breeders' and J. J. Hodgins, Ottawa; Winter Fair, Guelph, W. A. Dryden, Brooklin, John Gardhouse, W. W. Ballantyne and R. S. Stevenson, Ancaster; Winter Fair, Ottawa, Peter White, K. C. Pembroke, J. H. Grisdale, C. E. F., Ottawa, W. F. Stephen, Huntingdon, Que.

Hereford Breeders Had a Good Year.

Optimism for the future of the Hereford breeders of this country was the keynote of the President's address at the annual meeting of the Society, held at Toronto, on Wednesday, Jan. 3. The statement that the demand was decidedly greater than the supply, especially for bulls, was well received by the large gathering of members present. The financial statement of the Secretary showed the finances of the Society to be in so satisfactory a condition that \$100 was added to the amount donated in grants to the various exhibitions, making the total amount of grants for 1916, \$1,600. The cash balance on hand at the beginning of the year was \$951.16, and the total assets over liabilities, \$3,518.31. Officers for the present year are: President, L. O. Clifford, Oshawa; Vice-President, W. H. Hunter, Orangeville; Secretary-Treasurer, H. D. Smith, Hamilton. Directors: J. A. Chapman, Hayfield, Man.; F. Collicutt, Calgary, Alta.; W. H. Smith, Camrose, Alta.; J. I. Moffat, Carrol, Man.; J. E. Reynolds, Elora, Ont.; James Page, Wallace-town, Ont.; J. A. McDiarmid, Batteau, Ont.; Walter Readhead, Milton, Ont.; Henry Reed, Orton, Ont.; H. J. Reid, Hamilton, Ont.; Thos. Skipton, Hyde Park, Ont.; T. K. McConnell, Fairmount, Ont. Vice-Presidents for the Provinces: Ontario, A. O'Neil, Denfield; Manitoba, J. A. Chapman, Hayfield; Saskatchewan, W. H. Harrison, Montmartre; Alberta, F. Collicutt, Calgary; British Columbia, C. Charlton, Vancouver; Quebec, W. G. Draper, Compton; Nova Scotia, W. O'Brien, Windsor.

Holstein Breeders Optimistic.

The annual meeting of the Holstein-Friesian Association of Canada was held in Foresters' Hall, Toronto, Feb. 3. The meeting was largely attended, and many questions relative to the best

interests of owners of the Black-and-White breed were discussed.

The President, D. C. Flatt, gave a resume of the past year's work of the Association, and it was gratifying to the members to know that the membership had reached the twenty-two-hundred mark. The cash balance over last year has increased, and everything points to a still greater prosperity. The consignment sale held in New Westminster, B. C., on Oct. 13 last, was not the success many had hoped it would be, due possibly to the fact that it was a cash sale, and money was none too plentiful. The 56 choice heifers consigned by different breeders in Ontario, reached their destination in first-class condition, and while the prices expected were not obtained, it was believed that the placing of these heifers in British Columbia would be a good advertisement for Ontario Holstein Breeders. At the leading shows last year, the number of Holstein cattle exhibited exceeded that of any previous year, and Mr. Flatt considered that the Association should take action to increase the amount of prize money awarded. It was pointed out that at the Canadian National Exhibition the Holstein entries last year exceeded those of Shorthorns by 156, and yet the prize list showed that \$649 more was given to the Shorthorns than to the Holsteins. Mr. Flatt's advice was for the Holstein men to get their wires busy.

The Secretary, W. A. Clemens, gave his report for 1915, which was received with interest by the members present. During the year certificates were issued for 874 official tests made under the Record of Merit rules, of these 492 were new tests for seven days. Twenty-five bulls were admitted to the Record of Merit during the year. One hundred and ninety cows qualified in the Record of Performance test bringing the total up to 823. Six bulls qualified for admission to the Record of Performance by siring four tested daughters, all from different dams. There was a large increase in the number of registrations during the year, bringing the total to 10,260. The number of transfers was 7,813, which was considered exceptionally good under prevailing conditions. There were 31 registrations of farm names. The auditors' report showed a balance of \$1,597.94 on hand Dec. 31, 1915. The total assets were \$18,596.18, with no liabilities.

The reports of committees were dealt with clause by clause. After considerable discussion the recommendation, that the Association grant \$1,000 to the Canadian National Exhibition, provided that the Exhibition Board put the Holstein-Friesian Association on the same basis as other breeds, was adopted. The grants to other fairs were left the same as last year. There was a good deal of discussion over the proposed change in the amount of money paid for Record of Merit tests. The Executive suggested having the amount the same for new men having cows that make a record, but that old breeders who had received money should receive less assistance after March of the present year. Those favoring a change believed that men who knew the value of testing would continue, and the money could be used to better advantage in encouraging new members to make Record of Merit tests. Some breeders suggested increasing the amount of money paid to new members who had cows qualifying. It was believed that the Record of Merit is the best means of making a name for the Holstein breed. Finally the meeting decided to make no change this year.

Two notices of motion, as outlined in our issue of January 13, page 48, one to amend article six, section four of the Constitution and By-laws, and the other to amend the Record of Merit rules, were adopted without discussion.

The meeting granted \$200 to Messrs. Brock & Laidlaw as a reimbursement for cattle accidentally killed in the British Columbia shipment.

The question came up regarding certain statements which had been made in the Province of Quebec regarding the Holstein breed as being particularly subject to tuberculosis, and the Association granted \$50 for research work regarding tuberculosis in Quebec.

A large number of Holstein breeders attended the banquet, held at the Carls-Rite Hotel, Wednesday evening. The speaker of the evening was Dr. J. A. Macdonald, Toronto, whose eloquent address was thoroughly enjoyed. Other speakers on the program were: Prof. Dean, Guelph; Prof. Geo. E. Day, Guelph; C. F. Bailey, Assistant Deputy Minister of Agriculture for Ontario; H. A. Craig, Deputy Minister of Agriculture for Alberta.

The following officers were elected: President, M. H. Haley, Sorinford; First Vice-President, J. W. Richardson, Caladonia; Second Vice-President, M. Michener, Red Deer; Third Vice-President, N. Sangster, Ormstown, Que.; Fourth Vice-President, Dr. Tolmie, Victoria, B. C.; Secretary-Treasurer, W. A. Clemens, St. George. Directors appointed were: F. R. Mallory, Franford, and R. J. Kelly, Cullodn.

Ayrshire Breeders Have Pleasant Session.

No sensational features developed in the annual meeting of the Canadian Ayrshire Breed-

ers' Association. However, a good year's business was reported, and the breeders went home pleased with their meeting; and the success of the breed. The President, A. H. Trimble, Red Deer, Alta., told the members present of his experiences in Alberta, to which country he migrated over twenty-six years ago.

The report of the Secretary, W. F. Stephen, Huntingdon, Que., explained the financial condition of the Association, and progress as to membership. Last year the Secretary reported 1,222 members, but among them were a number of names of breeders long out of business. Names numbering 154 were struck off. There were also 45 resignations and deaths during the year; 174 new members were added to the list in 1915, so on December 31 last there were 1,197 members, to be found in the different provinces as follows: Quebec, 565; Ontario, 360; Alberta, 67; Nova Scotia, 51; New Brunswick, 36; Manitoba, 35; Saskatchewan, 27; Prince Edward Island, 25; British Columbia, 21; and United States, 10. During the year there were recorded 3,682 pedigrees, 1,407 transfers, and 69 duplicates and new certificates, being an increase of 186 pedigrees and 43 transfers over 1914. Ontario leads in this increase, with Quebec, Nova Scotia, Prince Edward Island and New Brunswick following in order. There has been a slight falling off in registrations in the Western Provinces, due to trade conditions. Dairy tests with Ayrshires were satisfactory in the year just past. At the Calgary and Brandon tests Ayrshires won over all breeds. For the Record of Performance test, 598 entries were received, and 182 cows and heifers registered in this test in 1915. Only in the three-year-old class was a record broken. The heifer, Milkmaid of Orkney, owned by Harmon McPherson, Orkney, Ontario, made 14,060 lbs. of milk and 534 lbs. of butter-fat. During the year about 30 head of Ayrshires were imported. The Secretary's report showed a cash balance of \$6,226.88, an increase of \$514.23 after paying a liability of \$1,374.48, and \$275 on Volume 35 of the Herd Book. The state of the finances shows the Association to be in a healthy condition. Some discussion arose as to who should receive the diploma on bulls which sire Record of Performance females. Some favored the breeder or importer, but the majority were in favor of having the diploma go to the owner of the bull at the time of service. Subsequent owners of the bull can procure a copy of the diploma for 50 cents.

The Vice-Presidents are the same as in 1915, except that J. H. Black, Lachute, Que., takes the place of Robert Ness, Howick, Que. The Directors for the Western Division were re-elected. Only one change in delegates to Fair Boards took place, and that was with Ottawa, where the Association will be represented by the President and Secretary.

Officers: President, M. Ste. Marie, Compton, Quebec; Vice-President, W. W. Ballantyne, Stratford; Secretary-Treasurer, W. F. Stephen, Huntingdon, Quebec; Registrar, A. R. Dawson, Ottawa. The Ayrshire breeders were entertained at a very enjoyable banquet on the evening of Wednesday, Feb. 2. Speakers of the evening were Dr. C. C. James; Alex. Hume, Menie, Ont.; H. A. Craig, Deputy Minister of Agriculture for Alberta; Dr. S. F. Tolmie, Victoria, B. C., and Professor H. Barton, Macdonald College, who favored the visitors present with addresses along practical lines.

Jersey Cattle Club Have Good Year.

There was a large attendance at the annual meeting of the Canadian Jersey Cattle Club, held at Toronto, on Tuesday, Feb. 1. A rapid expansion of the club's influence and a strong position of stability were manifest by the financial statement of the past year, as read by Secretary B. A. Bull. The cash balance on hand at the beginning of the current year was \$1,964.65, an increase of \$700.22 over that of a year ago. During the past year there were 1,065 registrations and 887 transfers, and an increase in membership of 11. The officers elected for 1916 are: President, F. L. Green, Greenwood; Vice-President, D. O. Bull, Brampton; Second Vice-President, H. A. Dolson, Norval; Secretary-Treasurer, B. A. Bull, Brampton; Directors: J. W. Pringle, London; H. H. Gee, Hagersville; J. M. Dolson, Brampton; R. J. Fleming, Toronto; and Geo. Bagg, Edgeley.

A grant of \$25 was made to the Dominion Cattle Breeders' Association, re-financing the Government cars of pure-bred cattle for the Eastern and Western Provinces. It was also decided to continue the grants re prizes for R. O. P. tests. An additional grant of \$25 was made to the winner of the Dairy Test, in Guelph, provided the winner was a Jersey. The Executive was empowered to inaugurate an advertising scheme through the medium of the press and other means to more prominently bring before the public the superior qualities of the Jersey as the ideal dairy cow. The proposed amended Constitution, as brought before the meeting for endorsement, caused a lengthy discussion, and several minor changes were adopted.

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Weston; Percherons;
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Barrie. Standard-Breds:
Toronto; Geo. Pepper, Toronto.
Wm. Hendrie, Hamilton; Col.
Pomes: H. M. Robinson, Toron
ton, Toronto.

**Clydesdale Breeders Consi-
titution.**

The most important matter brought
annual meeting of the Clydesdale Ho.
tion of Canada, at Toronto, on Thurs-
3, was the amended Constitution. A g
of discuss'on arose over some of the cla
nothing definite resulted. Finally it was
to leave the matter in abeyance, and the
tary was instructed to send a copy of th
Constitution to every member for perusal
the next annual meeting. The Directors
urged breeders to be prepared to meet the de
for breeding stock, that was sure to come
the termination of the war, by breeding all el
ble mares and keeping their registrations up
the minute. It was also stated that enquir
had come from Australia relative to the possi-
bilities of securing breeding stock in this coun-
try. The President, in his address, spoke of the
superiority of the Clydesdale over other
draft breeds, and urged the organizing of Pro-
vincial Associations to further the interests of
the Clydesdale breed. The financial report showed
the Association to be flourishing despite the
adverse conditions caused by the war. There was
a slight falling off in registrations, but a sub-
stantial increase in membership. The total re-
ceipts for 1915 were \$10,318.77, as compared
with \$10,709.55 for the previous year, while on
the other hand the expenditures showed a reduc-
tion of \$994.09 as compared with the previous
year. The cash on hand at the beginning of the
year was \$9,604.99, and the excess of assets
over liabilities was \$19,859.90. Officers for the
year are: President, John A. Boag, Queensville;
Vice-President, Wm. Graham, Claremont. Direc-
tors: Wm. McCurdy, Napinka, Man.; Walter Scott,
Sutton; W. Fred. Richardson, Columbus; James
Torrance, Markham; T. H. Hassard, Markham;
James Henderson, Thamesford; T. D. Elliott,
Bolton. Vice-Presidents for the provinces: Ont-
ario, Peter Christie, Manchester; Quebec, Robt.
Ness, Howick; New Brunswick, R. S. Snowball,
Chatham; Nova Scotia, S. A. Lozan, Halifax;
Prince Edward Island, T. Ross, Charlottetown;
Manitoba, John Graham, Carberry; Sas'atchewan,
Alex. Mutch, Saskatoon; Alberta, E. D. Adams,
Calgary; British Columbia, Wm. Montgomery,
Vancouver.

Shire Breeders Hear Good Report.

It was not a large body of Shire breeders who
assembled for their annual meeting on the eve-
ning of Thursday, February 3, but the report of
the Secretary-Treasurer, G. de W. Gran, Toronto,
indicated that the breed itself had prospered dur-
ing 1915. The year was commenced with a
balance on hand of \$1,511.71, and there was
carried over to 1916 a balance of \$920.12. It
should be considered, however, that during 1915,
\$560 was expended on printing Volume 3, as
against nothing in 1914. The grant was also
paid the Guelph Winter Fair for 1915, and \$50
was levied for salaries at Ottawa, both of which
latter items have in the past been paid in the
year following. Membership fees were received
to the amount of \$156, as compared with \$104
in 1914. Registration fees, however, were slight-
ly lower. On the Statement of Membership fees,
Ontario led with \$56; Alberta was next with \$54,
Manitoba followed with \$32, while Quebec sent
\$8; Saskatchewan, British Columbia, and United

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showed an excess of ass
\$893.12. The following mo
the meeting, and after consid
was adopted: "That in the op
ciety the time has arrived when
building should be secured, whe
stock associations could be housed i
where a complete agricultural and
library, together with a complete set o
ous Stud Books could be kept for the
the members, and that the Executive of
ciety be empowered to confer with the Ex
of other live stock societies, and report b
this Society." The following officers were e
for the current year: President, Harry L.
Barrie, Vice-President, Robt. Graham, Toro.
Directors: T. Graham, Claremont; A. Yeag
Simcoe; R. A. Snowball, Chatham, N. B.; W. E.
Jewell, Bowmanville; J. R. Thompson, Guelph;
Dr. E. Watson, Hudson Heights, Que.; J. G.
Carrol, Toronto. Directors for the Provincers:
British Columbia, Walter Renfrew, Okanagan Mis-
sion; Alberta, Wm. Stark, Edmonton; Sas'atche-
wan, Wm. Grant, Regina; Manitoba, J. Lemon,
Winnipeg; Quebec, F. E. Can, Richelieu; Nova
Scotia, C. A. Webster, Yarmouth; New Bruns-
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Dominion Swine Breeders Discuss Registration.

Farmers from the East and West gathered at the annual meeting of the Dominion Swine Breeders' Association, held on Friday, February 4. The President, J. D. Brien, Ridgeway, emphasized the necessity of more co-operation in the handling of swine products.

According to the Financial Statement, swine were recorded in 1915 as follows: Yorkshire, 3,147; Berkshire, 2,535; Tamworth, 675; Chester White, 1,555; Duroc Jersey, 1,337; Hampshire, 117; Poland China, 595. There were in all 9,718 registrations, 1,507 transfers, 86 duplicates and new certificates, and \$1,818 in memberships.

The outcome of some discussion in the meeting was, that the Executive Committee be authorized to immediately communicate with the American Swine Breeders' Association, with a view of getting a reciprocal standard of registration. J. E. Brethour, Burford, moved that the classes for grade hogs be eliminated from prize lists at fairs, and that a class of butcher hogs be recommended as an addition to the prize list of the Ottawa Winter Fair. This motion was carried unanimously. The Executive and Secretary were instructed to recommend to the Provincial Fairs that they make classes for all recognized breeds of swine. It was furthermore recommended that the Duroc Jersey and Poland China be made into two classes at Toronto and London. The new Constitution was adopted by the Dominion Swine Breeders without discussion.

Officers elected: President, J. C. Stuart, Osgoode Station; Vice-President, P. J. McEwen, Wyoming; Secretary-Treasurer, R. W. Wade, Toronto. Directors: H. M. Vanderlip, Brantford; William Jones, Mt. Elgin; Herbert German, St. George, Ont.; W. F. Wright, Glanworth, Ont.; Geo. G. Gould, Essex, Ont.; Alex. Hastings, Crosshill; Professor G. E. Day, Guelph; Dr. S. F. Tolmie, Victoria, B. C.; George Campbell, Northwood; J. D. Brien, Ridgeway.

Ontario Swine Breeders Convene.

The first annual meeting of the Ontario Swine Breeders' Association was held at Toronto, on Friday, Feb. 4. The principal business brought forward was the consideration of the Constitution, as drafted by the Executive, which was accepted in its entirety. The grants to the various exhibitions were left in the hands of the Executive. On motion it was decided to ask the Executive of the Provincial Winter Show to recognize the representatives appointed by this Association instead of the Dominion Swine Breeders' Association. The election of officers representing the various breeds resulted in the following being elected: Yorkshires: Prof. G. E. Day, Guelph; Wm. Jones, Mount Elgin; and John Flatt, Hamilton. Berkshires: John Kelly, Shakespeare; and H. A. Dolson, Norval. Tamworths: Geo. Douglas, Mitchell. Chester Whites: W. F. Wright, Glanworth. Duroc Jerseys: Geo. Campbell, Northwood. Poland Chinas and Hampshires: Cecil Stobbs, Leamington. Secretary, Treasurer, R. W. Wade, Toronto. Auditor, G. de W. Green, Toronto.

At the meeting of the newly-elected Executive, Prof. G. E. Day was elected President, and John Flatt, Vice-President.

Berkshire Breeders Want a Common Standard.

President H. M. Vanderlip, in his address at the annual meeting of the Ontario Berkshire Breeders' Society, spoke enthusiastically of the growing demand for breeding stock, and drew the Society's attention to the necessity of endeavoring to arrange a reciprocal standard of registration with the American Berkshire Society. The meeting by motion appointed the President, Vice-President and one Director, a committee to confer with the Executive of the American Association to arrange a common standard of registration for both Societies. The financial report

showed a cash balance on hand on Jan. 1 of \$317.56. The following grants were made to the various exhibitions: Canadian National, \$75; Provincial Winter Show, \$75; Canada Central, \$40; Ottawa Winter Show, \$40; Western, London, \$40. The following officers were elected for the year: W. W. Brownridge, Georgetown; J. D. Brien, Ridgeway; H. M. Vanderlip, Brantford; Adam Thompson, Stratford; Frank Teasdale, Concord; W. Boynton, Dollar; T. H. Weir, Paris.

Yorkshire Breeders Assemble.

At the meeting of the Ontario Yorkshire Club, held on Friday, February 4, W. H. English, Harding, Manitoba, explained what was being done in the West in order to alleviate marketing conditions when hogs become abundant, as they did in 1914. Cold storage plants and public abattoirs are under consideration in the Western Provinces and, when these materialize, Mr. English thought a repetition of the marketing conditions of 1914 would not occur. J. Bosfield, also of Manitoba, explained to the breeders present that the mail order business between the Prairie Provinces and Ontario might be developed, if they would take care in crating the swine for shipment. He advised a light crate, only large enough for the pig to lie down, and the crate to be made probably of one-half-inch stuff, if the animal was not too large.

The Club reported a cash balance on hand of \$379.13, and the same grants were made to the fairs and exhibitions as for 1915.

Officers: President, J. C. Stuart, Ottawa; Vice-President, H. A. McDiarmid, Fingal; Secretary-Treasurer, R. W. Wade, Parliament Buildings, Toronto. Directors: W. A. Jones, Mt. Elgin; John Flatt, Hamilton; William Manning, Palmerston; Ken. Featherston, Streetsville; J. E. Brethour, Burford.

King Corn and His Courtiers Capture Chatham.

The Ontario Corn Growers' Association held their Annual Corn Show and Convention in Chatham last week. The exhibition was this year staged in the curling rink in place of the armories, which were not available, because of the war. The large rink was filled with fine exhibits, and space was at a premium. The variety of implements, machinery, etc., brought out the fact that corn is one of the most important factors in Canadian agriculture, and upon it much of the success of various other lines of business is dependent. Nearly everything needed in the cultivation, harvesting and handling of the corn crop was there. On exhibition were: a ditcher to drain the land; different forms of discs, ploughs, etc., to prepare the land; check-row planters to plant corn; corn cultivators to cultivate it; harvesters to harvest it; engines and cutters to cut it; silos to ensile it; barns and stables to house the cattle to eat it; separators to separate the milk from the cows which consume it; pumps to bring the water to water these cows; washing machines to cleanse the clothes soiled in the handling of the corn crop; and everything in connection with corn from start to finish was on exhibition, even to automobiles on which to spend the money made from the corn crop. But in the midst of it all, "Corn was King."

On the whole the Show was a success. The quality of the corn exhibited was described by Prof. Moore, of Wisconsin, as being equal to any at a Wisconsin corn show, and he expressed surprise that the corn showed as much maturity as it did in a wet season like the past. The number of entries was about equal to those of last year, and the long rows of uniform, yellow and white cobs attracted the attention of large crowds each day of the Show. Lambton county had a very attractive exhibit, recommending Golden Glow and Wisconsin No. 7, as the best varieties for the county. The Kent Centre Farmers' Club occupied the centre of the hall, with a large crown built of corn, and covering a model Kent county farm. This exhibit attracted a great deal of attention. Longfellow and Salzer's North Dakota were most prominent among the Flint varieties, and Bailey and Wisconsin No. 7 were outstanding among the Dents. The Dent corns contained a little more moisture than usual. The Flints were well matured throughout. The grain exhibit was fair, containing about six entries of alfalfa, four of timothy, four of red clover, one each of alfalfa, flax, rye and peas; about twenty of beans, fifteen of oats, and eight each of barley and wheat.

CURING, TESTING AND DISSEMINATING SEED.

The program of addresses contained the names of several well-known corn growers and seed experts, most prominent among which was that of Prof. R. A. Moore, of Wisconsin. Prof. Moore, in his address on Curing, Testing and Dissemina-

tion of Corn, pointed out that the benefit from planting is lost unless attention is paid to curing. Testing is all right, but 90% of the importance is placed on the curing. Corn should show 90 to 95% vitality. When cut it contains 20 to 30% moisture, which should be reduced to 10 to 12% in drying. The secret of kiln-drying is a free circulation of air. Without it, corn will spoil. Prof. Moore advised small buildings, if necessary of cheap construction, in which many holes are made to let in the air. Six bushels of seed corn will plant 36 acres, in accordance with the check-row system, 42 inches each way, four kernels to the hill. This much could be dried in the house. Prof. Moore advised putting a corn tree in the parlor, and to arrange the ears so they will not touch one another, open the windows and dry the corn. Corn should never be placed near the south side of a building in drying, as the sun's rays may injure germination. After drying, the corn should not be placed in a room where it will take on outside moisture before cold, frosty weather sets in. There are four things which Prof. Moore recommended to be remembered about corn: First, that it should not be dried in the direct rays of the sun; second, corn, kiln-dried, should not be exposed to zero weather; third, corn should have free circulation of air the first few days while kiln-drying; fourth, corn should be placed in a dry room free from rats and mice.

In selecting corn, always pick out well-formed ears, and those which show early maturity. Pick the corn as soon as the husks begin to turn yellow. A light frost will not injure it. The latter part of the growing season seems to improve the vitality of the corn greatly. Select the ears which are attached to the stock, about three feet from the ground. In selection from the rows, study the corn in the milk stage, and mark the best stocks. Discard bad ears after husking. Corn should be put in curing place the day it is taken from the field. Fifteen average ears will plant one acre, four kernels to the hill. Prof. Moore advised testing the corn in a box 20 by 40 inches, laid out into one-inch squares, using damp sawdust over muslin for the sprouting. All ears which show any defects in germination should be discarded. Seed from the butts and tips should not be used. Prof. Moore cited, as the best means of disseminating good seed, the work of the Wisconsin Experiment Association, an association founded on much the same principles as those of our own Agricultural and Experimental Union. The members of the Association are men who have taken a two-year short course at the College, and who are wide-awake to the needs and advances of good seed.

Professor Moore described the Nursery and Centgener methods of breeding seed grain and corn, adopted at the Wisconsin College. In grain 3,000 seeds of a certain variety are planted in a nursery bed, plants four inches apart in the

bed, with the border rows discarded. Twenty heads are selected from the 3,000, and the ten heaviest retained from the second-year beds. These are put in little beds called the Centgener plots, containing 100 plants besides the outside rows, each plant having within it the progeny of a seed from the previous year. The first five or six heads are selected from the best plants in each Centgener plot and retained for the following year, and the process repeated the third year and fourth year. The entire Centgener plots, of which there are ten for each variety of grain, are compared and harvested. Six plots are cast out, and the four best retained for increased plots. The fifth year one square rod is sown, which is increased to one-tenth of an acre the sixth year, and the acre-plot the seventh year. By the eighth year the twenty-acre plot is adopted.

In corn breeding the ear-to-row method of selection is adopted. Four standard varieties of Wisconsin corn were bred up, and two, Golden Glow and Wisconsin No. 7, selected. Five hundred corn plants are marked in the milk stage; three hundred are saved from these and kiln dried in a temperature of 75 to 78 degrees. Another hundred ears are thrown out, leaving two hundred ears. All the kernels for row 1 are taken from one ear, and for row 2 from one ear, etc., so that the entire row is from a single ear of corn. Selection is made again the following fall, only taking those rows of a uniformity of type throughout. From this system it was found possible to increase the yield of seed ears three or four times. Prof. Moore placed the value of good seed corn at \$3.00 per bushel, and compared it with the value of ordinary corn at 60 cents a bushel. A variety may be made to double its former yield by breeding work. In Wisconsin the Wisconsin No. 7 variety is now giving 35 to 40 per cent seed ears, while before improvement it did not give more than 8 per cent.

The work of the Wisconsin Experimental Association has had the effect of starting a new seed centre, wherever one of its members is located. It has succeeded in eliminating the inferior variety, because it is a well-known fact that in most sections too many varieties are grown for the good of the farmer and his crops. Seeds are inspected, and, if up to the standard, the member is allowed to use the association tag to sell his produce at a fair price. Prof. Moore believed that the demonstration of these good fields of corn was worth more than all the bulletins that could be published on the subject. He deplored the fact that very often the bright boys of the farm were educated for some other business, while those considered not so clever were kept at home for farmers, and he criticised the old method of sentiment to keep the boys on the farm. You must have more than sentiment, if the bright boys are going to stay on the land. They must have something to make them think,

and they must have something for it. In this his work with the seed centers had done a great deal. Last year at county fairs in Wisconsin, fifty-two contests in fifty counties were carried on for children, and 26,000 boys and girls took part. Prof. Moore cited cases where young lads trained in this way were now selling from 100 to 500 bushels of seed corn yearly, and some of the young farmers in the seed centres were selling as high as \$20,000 each of seed grain. His addresses were listened to with a great deal of interest by a large and enthusiastic audience.

In the absence of C. F. Bailey, Assistant Deputy Minister of Agriculture, Fred Forsyth, B. S. A., explained the moving pictures relating to agriculture. John T. McNair, of Kingsville, gave an address on birds.

An interesting feature of the Show was the Judging Competition for boys, which was conducted by Prof. R. A. Moore, and Prof. C. A. Zavitz. In describing this work, Prof. Moore went into the score-card, and explained to the boys that they would judge corn much the same as they would judge live stock, as to size, conformation, uniformity, type, etc. About a dozen boys took part in the first day's competition.

S. J. Moore, Representative of the Seed Branch of the Dominion Department of Agriculture, spoke for a short time on the production of corn in Nova Scotia. That Province, Mr. Moore stated, would require a variety of corn which would produce 15 tons of silage per acre. The corn should mature sufficiently to make a good quality of silage. Some few experiments, the speaker said, have been conducted with good results. On the college farm at Truro some varieties of Flint corn, and at least one of Dent corn, have been produced.

In the absence of the Seed Commissioner, G. H. Clark, the question of Seed Corn Control was dealt with by E. D. Eddy, of Ottawa. In introducing the subject Mr. Eddy mentioned that not a few samples of seed corn failed to give satisfaction, both with respect to general quality and germination. Some lots, for which a high price is paid, might be included in this list. A Seed Corn Control Agreement, as outlined by the Seed Commissioner, intended to protect growers and purchasers of high-class seed corn, was presented.

At the annual business meeting of the Association the Seed Corn Control Agreement was read to the members in attendance. At the conclusion of the discussion a resolution was passed approving of the proposal.

SEED CORN CONTROL AGREEMENT.

Any corn sold under the Agreement is thereby subject to inspection and test by the Seed Branch of the Department of Agriculture for Canada, and to guarantee the quality to purchasers under the following terms:

1. The name of the variety and the grade of seed corn shall be given when advertising and giving quotations; shall be indicated on shipping invoices, and shall be exhibited on the crates or sacks containing seed corn, or on tags securely attached thereto.

2. Each crate or sack containing seed corn sold on the ear, or the tag attached thereto, shall, before leaving the possession of the grower, be marked with the name of the variety, and one of three grades: Extra No. 1, No. 1, No. 2.

3. The standards of quality for the grades shall be as follows: (a) Extra No. 1 seed corn shall consist of corn on the ear, containing at least 45% of sound, well-developed ears that are uniform and typical specimens of the variety named; it must be carefully selected and be cured in a special corn-drying house, or by some other approved method as distinguished from the ordinary corn crib; and the germination on the basis of the average of ear test, must not be less than 90%. (b) No. 1 seed corn shall consist of corn on the ear containing at least 90% of sound ears that are reasonably uniform and typical specimens of the variety named; and the germination, on the basis of the average of ear test, must be not less than 90%. (c) No. 2 seed corn shall consist of corn on the ear containing at least 85% of sound ears of the variety named; and the germination, on the basis of the ear test, must be not less than 85%.

4. The Department of Agriculture, through its seed laboratories and inspectors, will render all possible assistance in sampling and testing seed, but the grower shall be responsible for correct marking on the crates or sacks containing the seed corn, or on the tags attached thereto.

5. All "controlled" seed corn will be subject to inspection and sampling by seed inspectors or purchasers. If the marking on a lot is questioned, a representative crate or sack will be taken as a sample. All samples shall be taken in the presence of one witness. The samples shall be sent to a seed corn referee who shall be named by the Seed Commissioner of the Department of Agriculture for Canada. The referee, after making such investigation as he may deem necessary to decide whether the corn at the time of shipping was wrongly branded, will decide the grade on the basis of general appearance, quality, and the germination test.

A sample for official grading must be taken by an inspector or purchaser within seven days from the time the shipment is received by the purchaser, and when sent to the referee for grading shall be accompanied by a statement signed by the witness, and the person taking the sample, giving the name and address of the grower, the name and the variety of the corn, the grade mark on the packages, or tags attached thereto, and the number of crates or sacks in the lot. A seed inspector may sample the shipment anywhere in transit, as under the Seed Control Act.

7. A blank form to be used when sending samples to the referee for official grading, if the quality is suspected, together with a copy of the terms of this agreement of sale, shall be sent by the grower to the purchaser with every shipment of seed. These forms will be supplied by the Seed Commissioner of the Department of Agriculture for Canada.

8. In case the sample sent for official test is given the same grade as it was marked by the grower, the referee shall first notify the sender of the sample only. If, in the opinion of the referee, the seed is lower in quality than standard of the grade marked, the grower only shall first be notified.

9. An appeal from the grading by the referee will be considered, provided that the appeal, if from the grower, reaches the referee within ten days from the time the report was mailed to him, and that the appeal, if from the purchaser or inspector, reaches the referee within fourteen days from the time the report was made.

10. Appeal cases will be placed before a Board of Appeal to be composed of three members, two to be nominated by the growers, and one by the Seed Commissioner of the Department of Agriculture for Canada.

11. In case an appeal is lost, the expense of convening the Board will be borne by the person making the appeal. If the appeal is sustained, the expense will be met by the Department of Agriculture for Canada.

12. At the expiration of the time limit for appeal, or when decision is given on appeal cases, reports on samples that have been graded lower than they have been marked, will be mailed to the persons who sent the samples, and the growers will be notified to make settlement in accordance with the terms defined in the two following paragraphs:

13. In case the sample sent for examination by an inspector or purchaser is lower in grade than it was marked, settlement shall be made on the following basis:

(a) If the purchaser is willing to accept the seed under the grade given by the referee or Board of Appeal, an allowance in price will be made corresponding to the difference in the quotation of the two grades at the time of the sale; or,

Ontario United Farmers in Annual Session.

The second annual convention of the United Farmers of Ontario, and the second annual Shareholders' Meeting of the United Farmers' Co-operative Co., Ltd., were held in Toronto, February 2, 3 and 4.

The financial statement of the United Farmers' Co-operative Co. Ltd., showed that a good year's business had been done. Nearly one-third of a million or over three hundred thousand dollars' worth of business was done during the year, in a Company whose capitalization limit is \$10,000, of which less than \$5,000 was subscribed. It has been demonstrated that it is possible for this Farmers' Company to do a large business on a sound basis, but the Company found it necessary that more of the authorized stock be subscribed, and considerable of this was taken at the meeting.

The Board of Directors elected for 1916, is composed of the following: B. C. Tucker, Harrowsmith; E. C. Drury, Barrie; C. F. Whittaker, Williamsburg; Geo. Carlaw, Warkworth; A. A. Powers, Orono; W. C. Good, Paris; Anson Groh, Preston; John Z. Fraser, Burford; John Pritchard, Gorrie; S. A. Beck, Cayuga; C. W. Gurney, Paris; and L. Schnurr, Shallow Lake.

A number of interesting addresses were given by men who are directly connected with the United Farmers or with the Co-operative Company, including addresses by Anson Groh, John Tolmie, L. H. Blatchford, J. J. Morrison, John Z. Fraser and others. One of the best addresses of the entire convention was delivered by T. A. Crerar, of the Grain Growers' Grain Co., Winnipeg, Man.

The addresses showed clearly that there are difficulties to overcome in organizing farmers where the capital must necessarily be held by so many different men, often living far apart. This was contrasted with joint stock companies where most of the capital is held by a few men who control the business. It was shown clearly that the farmer must enter the field of co-operation, and that any company to be a success must have plenty of funds to carry on the work.

W. L. Smith, of Durham County, and E. C. Drury painted a rather dark picture of Canadian

(b) If the purchaser does not wish to accept the seed on the basis of the lower grade he may return the whole lot in question, the grower to pay transportation charges both ways, and promptly refund any money that may have been paid.

14. Settlement for samples sent for official test shall be made as follows: (a) If the sample sent for test conforms to the grade marked, the person from whom the sample was received will lose the sample and bear the cost of shipping it for test. (b) If the sample sent for test does not conform to the grade marked, the grower who sold the seed will lose the sample and bear the cost of shipping.

15. The Seed Commissioner of the Department of Agriculture for Canada will publish an alphabetical list of the growers who are selling controlled seed, which will be distributed to ensilage growers, and otherwise advertised.

16. This agreement with the grower may be cancelled at any time if, in the opinion of the Seed Commissioner of the Department of Agriculture for Canada, based on the report of the referee, the grower is not fulfilling his obligation. A third offence in shipping seed not properly marked will be sufficient for cancellation.

ONTARIO'S CULTIVATED CROPS.

Professor C. A. Zavitz, of the Ontario Agricultural College, outlined the growing of cultivated crops in Ontario, especially in the southern part of the Province. In 1915 there were 753,509 acres of corn in Ontario, while potatoes were grown to the extent of 173,934 acres, and root crops were about as extensive as potatoes. There were 62,836 acres of beans produced, making a total of 1,163,858 acres, valued at \$35,000,000.

Investigations carried on at the College and on farms showed that an exceedingly small percentage of corn will comply with the standard established in regard simply to length of ears, circumference of ears, and number of rows.

Prof. Zavitz urged bean growers to select plants in the growing field, believing it would be one of the best sources of supplying good seed. Considerable work in connection with bean anthracnose had been carried on at the College. In connection with field roots Prof. Zavitz stated that seed of good quality could be produced in this country, and home-grown seed gives better yields than imported seed. Reference to potato varieties was made, recommending the same varieties as brought out in our report of the meeting of the Agricultural and Experimental Union, published in our issue of Jan. 20.

Officers elected were: Hon. President, Byron Robinson; President, Robt. Knister; First Vice-President, Lester Gregory; Second Vice-President, L. D. Hankinson; Secretary, J. W. Noble; Treasurer, J. H. Coatsworth.

agriculture after the war, unless farmers organize themselves and are prepared to meet the contingencies incident upon the outcome of the conflict. The former speaker prophesied that woman labor would be common in the fields in 1916, and he could not see anything but poor crops ahead for 1916 and 1917. He also predicted an increase in tariff, which would only take more dollars out of the producer and put them in the pockets of manufacturers. Mr. Drury forecasted a bankrupt world when the war is over, and stated that farmers must represent citizenship in the reconstruction. Farm organizations must extend themselves. They may have to go so far as to go into the manufacturing business, and to form an industrial commonwealth. He emphatically stated that militarism, which has crushed the individual, in the Central European powers, must not be copied in America. In his opinion the real fight will commence when peace is made, and it will be then that the hope of the country will lie in the farmer.

F. C. Hart, Director of the Co-operation and Markets Branch of the Provincial Government, gave an interesting address, in which he pointed out the need for organization on a proper basis. He cited cases where fruit growers had difficulty in selling their fruit, because they put the selling off till the last minute, and attempted to do it while the fruit train was being loaded at their station. While such growers found it difficult to dispose of their fruit at a fair price, other markets were not getting fruit enough to supply the trade. Mr. Hart cited the case of the work of the Manitoulin Island Wool Growers' Association, already described through these columns. He advised that no farm organization should be started where there is a poor business opening.

He also believed that the men forming associations should be selected carefully, so that as little trouble as possible worked in afterwards. Small organizations he deemed advisable, and he advised no organization to start without plenty of capital, and a competent and efficient manager is absolutely necessary. He also threw out a very good hint when he mentioned the fact that a co-operative company should at-

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tend strictly to business, and leave matters of religion, politics, woman suffrage, prohibition, etc., to other meetings.

A number of resolutions were brought in. One extending the sympathy of the organization to the family of the late John Hyatt. Among the others were the following:

A resolution commending the Principle of the Initiative and Referendum.

A resolution asking the Dominion Government to enact legislation at the present session, to prevent the manufacture and sale of liquor in Canada until three years after the war is concluded, and that the privilege to manufacture and sell liquor in this country should then be granted only on the vote of the people.

Another resolution passed was one asking that the Federal Government reduce all duties against British imports.

A committee is to be appointed to investigate the organization of agricultural co-operation, especially co-operative credit organizations. The committee is to report not later than Oct. 1, 1916, and each branch of the organization is to get a copy of this report.

A resolution relating to recruiting was passed, in which it was recommended that local committees in each district be approached with competent agricultural representatives thereon to decide whether or not it was the duty of young men in the neighborhood to enlist, and to those who are believed to be doing their duty at home some badge of recognition should be given.

With regard to the marketing of live stock through the Association, E. C. Drury advises the local organizations to market their stock through the Central commission man on the Toronto market. Arrangements are to be made to have a man on the Montreal market also. In Mr. Drury's opinion the drover system of selling stock is out of date. To his mind the drover is unnecessary, and live stock should be sold through the Central. He recently shipped a carload of stock, including 34 lambs and 28 hogs, to Toronto, and after paying all expenses in connection with the sale of same he had a net profit of \$23.71 over and above the price which he was offered by the drover at his home station; and the price he was offered was higher than that paid to some of his neighbors, who had equally good stock. It cost \$33.35 to market the carload, which netted Mr. Drury \$897.58 through the Association. It is perfectly safe to ship the stock direct to the market, and have it sold by the Association commission man. This looks to be one of the best features of the organization.

As a suggestion to those in charge of the work, we would advise that they pay more attention to their program in the future, and that when a man is on the program to speak, his address may be given without almost innumerable interruptions, as was the case this year. No man can do his best on the platform, when, every few minutes, he is stopped over some trivial matter. One of the greatest mistakes in a meeting of this kind is re-arranging the program at the last minute, and allowing speakers who are not on the program to take up more time than those who are expected to give the addresses. We would suggest that the different subjects be discussed, as advertised, by competent men, and the meeting thrown open for two or three-minute addresses by those who wish to speak. No speaker can do himself or his subject justice while his hearers are deciding how they shall vote in connection with the election of officers. We just throw this out as a hint to the management of the organization. The United Farmers of Ontario should grow into a great organization if all branches of Ontario agriculture get behind the movement and push. It needs the fruit growers, it needs the live-stock men, it needs the men engaged in all the branches of agriculture in Ontario. And if it is to do its best work, it should confine itself to agriculture; should be careful about the resolutions brought before the meetings, and should see that they are thoroughly considered before they are rushed through. In short, the organization should be sure of its ground, and then go ahead.

The officers elected for the United Farmers of Ontario were: President, R. H. Halbert, Melancthon; First Vice-President, A. J. Reynolds, Solina; Second Vice-President, W. C. Good, Paris; Directors: W. H. Hunter, Varney; E. C. Drury, Barrie; L. H. Blatchford, Drumbo; E. A. Van Allen, Aultsville; J. Z. Fraser, Burford.

[Ontario Vegetable Growers in Session.

The annual meeting of the Ontario Vegetable Growers' Association was held in Toronto on January 31. After the regular business incident to the annual convention was transacted, the following officers were elected: President, F. F. Reeves, Humber Bay, Ont.; First Vice-President, J. J. Davis, London, Ont.; Second Vice-President, E. K. Purdy, Kingston, Ont.; Secretary-Treasurer, J. Lockie Wilson, Toronto. Executive Committee: F. F. Reeves, J. Lockie Wilson, J. J. Davis, E. K. Purdy, and Thos. Delworth.

The Canadian Sale of Shorthorns.

At the Union Stock Yards, West Toronto on Wednesday, February 2nd, 1916, a large number of stockmen assembled for the Annual Consignment Shorthorn Sale, which is conducted under the management of Robert Miller, Stouffville, Ont. The Prairie Provinces were well represented by buyers, and several patrons of the breed from the East were present. Ontario breeders, however, made up the major part of the attendance, and fortunately for the Province the animals that commanded the high prices were retained at home. The 58 head sold were chosen from the following breeders' herds: Robt. Miller, Stouffville; J. A. Watt, Elora; Kyle Bros., Drumbo; John Miller, jr. Ashburn. On the whole, the quality of stock offered was superior to that which made up the sale last year and the prices were better. It was indeed a good sale, and many excellent animals, both male and female, changed hands. This annual event has established a reputation which attracts a great number of men who come prepared to buy stock. The highest bid of the sale was that placed on Village Rose a yearling heifer contributed by J. A. Watt. This animal was sired by Gainford Ideal, making her a grand-daughter of Gainford Marquis. She covered the show circuit in 1915 with honorable results. J. Watt and Son of Salem were the buyers. Another heifer, Princess Maud's Last, in calf to Gainford Marquis, was purchased by Pettit Bros., Freeman, Ont., for \$560. The highest priced bull was Cupbearer, one of Kyle Bros' consignment. This young bull, which was exhibited last season and just past his first birthday, went to John Strachan of Pope, Man., for \$505. Another good bull which elicited brisk bidding was Oak Bluff Monarch, which cost J. M. Gardhouse, Weston, \$435. As on former occasions, the sale was well conducted, with Capt. T. E. Robson and George Jackson as auctioneers. Following is a list of the animals selling for \$100 or over, with their purchasers:

FEMALES.

Table listing female animals for sale, including names like Fame's Bloom, Matilda 4th, Village Rose, Eliza Royal, etc., and their respective prices.

MALES.

Table listing male animals for sale, including names like Wedding Master, Golden Prince, Lovely King, etc., and their respective prices.

The Subterranean Heating Co.

BY PETER MCARTHUR.

Although I have lived in both the city and the country, the difference between the two never came home to me so forcibly as during the past month. During the past few weeks I have spent about as much time in one as in the other, and have had a chance to compare the point of view of city men and country men. In the cities they are keyed up to an almost feverish excitement. In many lines they are having not only "Business as Usual," but more business. But business is not the only department where the pace has been increased. The social pulse is beating high, and apparently people must have something going on every minute. In business everything depends on what this man or that man may do and what changes may occur

in public policy. Socially, everything depends on what Lady This or Mrs. That may be doing or proposing to do. In all their activities city people are depending on the leadership of others. No one seems able to do things alone. There must be a "movement" of some kind in order to accomplish anything. In the country it is different. Everything is keyed to Nature rather than to man. The sunrise and sunset, the winds and the storms affect our actions. Our plans are made to conform with the seed-time and the harvest, and every man makes his plans independently of others. In the cities I felt that if the sun did not rise, some people would merely remark on the fact and then turn on the electric light and go on with "Business more than usual." But if the sun did not arise with us, and if the seed-time and harvest did not come, our world would be at an end; and because the lives of the people in the country are keyed to the great serene phenomena of Nature, their lives are more serene and vital.

Another thing that struck me in the city was the almost complete disappearance of the individual in business. Practically every man I met was either an official or an employee of a corporation. And the corporations with which they were connected were all prospering because of the business activity due to the war. When Sir John Willison stated that it would be a disgrace for any man to be richer at the close of the war than he was at the beginning, I am afraid he did not give sufficient consideration to modern business methods. When business is conducted by corporations, their chief end is to make money, and it is practically impossible to place the blame on anyone if the money-making is disgracefully large. You cannot successfully bring home disgrace to a corporation. If a man happened to be a shareholder in a company, that has made large profits on account of the war, you cannot blame him if he receives larger dividends or if the value of his stock goes up, any more than you can blame a farmer if he happens to get a better price for his grain. In spite of Sir John Willison's remark, many men are sure to be enriched because the corporation from which they derive profits has been successful in its enterprises. The corporate idea in business has, to a large extent, removed business from the control of conscience. A group of men, all of whom are nicely conscientious in their personal dealings with their fellows, may form a corporation that will not show a trace of conscience, and they will all hold themselves guiltless. Besides promoting more efficient business methods, a corporation enables those who profit by it to avoid responsibility. In all the accusations that have been made in parliament and out of it regarding war profits, grafting and other illicit means of accumulating wealth, it is very noticeable that few individuals have come in for direct censure. In almost every case it was a corporation that did the grafting or crooked business. This leads me to believe that when the Author of Evil finally settles down to business he will stop acting as an individual and organize the Subterranean Heating Company, or some similarly attractive corporation. He will put in Mammon as General Manager, with Beelzebub, Moloch, Belial, The Kaiser, Sir Jingo McBore, Senator Redneck, and other notables, on the Board of directors. He will content himself with holding a controlling interest in the stock and will settle down in a fashionable suburb to live an admired and respectable life. He will cover his horns with a plug hat, his tail with a frock coat and his hoof with patent leathers and spats. And he will never be behind in his tithes of mint, anise and cummin while the work of corrupting the world is being vigorously pushed by the corporation which he controls, but for whose conduct he can deny all legal responsibility. Really, we have not yet developed the corporation to its highest, or lowest, limit, though we have done very well. Most of the evils of which we complain are due to the operations of corporations; while the men who control them and profit by them are such nice fellows personally that one cannot quarrel with them, especially as they can show with such pathetic earnestness that they are not to blame. I am wondering if one of the after-effects of the war will be the control of corporations, so that we can live with them on neighborly terms.

Plowmen's Annual Meeting.

The local branches of the Plowmen's Association were practically all represented at the annual meeting of the Ontario Plowmen's Association, held in the Canadian Forester's Hall, Toronto, Feb. 8. Very successful plowing matches were held by the local associations during the past year, and the Ontario Provincial Match, held at Guelph last November, was considered the biggest, from the standpoint of competitors and visitors, ever held in Canada. It was the opinion of the meeting that the organization is destined to be of high educational value to farmers and farmers' sons. Plans were made whereby the Association would furnish an expert plowman to assist at plowing demonstrations arranged for by the District Representatives of the Department of Agriculture. One hundred and forty dollars, collected by the Association at the Provincial Match, was forwarded to wounded Canadian soldiers at Folkestone, England.

Following are the officers: President, Wm. Doherty, Eglinton; First Vice-President, L. Smith, Millbrook; Second Vice-President, N. W. Malloy, Woodbridge; Secretary, J. Lockie Wilson, Toronto; Treasurer, T. A. Patterson, Ellesmere. Executive: F. Weir, Agincourt; J. McLean, Richmond Hill; W. C. Barrie, Galt; Wm. Doherty; L. Smith; N. W. Malloy; J. Lockie Wilson.

Markets.

—Best heavy, \$6.50 to \$6.75; yearlings, \$5.75 to \$7; best handy butcher, \$6.75 to \$7.25; common to good, \$6.50 to \$6.75; best heavy fat cows, \$6.25 to \$6.50; good butchering cows, \$5.25 to \$5.75; medium to fair, \$4.75 to \$5; \$3.75 to \$4.25; canners, \$3 to \$3.50.

—Best heavy, \$6.50 to \$6.75; butchering, \$6 to \$6.25.

—Best feeders.—Best feeders, \$6.50; common to good, \$5.50 to \$6; best stockers, \$6 to \$6.25; common to good, \$4.50 to \$5.75; good yearlings, \$6 to \$6.50; common, \$4 to \$4.75.

—Best feeders.—Good to best, \$7 to \$8.50; in carloads, \$7 to \$7.50; medium to fair, in small lots, \$4.50 to \$5.50; in carloads, \$4.50 to \$5; common, \$3 to \$4.

—Lamb.—Market on lambs and Lambs.—Market on lambs and Lambs was pretty uniform. Monday up to \$11.35; Tuesday's market steady, and Wednesday, Thursday and Friday a few choice loads up to \$11.50. Cull lambs mostly down, and top for yearlings. Sheep were a quarter lower part of the week, and Friday was regained, sheep quotations being as follows: Choice \$8 to \$8.25; mixed sheep, \$7.75 to \$8; ewes, \$7.50 to \$7.75, with a few. Receipts last week totaled 8,500 head, being against 17,845 the week previous, and 30,100 the same week a year ago.

Chicago.

—Beef, \$6.40 to \$9.60; cows, \$3.20 to \$8.25; calves, \$8 to \$9.

—Light \$7.50 to \$8; mixed, \$7.60 to \$8.50; heavy, \$7.60 to \$8.05; rough, \$7.70; pigs, \$6 to \$7.15.

—Lamb.—Sheep, native, \$7.60 to \$8.50; lambs, native, \$8.50 to \$11.25.

Gossip.

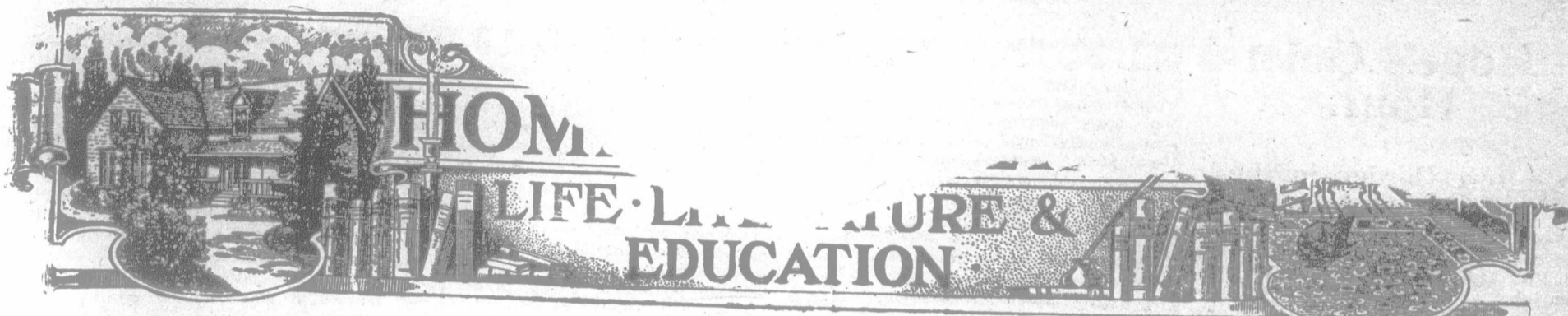
—Advertisement is directed to the advertiser this issue, page 234, of the Life Assurance Company. This had an excellent year.

—Advertisement is directed to the advertiser another column of a Holstein held by W. S. Shearer, Listowel, Feb. 18.

DEAD DATES CLAIMED.

- Wilbur C. Prouse, Tillson, Ont.
- Norfolk Holstein Breeders' Sale, Simcoe; W. A. Mason, Simcoe, Ont.
- J. M. Gardhouse, Weston, Ont.; Scotch Shorthorns, at Black Yards, West Toronto.
- W. S. Shearer, Listowel, Ont.
- Estate of the late D. J. Woodville, Ont.; Shorthorns, and Shropshires.
- W. J. Cox, Peterboro, Ont.; and implements.
- Rettie Bros., Burgessville, Ont.
- Guelph Fat Stock Club sale, J. M. Duff, Secretary.
- T. L. Dunkin, Norwich, Ont.
- Bruce County Stock Breeding Association Annual Consignment Sale, N. C. Mackay, Listowel, Ont.
- Elias Ruby, Tavistock, Ont.
- W. J. Isaac, R. R. 1, Baltimore, Ont.
- East Elgin Breeders' Sale, H. C. Mann, Secretary.
- Oxford District Holstein Club Consignment Sale, at W. R. Thomson, Woodstock, Ont.
- Western Ontario Consignment Sale, Harry Smith, Hay, Ont.
- James Benning, Williams, Ont.

FEBRUARY 10, 1916



Ask What You Will.

By Frank Walcott Hutt.

Ask what you will, the wise world says;
Ask freely what you will of me:
The grace of knowledge, length of days,
A lease of power and mastery,
The praises of an honored name,
The seats of splendor and of fame.

Ask what you will; but you must share
The struggles of my men of toil,
And on my broad arenas dare
The contest and the ceaseless toil,
As thousands manfully have done
Ere battles have been fairly won.

Ask what you will; but you must climb
My hills by many a devious way,
To gain those fastnesses of Time
That have not yielded in a day;
And long the siege ere you shall win
At length your right of way therein.

Ask what you will, brave knight-at-arms;
Lo! I have untold wealth to give;
But every gift that lures and charms,
Seeks only of the life you live,
Wherever led, however spent,
A just and fair equivalent.

Plucky Women In Western North.

By Aubrey Fullerton.

The expected movement of ingoing settlers into the new Western North, for the season of 1916, is already under way. It began, in fact, a month or two before the year came in. By the first week of December, a surprisingly large number of prospective Peace River and Grand Prairie farmers, and in some cases whole families, had completed their arrangements for moving, and were actually on the road. The fact that a direct railway service is now at their disposal to 300 miles north of Edmonton, has, of course, made the question of transportation very much simpler than it used to be, and despite the war and everything else, the people are taking advantage of it.

A feature of this, as of all immigration movements, is the number and very evident pluck of the women who are northward and westward bound. It is perhaps the most significant feature. For if the men who are going north to make new homes for themselves are courageous and daring, what shall we say of their wives and daughters? This year will prove, as every preceding year has proved, that the women of the North not only dare much and endure much, but with the men accomplish their full share, and more, in the building of the country. Meanwhile their moving in is of very real interest. Sometimes it happens that harder experiences are found on the way north than in the actual work that comes afterwards, and from first to last, moving-time in the frontier country is a domestic drama.

A woman from Dakota who formed one of a party moving into the Peace River District, a year or two ago, showed her mettle on the first day out. She knew something about pioneer conditions, but over-estimated her own powers of endurance. When the party started on the trail, north of the then last railway line, there was a shortage of accommodation, and this plucky woman insisted on walking. She set out bravely, and did actually walk the first thirty miles, following the teams at close range. Then she capitulated, and allowed her friends to make other arrangements. Nevertheless, she proved herself to be the kind of woman who makes good in any country, and under any conditions.

Of women's brave feats of endurance in the farming districts of the Western North there are numberless instances.

One of the first settlers in the bush country of Western Alberta fell sick with pneumonia. His wife took care of him all through a long winter, with not another soul in reach, and meanwhile kept the larder supplied with game that she shot with her own rifle. It was a desperately hard winter, but the plucky woman won out.

Still farther up the women have gone. There was a time when the North was looked upon as wholly a man's country. It was so hard to get there, and the conditions of living were so severe, that for many years no white woman ventured into the new frontier regions, or even wished she might. By and bye, however, a few brave women went into the forbidden land, took their part in its pioneer life and work, and set an example for others like them; and now the North is almost a woman's country.

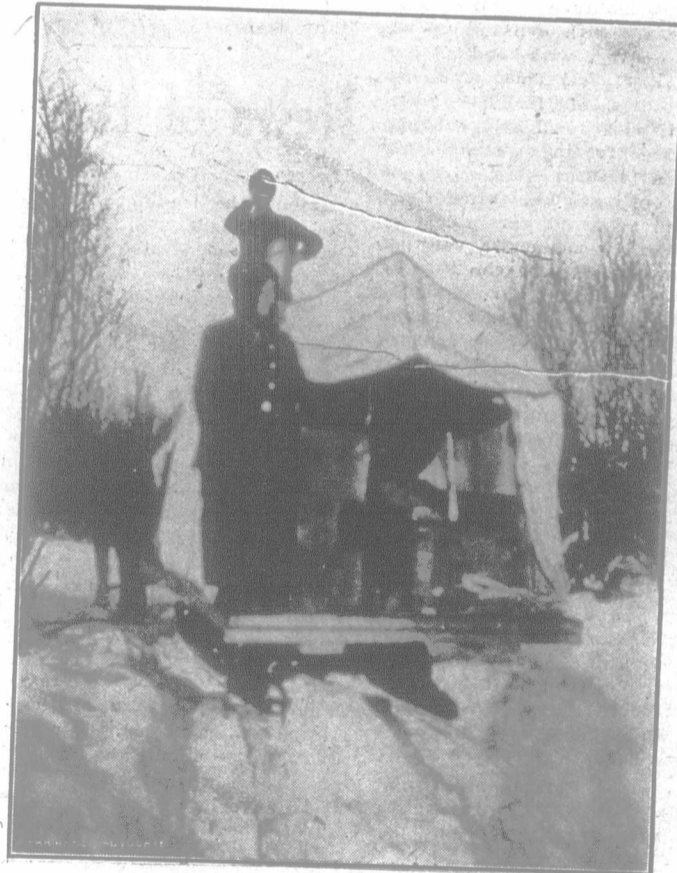
In Alaska, for instance, there is an honor roll of women who not merely shared with men the difficulties and privations of the early mining days, but who themselves played the part of mining prospectors. Some of them did it to such good purpose that they made fortunes, and others proved their fitness for the North by various exploits that called for no little power of nerve and will.

One of these women was the wife of a man who ran a bank in Nome. The bank fell upon bad days, when failure and ruin seemed imminent, and the man who ran it was helpless. But his wife saved it. She came to the rescue with a clean-up of gold nuggets from her own holdings, which she brought over the trail in midwinter, by dog-team. Three hundred miles she travelled thus, alone, and reached Nome with her golden freight just in time to avert the threatened disaster.

Another woman, not a gold hunter, pushed fourteen hundred and fifty miles, from Rampart to Whitehorse, in the Yukon. She, too, went alone, in the dead of a deadly winter. With her train of dogs, she made an average of twenty-five miles a day, and for the greater part of the way she went afoot, holding only by her hands to the bars of the dog-sleigh. For on some days it was too cold to ride; one must keep moving in fifty- or sixty-below weather.

Just like a man this woman masher rode and tramped, sometimes breaking a way for the dogs when the zero-fog was too dense for them to see. Just like a man, too, when out of reach of the roadhouses, she made camp at night beside the trail, with a hole in the snow for her bed, a few fir branches for a mattress, and her Arctic dog-ropes for bedspreads. At dawn she was up and away again. Not many women could have done it, but this woman did it, and suffered nothing more serious than the loss of a few pounds weight in her two months on the winter trail.

Strange honeymoon trips sometimes fall to the lot of Northern brides. A newly-wedded couple at Whitehorse wished to get to Dawson, their home-to-be. But they were too late in the season to catch the last steamer up the Yukon, and for a month they waited at Whitehorse. When the first snow came they set out for home by the overland route. It was a strange bridal outfit: dogs, and grub-box, and a sled big enough for two, and the bridal tour ahead of them on the winter Yukon trail promised to be a hard one. But they had a good time. The weather was fine, the going was good, and the numerous roadhouses along that particular trail made convenient stopping-places. When they reached Dawson they declared that they had not had a dull moment or an uncomfortable experience, and that dog-sled wedding trips in the North were good.



A Woman Traveller in the North.
Over the winter trail in a caoose.



Where a Grande Prairie Woman Keeps House.

The Dollar Chain

A fund maintained by readers of "The Farmer's Advocate and Home Magazine," for (1) Belgian Relief; (2) Soldiers' Comforts; (3) Red Cross Supplies; (4) Serbian Relief.

Contributions from Jan. 28 to Feb. 4, were:

Jas. R. Bain, Loring, Ont., \$1.50; A. K. Sadler, Lambeth, Ont., \$1.00; T. L. Lowe, Bear Brook, Ont., \$1.00; E. McN. Ingersoll, Ont., \$1.00; M. G., St. Mary's, Ont., \$1.00; "Scotia," London, Ont., \$1.00; W. J. Dolson, Chatham, Ont., \$3.50; R. S., St. Joseph, Ont., \$2.00; Eagle Lake Presbyterian Church, Stewart Bay, Ont., \$5.00; Mrs. E. Lear, R. 1, Blyth, Ont., \$2.00.

Amount previously acknowledged \$2,003.86

Total to Feb. 4th, \$2,022.86

Two pairs of socks were very kindly sent by Mrs. H. Murray, Chatham, Ont., and forwarded to Red Cross headquarters.

In regard to socks, may we ask, by request of the Red Cross, that those who are knitting will finish the toes, if possible, according to the directions given in our issue for July 15th. These make a nice, smooth toe, a great necessity, since army boots cannot be fitted. At present, a number of women at the Red Cross are obliged to spend all of their time changing toes.

A note received from a helper in Grey Co., says: "I have tried making toes according to directions, and like it much better than the old way."

Kindly address contributions for the "Dollar Chain" to "The Farmer's Advocate and Home Magazine," London, Ont.

Hope's Quiet Hour.

A Rose-Garden in the Desert.

The desert shall rejoice, and blossom as the rose. It shall blossom abundantly, and rejoice even with joy and singing . . . for in the wilderness shall waters break out, and streams in the desert.—Isa. xxxv: 1, 2, 6.

One of the pleasant surprises which came to me at Christmas was a lovely little book, called "In the Desert of Waiting." In the book was a card with "Christmas greetings from one you have helped." Perhaps it was from one of my "Advocate" friends. In any case, my thanks go out for the book, which will carry its fragrant message to many of my sick and sorrowful neighbors. I have already told the story to several "shut-ins," and lent the book to another.

The story describes a caravan of camels carrying various kinds of merchandise across the desert. Shapur had loaded his camel with a heavy load of salt, which he hoped to carry through the Golden Gate of the City of his Desire. But the camel became lame and fell under its load. Shapur threw off sack after sack of the salt, but even when the entire load was removed the camel could not rise. The caravan went on its way, and the disconsolate merchant cared tenderly through long days and nights for his stricken beast, until it was able to take a few limping steps. Then he discovered, to his dismay, that a tiny stream from the spring where he had encamped had trickled through the sacks and dissolved the salt. Only one sackful was left.

"Now Allah has indeed forgotten me!" he cried. Even if the camel were able to travel, it was useless to set out for the City when he had no merchandise to dispose of. In utter despair he sat beside the fountain until he was disturbed by a bee which buzzed about him.

"Where there are bees there must be honey," he decided, so he followed the bees for many miles until he reached the rose gardens of Omar.

There Omar, the old alchemist, spent his days in the wondrous work of transmuting the common things of earth into something precious. A hermit in the desert, he was secretly blessing the world.

Shapur was filled with new hope as he thought how easily the famous alchemist could change his little store of salt into gold. But Omar said: "Nay, Shapur, each man must be his own alchemist"; but he offered to teach him how to find the treasures hidden in common things. So Shapur picked rose petals in the Garden of Omar, packing thousands and thousands of them into great stone jars. Night after night he worked, through long months, until he grew discouraged by the deadly monotony of the task and the absence of visible results.

At last the great alchemist presented him with a tiny vial of attar of roses, filled with the precious oil distilled from hundreds of thousands of roses, and so costly that only princes could afford to purchase it. He was told that wherever he went the fragrance would open a way into the hearts of men, and he must whisper to those bowed down in a Desert of Waiting this cheerful message:

"Patience! Here if thou wilt, in these arid sands, thou mayest find thy garden of Omar, and even from the daily tasks that prick thee sorest, distil some precious attar to sweeten all life."

The secret of Omar's alchemy is declared to be this: "To gather something from every one thou passest on the highway, and from every experience fate sends thee, as Omar gathered from the heart of every rose, and out of the wide knowledge thus gained of human weaknesses and human needs, to distil in thine own heart the precious oil of Sympathy."

The story is a beautiful one, and the reality is even more beautiful. It makes of life one great adventure. In the desert of a monotonous existence, or the terrible wilderness of physical or heart agony, we can distil the oil of joy and the precious gift of sympathy. But we must work patiently under the Master's

eye. The rose-garden in the desert springs from His wonder-working power; and if we keep our eyes on Him, taking from His hand the commonplace duty or the heavy sorrow, the fragrance will steal silently into other lives, making them strong and patient. Then they also will seek our Master, so that they may learn the secret which He only can teach.

"My garden must be beautiful;
For when the shadows play
In lancing shapes along the wall,
And comes the cool of day,
Perhaps my Lord might come to see
The place where roses bloom for me."

Is the miracle of a rose garden in the desert possible? Our lives seem to us commonplace, and we ourselves are just ordinary people. Can God distil from our lives fragrance and beauty? Look at the earth and you will see something of His wonder-working power. The earth is dull and ugly—just dirt. But out of it springs golden grain to feed God's children; roses, violets, lilies, and countless other flowers draw from the common dirt beauty and fragrance, giving pleasure to God and man. He who clothes the lily in beautiful robes, takes pleasure in its beauty. How much more certain is it that the King greatly desires to see spiritual beauty in His own sons and daughters. If a rose or a violet can distil beauty and sweetness out of ugly, bad smelling soil, are we less capable? Does God give those, who are of more value than all the flowers, no power to make commonplace surroundings beautiful? It is folly to bemoan one's circumstances, and it is cowardly to put up with evils which we can conquer if we try, with God as our Teacher and Helper. I remember once seeing some pictures of forlorn "backyards," littered with unsightly rubbish, decaying, disease-breeding garbage, tin cans, etc. Then pictures were shown of the same plots of ground, transformed into orderly and beautiful gardens. God gives us the materials and we can use them, or waste them, as we choose. By irrigation and fertilization a rose-garden may be rescued from a desert waste. Even this terrible war has been grasped as raw material by noble souls, and out of the hideous evil we see springing fair and fragrant graces—courage, self-sacrifice, fortitude, faith, hope, and loving service.

It is our business to find pleasure in our work, or—if possible—to change it to some work we can enjoy. Mickey O'Halloran really meant what he said when he shouted: "I like to sell papers!" His happy face helped to cheer the people who bought his papers. If you find your lot is not cast "in a fair ground," you can make it fair. The task may be difficult, but it is well worth while—worth while for yourself and for the rest of the world.

Keep your eyes on the coming victory and you will not likely give up the fight. When a farmer has a stony field

to make use of, he is encouraged to remove the stones by the thought of the possibilities of the land which is as yet barren.

If the plough of the Divine Husbandman is cutting deep furrows of pain or disappointment in your life, never imagine that it is a sign of want of love. The farmer cultivates his own field—he is determined to make it productive. Would you be better pleased if God let you alone, making no effort to clear away the weeds of selfishness and worldliness? Your soul is His valued rose-garden—"a garden inclosed." Keep the gate open for the Master, and allow Him to have full control.

"The dark-brown mould's upturned
By the sharp-pointed plow—
And I've a lesson learned.

"My life is but a field,"
Stretched out beneath God's sky
Some harvest rich to yield.

"Where grows the golden grain?
Where faith? Where sympathy?
In a furrow cut by pain."

DORA FARNCOMB.

A Kindly Thought.

One of our readers has sent a dollar for the poor or suffering. She says: "It's so cold this morning I was so thankful for a good fire that I thought of others who might not have a fire to warm them." The "Advocate" purse was quite empty—a most unusual event. Half of this dollar has already been spent on comforts for a poor woman who has been ill nearly three years. Many thanks! HOPE.

News of the Week

Among the leading topics of conversation in Canada still is the great fire in Ottawa which destroyed the Parliament buildings on the evening of February 3rd, causing loss of life to seven persons, Mr. B. B. Law, M.P. for Yarmouth, N. S.; Mr. J. B. Laplante, Assistant Clerk of the House; Mesdames Blay and Morin, guests of the wife of Mr. Sévigny, Speaker of the House; Randolph Fanning, of the Post Office Department; A. Desjardines, plumber, and Alphonse Desjardines, policeman. The two last named met their death, it is said, while trying to check the flames. Of the great building, although the walls still stand, only the beautiful library remains intact, although damaged to some extent by smoke and water.

At time of going to press, reports in regard to the origin of the fire remain to be substantiated. Mr. Frank Glass, M.P., of London, who was in the Reading Room when the fire started, believes it to have been accidental. Mr. Graham, Chief of the Fire Department, on the

other hand, is firmly convinced, judging from the speed with which the fire developed, and the fact that five distinct explosions were heard, that the work was that of an incendiary. The Providence Journal, immediately on the news that the buildings were in flames, stated that three weeks before, it had sent word to the Department of Justice at Washington that a German plot was afoot to wreck the Parliament Buildings, Rideau Hall, and certain munitions plants in Canada. This is being investigated, and guards are being increased at many points.

The Parliament Buildings, the finest Gothic pile on the continent, were designed by the famous English architect, Sir Gilbert Scott; their corner-stone was laid in 1860, by the Prince of Wales, afterwards King Edward VII; and the first session of Parliament was held there in 1865.

The devastation caused no check in the proceedings of the Parliament in session at Ottawa, as the House met next day almost "as usual," but in the fine new Victoria Memorial Museum.

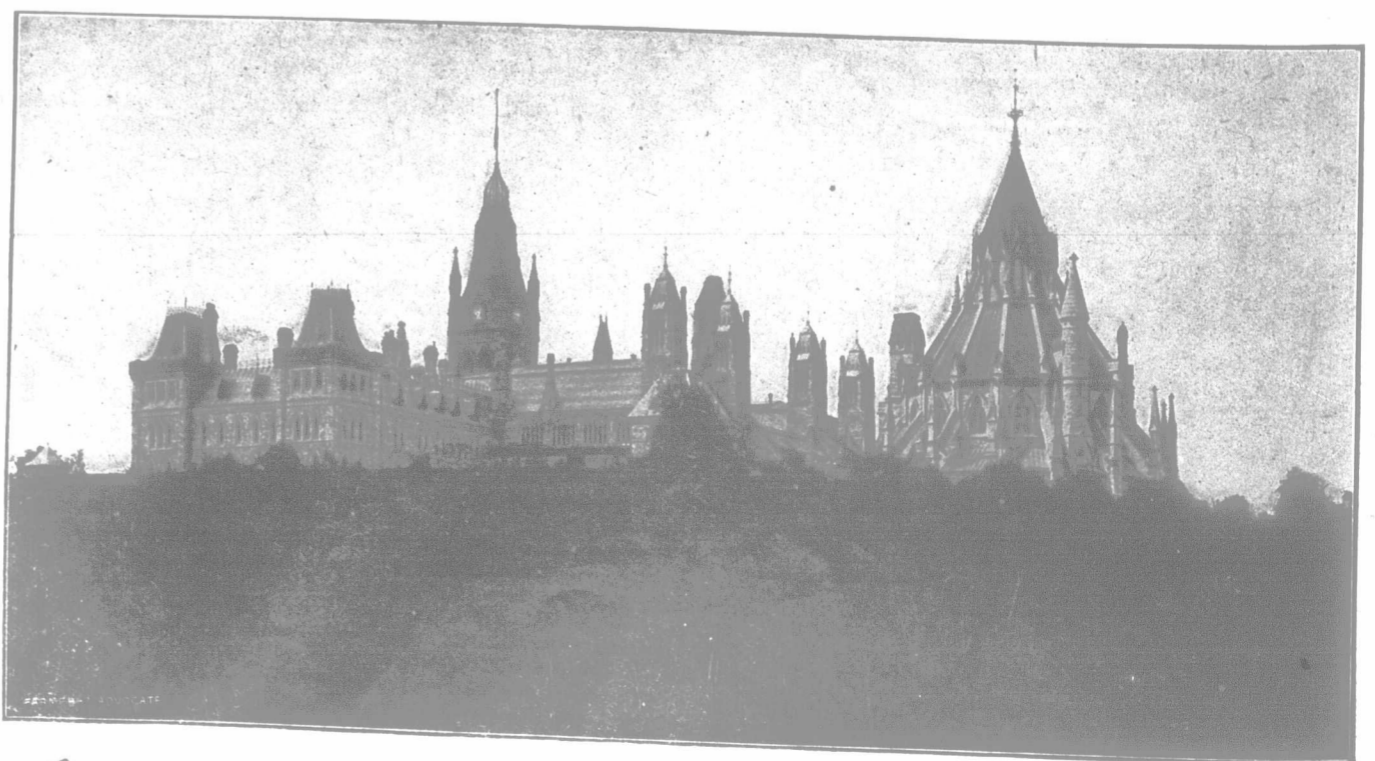
The Bulgarian Premier, M. Radoslavoff, has given out a statement that Bulgaria is at war with Serbia only, and that the Bulgars do not consider themselves obliged to fight against anyone else, hence are prepared to demobilize if the Allies will cease warlike preparations at Salonika.

An exciting incident of the week was the taking of the British liner Appam, by a German cruiser, the Moewe, which is still at large somewhere in the Atlantic. The Appam was put in charge of a German crew and brought to the United States harbor at Norfolk, Va., as a prize of war.

Six or seven Zeppelins raided six of the English midland counties on Feb. 1st, dropping bombs which caused the death of 54 persons and injury of 67.

Great preparations are being made on both sides for a great battle on the Western front in Europe. Little news is reported from elsewhere, except that Erzerum is said to be abandoned by the Turks. It is stated that Roumania will join the Allies in March. That the Teutons are becoming much in need of copper for munitions is believed from the fact that throughout Austria church bells are being taken down and forwarded to the munitions plants.

When Alice Jones was eighteen, she became Miss E. Alysse Jones. When she went to enter a college, she was asked her name by the dean. She replied, "Miss E. Alysse Jones—A-l-y-s-s-e." "Yes," said the dean, "and how are you spelling 'Jones' now?"—Tit-Bits.



Parliament Buildings, Ottawa, from the Rear.
Destroyed by fire February 3rd, 1916.

The Ingle Nook.

Correspondence.

AFTER THE WAR.

I have just been reading your "After the War" in the Ingle Nook, and I want to express my approval. Your ideas are so much in line with what I have myself been trying to say that I am encouraged to think that we are on the right track anyway, and that if we are still somewhat in the dark in regard to some things, we have a good chance of getting out to the light by just keeping to the said "track" on which we have started. I see you lean to the side of optimism in regard to the outcome of the war. I certainly do myself, but at the same time I think that even to the Higher Power that is trying to guide man to his destiny, the end is uncertain. The whole thing is in the balance, and just to the extent that man has the choice in matters concerning his own fate, to that extent has he the power to frustrate the plans of the Guiding Power that we can see at work in the world and in the lives of men and women.

I am watching and hoping for some world movement as a result of this war that will bring about a better state of society than we have known in the past, but whether it will come in the form of an "impetus," as you say, through the medium of some individual, or as a gradual process of which any one generation can only see a part, we can only guess, of course.

But what I started out to say was that you have certainly not made us "tired" by your observations on the war and life in general, and if you still have some more of that sort of thing "in your system," we will be only too glad to profit by it. It doesn't even matter so much, though some of your ideas should be heterodox, so long as you get us started thinking. That's the real trouble with the world. Its inhabitants are too lazy to think. Again thanking you, I am yours sincerely, J. E. M.

I agree with you, J. E. M., that the Higher Power will not interfere with man's free will, and that, by going on wrong roads we can frustrate even his purposes for a long time—just until we learn by our mistakes and rise above them. The saddest feature of great mistakes, too, is that the innocent must suffer, temporarily, because of them. I was much interested in your querying in regard to the form in which the "impetus" to a better-world basis may come. It reminded me of a chapter, "The Dynamic Character of Personal Ideals," in a book that I am reading—"The New Humanism," by Edward Howard Griggs, published by B. W. Huebsch, 150 Nassau St., New York. Mr. Griggs places great confidence in the influence of the few men who march along, a little in advance it may be, of the very front row of civilization. "The supreme importance of the individual initiative," he says, "is in the moral sphere. Every great moral teaching of history bears the name of some man: this means that the loftier ideal comes into the world as the higher consciousness of the one who stands upon the advancing margin of life. This dream of the highest man, if it be in the line of progress, becomes a force acting upon other individuals, and by and by is taken up into the very structure of social life." Again he says, "To be kept sweet and sound, the waters of life must be constantly stirred; and this vitalizing element, this forced motion of the Good, enters into the whole structure of society through the advancing margin, that is, through the highest consciousness and the highest effort of those individuals who are at the front."

It's fine to think that there is an "advancing margin," isn't it?—and that there are always the few who step forward even out of that. These, and the "margin," as anyone who has read enough history and science knows, draw the rest of humanity after them,—what is heresy in one era (taking "heresy" in its broad sense, of course,) becomes the accepted thought of the next. But the way of the few who step altogether forward is not easy, except as it receives compensation in the glorious consciousness of helping things forward. As Mr. Griggs says again, "Every great moral teacher in history has been a heretic, has been in advance of the traditional and conventional standards of his time. From

Isaiah to Socrates, from Christ to Giordano Bruno, from Saint Paul to Savonarola, each has suffered for the ideas he has advocated. We have learned to do away with forms of physical torture, but the rack of ridicule and contempt, and the lash of misunderstanding are almost as bitter for the advancing leader to endure as the earlier, cruder forms of persecution. The man of highest aims is willing to pay this price for the work he does in the world; and this willingness is a partial proof that his ideals are of the advancing margin of life."

You would like this book on "The New Humanism," J. E. M. I hope you will have the opportunity to read it.

THE QUESTION RAISED BY "INSPIRED BACHELOR."

I expected that there would be some objections to my answer to "Inspired Bachelor." The Ingle Nook is always a place for friendly discussion, and so here are two letters with which to open the debate:

Junia.—After seeing your answer to the Inspired Bachelor in your department on Jan. 13, I said in my heart "Thanks be unto God for the so-called primitive and out-of-date preachers, for 'there is a remnant unto this day.'" Now, if they believe in the Gospel of Jesus Christ, look at the 20th verse of the 19th chapter of Revelation. But why does God, Who is a God of Love, and Who is all Powerful, allow this awful war with all its horrors? Because of all the abominations of the sons of men, and also because the preachers have gotten away from their marching orders, such as, "Go ye into all the world," etc. "Hold fast the form of sound words," etc. "Preach the word; be instant in season, out of season, reprove, rebuke, exhort," etc. How many of the up-to-date preachers have obeyed those, and the many other orders in the Word of God? I fear a great many of them have stayed home and gathered most of their crowds by advertising. Do they hold fast the form of sound words? No; they try to compete with the theater, so they entertain. Do they preach the Word? No; they must go with the crowd, so they leave the Gospel of Love and preach war. I am not a German, nor have I any sympathy with their methods, but I think the up-to-date preacher is getting away from his source of power. Hoping I have not wearied you, I remain, ANOTHER BACHELOR.

Middlesex Co., Ont.

Dear Junia,—I have been an interested reader of "The Farmer's Advocate" for some years now, but especially of the Ingle Nook, to which it seems natural to turn first. I have received many good recipes and helpful hints from its pages, but this is the first time I have ventured to join your Circle.

I was quite interested in the letter written by "A Bachelor," and especially in your reply, Junia, regarding the doctrine of eternal punishment. I cannot help wondering what impression your remarks will leave on the minds of the many readers of this paper, and I cannot believe that a person, with a strong mind and character, as you have always appeared to me to be, could ever believe that the soul is annihilated at death. Yet this doctrine is commonly taught nowadays, and as that brings us to that great question, "The Immortality of the Soul," I would just like to say that anyone at all interested, would do well to read the book entitled, "After Death," by Dr. Anderson-Berry. This book, being paper cover, may be obtained for a few cents from The Gospel Publishing House, 692 Eighth Avenue, New York. This work is very comprehensive and thorough. A SUBSCRIBER'S WIFE.

Hastings Co., Ont.


In reply to the last of these letters, I may say that if "Subscriber's Wife" will re-read my reply to "Inspired Bachelor" carefully, she will find that I did not even hint at annihilation after death. She merely misunderstood—that was all. Indeed, if she has been following my articles at all, she must know that I have over and over again referred to a glorious future, lasting time without end, in which we shall go on and on to ever greater things—things that we could never grasp nor understand if they were presented to us now, because we are not developed enough.

My contention was merely that there is no lake of "literal" fire—I do hope that everyone who reads this column understands the meaning of that word "literal." I contended also that any preacher who preaches the existence of "literal" fire as a punishment is, so far as that point is concerned, primitive and misleading, no matter how good, and kind, and sincere, and sane, he may be on others. The word has been used in the Bible "figuratively," not "literally." They were great poets—those old Orientals—and talked and wrote in poetry, making free use of all such figures of speech.—Of course, there is a hell, and a bitter one, for all wrong doers. They bring it upon themselves, and a good many of them get a taste of it here in the "fire" of a tortured mind, tortured because of its own failures. But it was never meant that there is a lake of real, literal fire, for tortured spirit-toddlers.

The difference between the old idea—believed, after all, by a mere fraction of the human race—and that held by all the "advanced margin" of thinkers to-day is, stated without varnish, this: The old idea was that God put us here, perhaps for fifteen years, perhaps for ninety,—in either case a mere pin-prick of time in the vast billions upon billions of years, time without end, of "eternity." We were put here, too, with temptations upon all sides of us, hampered, often, in addition, by shackles of heredity. If we chanced to be born in "heathen" lands, if we chanced to be doubters (no matter how honest), if we failed to toe the mark set up by orthodoxy in any way, then at death we were compelled to go into a lake of "real" fire, like the molten fire in a big furnace, and not only to go into it, but to be compelled to stay there, not even permitted to die, for billions upon billions of years, time without end,—never rising out of the ceaseless agony, never permitted to advance, never given another chance, except by the Anglican conception of the Intermediate State, and the Roman Catholic conception of a purgatory—I am not sure whether even the latter extended this privilege to Protestants or not, as I am not a Roman Catholic, and know little about their beliefs. I must say, however, that the idea of a purgatory appeals to me much more strongly than the hard, inflexibility of the hell-fire-at-once-and-for-ever idea. . . . And yet the God who permitted—yes, ordered—all this agony, was supposed to be a God of Love.

The new idea (or rather, perhaps, "interpretation") is that God is really a God of Love.—That He wants us all, every one of us, to rise to higher and yet higher planes of spirituality extending through all eternity; that He has given us our free will, seeing that only by using our wings shall we become strong; that the hell that comes to us is mental, even, sometimes, physical on the earth-plane, a natural consequence of our choosing or blundering into the wrong way, and then having our eyes opened to see all the results of our deflection; that after death we may, if necessary, have a period of bitter recognition of our infirmities, and, in the midst of it, a chance to hear again—a belief incorporated, if not understood by all of those who repeat it, in the creed of more than one Protestant church, in the words, "He descended into hell," a clause based upon I Peter, 3rd chapter, 18 and 19: "For Christ also hath once suffered for sins . . . being put to death in the flesh, but quickened by the Spirit: By which also he went and preached unto the spirits in prison." According to this interpretation of the teachings from Above, all humanity, then, is destined to evolve into a greater glory than anyone on this earth can possibly conceive, and God will be glad that He made man instead of sorry, as He must eventually be if He were compelled to think of all but a very small fraction of the human race writhing forever in REAL fire.

To me, the God of literal hell "fire" seems only a demon or a monstrosity. I can love the God whom I try to worship in my small way; I could neither love nor respect the other one. Perhaps some people could. If so, they have a right to believe as they choose. God can only be to us what our ideal of Him is, and so long as our ideal satisfies our hearts and our reason, it is all right. Now, I really feel that I have en-



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(Factory 79-81 Portland St., Toronto)

croached upon Hope's domain in stumbling into this argument, but I am sure she will forgive me. She also worships a real God of Love, as those who read her writings each week must know. I would advise those who wish to read further on the subject to get Farrar's "Eternal Hope," and "Mercy and Judgment." I am sorry I do not know the publishers, but probably any bookstore could procure the books.

A modernist who chanced to drop into my office when this was being written, adds: Many readers will, of course, quote certain texts from the New Testament to prove that Jesus and the Apostles taught eternal punishment in a local hell of material fire; but this must never be forgotten: that, while a few isolated texts of this character are quotable against the modern idea concerning punishment, it is equally true that a preponderant array of texts support those ideas. "The letter killeth—the Spirit giveth life," is a good rule to be followed by anybody who undertakes to prove an argument by a text. Jesus Himself taught that heaven is a condition rather than a place: the inference is then that hell is also not local. If the kingdom of heaven is in us, is not the kingdom of hell in us, too? That is to say, heaven and hell are words descriptive of attitudes of the individual towards life. "Everyone that loveth is born of God, etc.," gives strength to this concept of heaven. Heaven, is to love in the soul: Hell is hate in the soul: If a man says, "I love God, and hateth his brother, he is a liar."

"A new commandment give I unto you, that ye love one another." "Where your treasure is, there will your heart be also."

and, is firmly convinced, judging the speed with which the fire de- and the fact that five distinct ns were heard, that the work at of an incendiary. The Provi- urnal, immediately on the news e buildings were in flames, stated ree weeks before, it had sent e Department of Justice at on that a German plot was wreck the Parliament Buildings, Hall, and certain munitions in Canada. This is being in- ed, and guards are being in- at many points.

Parliament Buildings, the finest e on the continent, were de- y the famous English architect, rt Scott; their corner-stone was 1860, by the Prince of Wales, ls King Edward VII; and the sion of Parliament was held 1865.

avastation caused no check in the gs of the Parliament in session a, as the House met next day as usual," but in the fine new Memorial Museum.

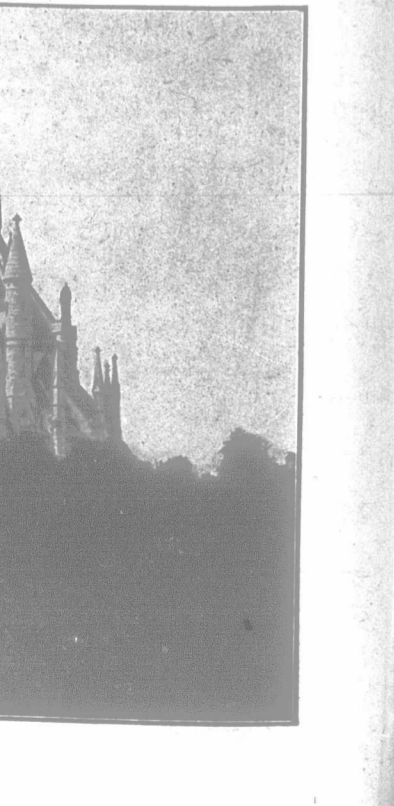
garian Premier, M. Radoslavoff, out a statement that Bulgaria, with Serbia only, and that the do not consider themselves to fight against anyone else, prepared to demobilize if the l cease warlike preparations at

ing incident of the week was g of the British liner Appam, man cruiser, the Moewe, which at large somewhere in the The Appam was put in charge man crew and brought to the ates harbor at Norfolk, Va., as war.

seven Zeppelins raided six of sh midland counties on Feb. ing bombs which caused the 54 persons and injury of 67.

reparations are being made on for a great battle on the ont in Europe. Little news is from elsewhere, except that is said to be abandoned by the s is stated that Roumania will Allies in March. That the re becoming much in need of munitions is believed from the throughout Austria church eing taken down and forward- munitions plants.

ce Jones was eighteen, she be- E. Alyse Jones. When she ater a college, she was asked by the dean. She replied, Alyse Jones—A-I-Y-S-E-S-E." d the dean, "and how are you ones' now?"—Tit-Bits.



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Feed your hens the same simple grain mixtures every day and they soon tire of them. They won't lay unless they eat a lot of food, and it takes variety in the food to tempt them. Caldwell's Scratch Feed has the variety they like. But it is not just a collection of grains. The proportions of each are right as nearly as experts can figure it out. The hens will find in this feed, the elements they need to keep in health and lay eggs.

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Prices F.O.B. Petersberg, G.T.R. or Ayr, C.P.R.
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VALENTINE PARTY.

H. L. wishes all sorts of hints for a Valentine Party. Why not use your own ingenuity, H. L., in thinking out ideas? So long as you have plenty of pink or red hearts about among the decorations you will not be far out. You might send the invitations on pink hearts. For entertainment, I would suggest a masquerade, each dressed as a character. For the luncheon, have dainty sandwiches, pickles, cake with pink icing, decorated hearts, ice cream, bonbons, and coffee. It is handier to pass it around on trays than to set tables formally.

TO MAKE CREAM WHIP.

Dear Junia,—I have had a good deal of trouble in getting cream to whip. What is the reason, and what should one do to make it whip quickly? Can I whip cream in summer? MRS C. H.

To whip well, cream should be at least 24 hours old, and should be very cold. Put it in a regular cream whipper and turn the beater VERY QUICKLY. If you have not a cream whipper, put it in a deep, round-bottomed bowl, and use a Dover egg-beater, or one that will work as quickly. Some people add the white of a fresh egg, others a little viscogen. Cream may be whipped in summer if kept cold enough, but it is more difficult. To make the viscogen, dissolve 5 ounces of sugar in 10 ounces of water. Add 6 ounces cold water to 2 ounces quicklime and let it gradually slake, then strain through cheesecloth. Combine the two liquids and shake occasionally for 2 hours. Leave for 3 hours to settle, then pour off the clear liquid and keep in small bottles, stoppered tight. Use one-fourth teaspoon to three-fourths cup of chilled cream.

Discussion on Subjects Set in January 13th Issue.

Dear Ingle Nook Folk,—Seeing the subjects for discussion, I decided to speak about "One of the things which have had the greatest influence on my life."

As I sit here I think that something akin to myself is raging and tearing about the house outside. The wind is whistling and howling as if it were in some wild mood that could not be held in check.

Nature seems to me to have as great an influence on me as anything else. Perhaps not that nature itself does the influencing, but it is so free with only nature in the woods. One is almost "as free as the wind that blows," and has an opportunity to untangle the trouble into which we seem always stepping. When feeling what is commonly called "blue," nothing seems to help me so much as to go rambling, or to sit quietly in the woods, listen to nature, and think for an hour or more. It always reminds us of what one of our poets said, "Thither where solace can never fail." Another one called the woods the "Silences of God."

Probably, and I believe one reason it has such a quieting influence on me is, that my profession keeps me among rather noisy people for the greater part of the day, and when release comes, exercise and nature seem the only things I wish for.

Some of you, I suppose, have read one of Robert Service's poems whose title is something like this, "The Wilds Are Calling You." I wonder if they have ever called you? They call me very loudly sometimes, usually when a homesick spell comes over me. After obeying the call of the wild, I can usually come back to civilization and work, and be content to live among people where, at times, I feel as the Ancient Mariner must have felt when he said, "Alone, alone, all, all alone. Alone on the wide, wide sea."

I do not understand how anyone who thinks, and works among Nature's children, can believe there is no God, or even that there is not a very wonderful one.

My thoughts are perhaps a little disconnected, but the wilds have been calling me tonight, and once in a while the call was extra loud.

Now, though I am not answering the call, I wish you a profitable time in the discussions. CANADIAN GIRL.

I have enjoyed your letter, Canadian Girl. The wilds "call" to me, too, sometimes.



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THE BACHELOR TAX QUESTION

The Ingle Nook is becoming popular with the Bachelors. Here is another. We'll soon have to begin labelling them by number. Please read the following letter with a perception of the humor in it. This Bachelor isn't so tragic as he seems. Can't you see the twinkle in his eye? Yet he is serious, too, sometimes.

Dear Junia,—Can you find a wee small corner in your Nook for a forsaken old bachelor? Just a small one, for I am only a little fellow. Perhaps that is why I am still a bachelor.

I noticed in the "Advocate" for the 13th inst. that you would like some discussion on a few subjects which you have wisely chosen, so I am going to give you my opinion on, "Should Bachelors be Especially Taxed?"

Why should they? I think there is just as large a percentage of the bachelors paying taxes as there are married men. And, also, they are being taxed to educate other people's children. I think it is a shame the way people are beginning to treat us poor bachelors. It is hard enough not to be able to find a wife, but it is outrageous to think that we are going to be punished for our misfortunes. The next thing we know, some lady whose hopes are fast disappearing, and who wants to get tied with that tightest of tight knots, but can't, will be suggesting that all bachelors over a certain age be hastened on to the happy hunting ground or else get married.

It would be more like the proper thing if there were more restrictions on those who are married, or are going to be married, for there is an enormous amount of men who are married that, if they were bachelors, the world would be ever so much better. For one reason, there would not be so many of their kind in the coming generations.

Think of the wife-beater, the deserter, the drunkard, the thief, or the murderer, etc., and ask yourself if these are the types of men we want the next generations to be composed of? Are there not a lot of that class among the bachelors, and the old maids, too? 'Tis true, they are in the minority, but if a tax were levied on the bachelors, would these not be the first to try to escape it by marrying? Some will perhaps say that the tax is not meant to force men to marry. Well, why tax the bachelors any more than the married men, then?

Then, again, is not the world being populated fast enough? I rather think it is being populated too fast. At the rate it is increasing, in a few generations there will not be any more room left. I think that it is one of the main causes at the bottom of this war.

Then, why try to increase it faster by placing a tax on the unmarried to try to force them to marry? It would be far better if the law was made so as to hinder them in such a manner that only the best (not necessarily the richest) would marry. I don't know how it would be done, but probably the one who first suggested to tax the bachelors could think of a plan.

Hoping to read the opinion of someone else on this subject, I will close with respect for all and malice to none.
HAPPY, THO' SINGLE.

A BUDGET OF ANSWERS.

Dear Junia and Ingle Nook Friends,—Junia speaks of writing in the long winter evenings. I smiled. When one is glad to retire early, in order to get up again, where is the evening?

I have a fellow-feeling for "Lallie." As a constant companion, that tired feeling is not pleasant.

When the doctor says rest is needed as much or more than medicine—what then? It is not our husbands' fault either, for they are willing we should have all the conveniences we can afford. We need physical strength, or endurance enough for the day's work, and a reserve, with which to be cheerful, interested, and interesting.

"The common round, the daily task, Will furnish all we ought to ask: Room to deny ourselves!"

But isn't that just where the rub comes—we do ask for more. We are willing, glad to do that, but we also want some time free, without having to steal it, to do the things we want to do.—read, practice, visit, etc.

After her first two days at school, my

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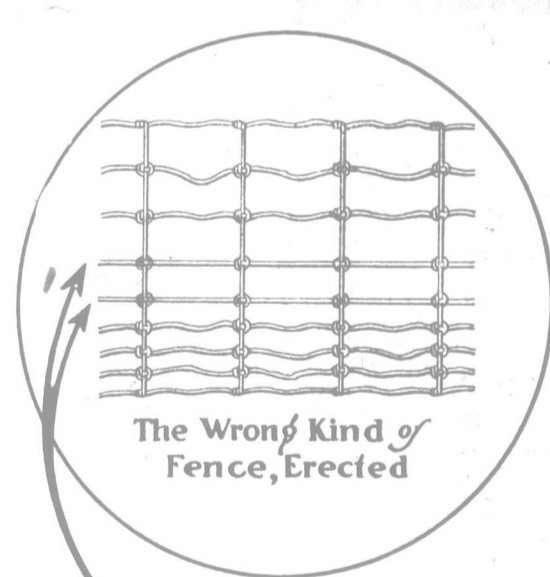
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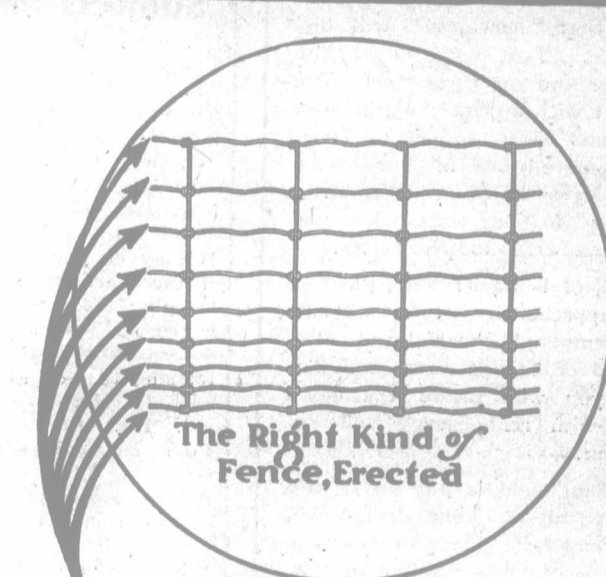
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Trains will be met at the station, Listowel, on day of sale. Send for catalogue.

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| 7 | 48 | 22 | 5-6-7-9-10-10 | 31 |
| 8 | 42 | 16 | 6-6-6-6-6-6 | 37 |
| 8 | 47 | 22 | 4-5-5-7-8-9-9 | 35 |
| 8 | 47 | 16 | 4-5-5-7-8-9-9 | 38 |
| 9 | 48 | 22 | 6-6-6-6-6-6-6 | 40 |
| 9 | 48 | 16 | 6-6-6-6-6-6-6 | 43 |
| 9 | 52 | 22 | 4-4-5-7-8-9-9 | 40 |
| 9 | 52 | 16 | 4-4-5-7-8-9-9 | 43 |
| 10 | 48 | 16 | 3-3-4-5-7-7-8 | 45 |
| 10 | 48 | 12 | 3-3-4-5-7-7-8 | 49 |
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Free booklet which gives further information and terms.

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SEED OIL MILLS LTD. MONTREAL

THE CANADA FEEDING SYSTEM



If you are Run down,
Weak and Depressed
—then you need

Sanatogen
THE FOOD-TONIC

And when you have taken Sanatogen regularly, for just a few weeks—twice or three times a day—you will be astonished at the improvement in your health, strength, and nerve-power.

You will say—with Mr. Arnold Bennett, the distinguished playwright and novelist—"the tonic effect of Sanatogen on me is simply wonderful!"

First, that "nerviness" will disappear. You will really be stronger and more vigorous. You will eat with appetite, digest your food, and sleep soundly. There will be more colour in your cheeks, more light in your eyes, more "spring" in your walk. You will both look better and feel better.

Instead of being irritable, gloomy, and apprehensive—you will be good-tempered, cheerful and calm. Instead of feeling tired and listless, you will tackle the day's work with real energy and enjoyment.

And Sanatogen is absolutely safe and harmless. Your doctor will recommend it—and you probably know people who "swear by" it. *Begin to take it to-day!*

Send for a Free Booklet.

There is no time like the present for a good resolution. Why not here and now? Obey that impulse! Buy a tin of Sanatogen at your Druggist's—prices from \$1.00—and take it regularly. (It is entirely British made.) And write to the address below—mentioning this paper—for a Free Booklet which fully describes the nature and uses of Sanatogen.

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

Look Out For

The Imperial Life Assurance Company's big advertisement in next week's issue entitled

"An Advertisement to Wives"

It has an interesting message for YOU.

For Sale Imported Percheron Stallion, five years old, dark dappled grey, kind and quiet in the stable and in harness. Sure footed, rounded, inspected and approved, pedigree. Registered in French and Canadian Stud Books. Apply to

J. F. PLAYTER, Newmarket, Ont.

little daughter said she was not going any more, it took too much time.

"Why," she said, "when do you think I am ever going to do the things I want to do?" And, Junia, I think that accounts for the lack of the art of conversation in the country—re your excellent talk of Dec. 23.

It is hard to choose the "greatest" from the many influences in my life, but am sure it was my father's love and trust, and the feeling that my mother, who died when I was three and a half years—was watching over me.

Most assuredly, bachelors should not be taxed because they are bachelors, or as a means of driving them into matrimony. What girl could endure to be married for any other reason than to be "loved, honored, and cherished?"

Don't you think that if our children were taught the beauty and sacredness of marriage, instead of being joked or teased about their "girl" or their "fellow," that there would be better, happier homes and families?

I think that requiring medical certificates from those wishing to marry, would be a long stride in the right direction, and might result in fewer problems of the advisability of letting undesirables die. When we read of Mrs. Taylor's baby, we picture a very different specimen. I agree with her, and also with "A Bachelor." Someone has called them "precious trials," but, oh! how precious! Who would willingly give them up?

"Bachelor," are you giving your parents the greatest joy of all in knowing that you are on the Lord's side. Does not that include all the very best things we wish for our babies, and if they develop as we wish, we forget all the trials and remember only the preciousness.

Junia, we do enjoy your talks, and wish you and Miss Farncomb and "The Farmer's Advocate" a Happy New Year.

MOTHER OF FOUR.

Essex Co., Ont.

Several letters are held over for another time.

Subjects for Discussion.

1. What person (historical or modern) would you like to resemble?
2. Should children ever be paid money for what they do about the home or farm?
3. Why I want to leave the farm.—This is a subject for discontented young folk, and older ones, too, who are not happy on the farm,—for there are such. It may do good to air their reasons, for if there are wrong conditions anywhere, bringing them to the light may suggest a remedy. If there is a sore spot, we do not cure it by shutting our eyes and refusing to look at it, but by probing it and cleansing it.
3. The letter written by Mother of Four suggests our third subject, one which, I hope, will be dealt with by many housekeepers who have found an escape from over-work, and have learned how to secure a reasonable amount of time for rest, reading, and recreation. Let us word the subject, then, "How I made my escape from over-work," or something to that effect. There is a real need that this question be thoroughly talked over by those who have found a way out; there are so very many who are just groping for one—so tired, so discouraged, so greatly in need of help.

First Aid for Cuts.

In reply to a letter from Mrs. S. B., asking for some information on what to do first in the case of a member of a family cutting himself or herself badly, before a doctor can be reached, I may say:

The first consideration, of course, is to prevent excessive bleeding. A moderate amount of bleeding is an excellent thing, and permits washing out of the wound. The second consideration is the condition of the instrument with which the wound was made, i. e., whether it was clean or dirty, and the condition of the skin or clothing through which the instrument may have passed in making the cut. The third consideration will be the nature of the cut itself, i. e., a free, open wound, or a narrow puncture. Provided a doctor is available within a reason-

Fresh from the Gardens

of the finest Tea-producing country in the world.

"SALADA"

TEA

B74

Sealed Packets Only.

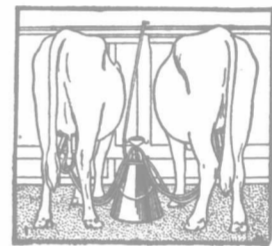
Try it—it's delicious. BLACK GREEN or MIXED.

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. 29



Little
Miss
MAIDEN
CANADA

Registered

327

COWAN'S

Perfection

COCOA

It's what's inside
the cup that counts.

the Gardens
producing country in

ADA

Buckets Only.
LACK GREEN or MIXED.

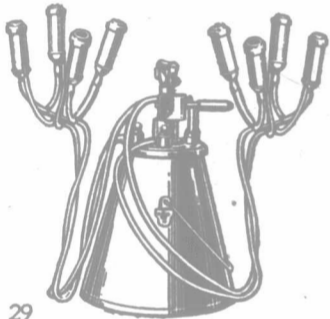
of Hired Men

the happy position of
airy Farmer who has an

EMPIRE
MECHANICAL MILKER

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double unit. One man can operate
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Co.
REG. 29

Little
Miss
MAIDEN
CANADA
Registered



It's what's inside
the cup that counts.

TOP DRESS all your
Crops with Nitrate
of Soda alone, no matter
what other fertilizers you
may have used. 100
pounds to the acre for
seeded, and 200 pounds
to the acre for cultivated
crops will do the work.
The increase will yield
large profits over the cost.

Write on post card for our
money making books

WILLIAM S. MYERS, Director
25 Madison Avenue, New York

The Best Seed
Is The
Cheapest

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| Red Clover, Special No. 1..... | Bush. \$17.00 |
| " " No. 1..... | 16.50 |
| Alsike, No. 1..... | 14.00 |
| " " No. 2..... | 12.50 |
| Lucerne or Alfalfa, Montana- grown..... | 16.00 |
| Timothy, No. 2..... | 5.50 |

Bags extra, 25c. each. We pay
freight on orders of \$25 or over.

You might beat our price, but
not our quality.

Potato Special—Early Irish
Cobblers for future shipment, \$2.60
per bag of 90 lbs., ex-warehouse.

Order now. Terms cash with
order. No goods sent C.O.D.

HEWER SEED CO.
90 Macdonnell Street East
Guelph - Ontario
Samples sent if desired.

New Century
HAND

THIS MACHINE
has been for years and is still
THE
Hand Washing Machine
No machine of its class is so easy
to operate, does quicker or better
work, or lasts longer than this
"OLD STANDBY"

Ask the woman near
you who has one.
They're sold everywhere.

CUMMER - DOWSWELL,
Limited. 17-14
Hamilton, Ont.

MADE IN CANADA.



For Sale—Everything from
an apple tree to a straw-
berry plant, shade, nut, or-
namental and evergreen
trees, ornamental shrubs
and vines, roses, hardy
flowering plants, bulbs, as-
paragus, guaranteed stock
at reasonable prices, catalog
free. (Silver black foxes.)
DOWNHAM BROS.
Box 1, Strathroy, Ont.

ably short time, say a few hours, my
own advice would be to first have fairly
free bleeding, then stop the bleeding (by
pressure and raising the part above the
rest of the body), and leave the wound
until the doctor comes, in most cases.

If the wound is made by a very dirty
instrument, or has accidentally received
a great dose of dirt of some kind, espe-
cially soil, manured soil in particular, or
manure itself, then I would turn a tap
on it or otherwise wash it under a flow-
ing current of water very thoroughly in-
deed. If these two matters are attend-
ed to, I think that in most cases it will
be quite safe to wait until the doctor
comes. If the wounds are punctured,
promote free bleeding and hurry the doc-
tor, since it may often be necessary to
give tetanus antitoxin, to cauterize, or
to lay the who's wound widely open,
perhaps all three.

For minor wounds, when a physician
is not ordinarily called in, the same
principles apply. Permit free bleeding
for a time, then stop the bleeding and
close the wound by gentle pressure until
the edges stick. Then the ideal treat-
ment after that is simply to keep the
part from any injury which would break
the seal and let the wound open.

I certainly would not use coal oil or
any other substance for a wound which
a doctor was going to see, nor would I
use them on wounds that the doctor is
not going to see. Any wound which re-
quires disinfection should be disinfected
by the physician, and household measures
of this kind are not advisable at all.
In cases of doubt, watery solutions of
bichloride of mercury, one in a 1,000, can-
not be improved upon. Carbolic acid in
many people produces blisters and burns.
It must always be remembered that
bichloride is a deadly poison in tablet
form, and even in liquid solutions of one
in a 1,000, so that every precaution
must be taken to see that children do
not eat the tablets or drink the solu-
tion.

When it is necessary to protect a
sealed wound of a trivial nature for
which a physician has not been called,
do not put a handkerchief or some other
exceedingly dirty piece of cloth upon it,
and whatever cloth is used, do not tie
it tightly. The best covering for such
a wound is no covering at all, but most
people, especially children, require some-
thing to remind them not to knock the
injured finger, and a loose, large band-
age, which will cover the finger in a
bunchy way and make them guard
against knocking it, is good principally
to call their attention to the fact, that
they are to watch the finger. Avoid
rubber finger stalls, court-plaster, and
things of that kind absolutely. Even
collodion is not a good dressing for a
cut unless it has been thoroughly treat-
ed first by a physician.

H. W. HILL,
Director Institute of Public Health,
London, Ont.

Our Serial Story

"THE CHAPERON."
By C. N. and A. M. Williamson.

Copyrighted.
Chapter XXXVI.

RONALD LESTER STARR'S POINT OF
VIEW.

(Continued.)

I smiled brilliantly at the dear fellow.
I sprang to him, holding out a welcom-
ing hand.

"Why, Sir Alec, this is a delightful
surprise!" I exclaimed. "Where did you
come from? I thought I had lost you,
at Leeuwarden."

So utterly was he dumbfounded, not to
say flabbergasted, by the manner of his
reception, that I had time to spring these
three quickly following remarks upon
him before he was able to answer.

When he did, it was with a sledge-
hammer. "Well, I'm d-d!" said he.

I stared in gentle amazement; then,
glancing quickly at Alb, appeared sud-
denly to apprehend his meaning.

"Why, of course, you must be sur-
prised to find me on a boat with Jonk-
heer Brederode."

"You lied to me at Leeuwarden,"

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

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| Cream of the West Flour (for bread)..... | Per 98-lb. bag. \$3.85 |
| Toronto's Pride (for bread)..... | 3.65 |
| Queen City Flour (blended for all purposes)..... | 3.45 |
| Monarch Flour (makes delicious pastry)..... | 3.25 |

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

| | |
|---|----------------------------|
| "Bullrush" Bran..... | Per 100-lb. bag. \$1.35 |
| "Bullrush" Middlings..... | 1.40 |
| Extra White Middlings..... | 1.55 |
| "Tower" Feed Flour..... | 1.75 |
| Whole Manitoba Oats..... | 1.80 |
| "Bullrush" Crushed Oats..... | 1.85 |
| Sunset Crushed Oats..... | 1.70 |
| Manitoba Feed Barley..... | 1.80 |
| Barley Meal..... | 1.85 |
| Geneva Feed (crushed corn, oats and barley)..... | 1.80 |
| Oil Cake Meal (old process, ground fine or nutted)..... | 2.30 |
| Chopped Oats..... | 1.85 |
| Feed Wheat..... | 2.25 |
| Whole Corn..... | 1.95 |
| Cracked Corn..... | 2.00 |
| Feed Corn Meal..... | 1.95 |
| Monarch Scratch Feed..... | 2.28 |
| Monarch Laying Mash..... | 2.23 |
| Monarch Pigeon Food..... | 2.70 |

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 changes.

TWO GREAT WAR BOOKS

From the Trenches, by Geoffrey Young. A thrilling and authorita-
tive book written by an eye-witness of the retreat of the Army of
France. This book includes the battle on the Marne, and should be
of great interest to readers wishing an authentic description of the
early part of the war.

The Evidence on the Case, by James M. Beck, late Assistant
Attorney-General of the United States. While this book is by one of the
ablest jurists of the United States, it is written in an intensely inter-
esting style. It reviews the evidence presented in the official papers,
British, German, Russian and Belgian, in regard to the causation of
the war. The conclusions presented by Mr. Beck have been accepted
by leaders of thought as constituting a most notable contribution to
the literature of the war. The work will be accepted as belonging to
lasting history. It should be in every home library in Canada.

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

WANTS & FORSALE

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.

SCOTCHMAN—(life long experience in general mixed farming) seeks situation on good dairy farm; is a first class milker and successful with care of stock. George Hamilton, 2310 Boulevard Gouin, Bordeaux, Montreal, Que.

WANTED—April first—Experienced farmer married, abstainer; competent to take charge 100-acre farm and live stock in all details. Wife to do milking and dairy work. House provided and usual allowances. State age, experience, wages, references. Box "O," Farmer's Advocate, London, Ont.

WANTED—young girl as housemaid. Good home—every convenience. Railway fare paid. Apply with particulars. Mrs. Lester Weaver, Hespeler, Ontario.

WANTED—Experienced farmer to work 50 acres; large house, best water and conveniences; close good manufacturing town, Waterloo County. Prefer man with family to work in knitting mills, etc.; 15 minutes walk to mills. Splendid chance for steady man. Write Box "N," Farmer's Advocate, London, Ont.

WANTED by married man, April 1st, as herdsman, Holstein preferred, can take full control. Apply; Gladwish, care of Mr. Schill, Woodstock, Ontario.

WANTED at once—A Scotchman, single, about forty years old, to work by year on stock farm; good with Shorthorn cattle. State wages wanted. Apply at once. Allen J. Fox, Harrow, Ont.

640 ACRES in Central Alberta—live stock run out all winter. Some years ago I personally selected this farm after examining many townships. It has steadily increased in value, and is now surrounded by prosperous farmers; near main line, southeast of Edmonton. Gently rolling deep black soil, underlaid with clay. All in hay; no sloughs, and ready for the plough, every acre arable land. Neighbors this year (1915) averaged 60 bushels wheat per acre. Wish to sell at once. No agents. Price \$25 an acre, half cash, worth \$100 an acre for farming purposes. Easy terms. G. C. Creelman, President Ontario Agricultural College, Guelph.

Wanted—Herdsman for one of the best Shorthorn herds in Ontario. Must be competent and careful; age over 35 preferred and married. Apply Box 18, Farmers' Advocate London, Ontario.

Wanted—Custom Tanning. Horse hides and cattle hides for robes and coats. Also all kinds of skins and furs. Send them to me and have them tanned soft and pliable. Address: B. F. BELL, Delhi, Ont.

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

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

Oats, O.A.C. No. 72 Improved seed grown under rules of C. S. G. A. Apply for samples and prices. M. A. P. McFARLANE, Camlachie, Ont.

Architectural Drawing—practical course on making plans, estimating, etc. given by mail. Canadian Correspondence College, Limited, Dept. E.E., Toronto, Canada

Sweet Clover Seed Wanted
12 Bushels home-grown, white, scarified, Govt. standard "1", 1915 growth. Send samples with prices.
WM. S. GAGE, R.R. No. 3, Waterford, Ont.

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 list giving free delivery offer.

R.R. No. 1, Cottam, Ont. JACKSON BROS.
The Roselands and Alfalfadale Farms

Wanted---Cream

We need additional supplies of churning cream. We have the experience, the market and the capital to make it "worth your while" to ship us. A card will bring you particulars.

TORONTO CREAMERY CO., Limited
Toronto

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

FARMERS

Several experienced farm hands may obtain steady employment from April until November on large Saskatchewan farm, paying own transportation. Apply, with full particulars of ability and experience, to:

Manager, 129 Spadina Road, Toronto

went on Sir Alec. He was never a man to mince words, as I noticed when visiting my aunt. Poor, pretty, flirtatious Aunt Fay!"

I now gathered dignity. My simple delight at an unexpected meeting with a relative (in law) in a foreign waterway, froze into virtuous indignation.

"Really Sir Alec, I am at a loss to understand you," I said. "I greet you in the most friendly—"

"Because you're a scoundrel and a hypocrite," said he.

This interruption I scorned to notice, save by proceeding as I had intended to proceed.

"And you insult me. What do you mean, Sir Alec MacNairne?"

"I mean"—he caught me up without hesitation—"that you, though you pretended to sympathize when I confided in you, were in league with Rudolph Brederode to outwit and deceive me in the most shameless way."

"You forget yourself," said Brederode, turning red, and contriving to keep his dignity in spite of Hendrik's sopping overalls. "I have never deceived or injured you. If this were my boat, I should have to ask—"

"Don't try that on," said Sir Alec, scornfully. "It is your boat."

"It happens to be the property of Miss Van Buren, a young American lady, for whom I'm acting as skipper," returned Alb.

"Rot," was the terse comment of my uncle-in-law.

Alb bit his lip, and his eyes were growing dangerous. I had seen that look on his face once or twice.

"And he's engaged to her," said I.

That is, something inside of me popped out those words, and there they were spoken, not to be taken back. Alb and I looked at each other. He flushed again. But he did not speak.

"Produce this Miss Van Buren," sneered Sir Alec.

"I will," I promised. "But before I do, calm yourself. You are in no fit state to speak to ladies."

"I wish to talk to my wife," said he.

"Aunt Fay is not on board this boat, and never has been, I pronounced, each nerve on edge lest one lovely feminine head or another should pop up from below. I knew well that we owed the extraordinary obedience of the girls to the magnetic influence of that remarkable woman their chaperon, and how long she could continue to exert the charm which meshed them in the cabin, as Vivien meshed Merlin in the hollow oak, it was impossible to guess. At any instant we might hear a girlish voice calling the name of Lady MacNairne. Even if Tibbe—but I dared not think of Tibbe.

Horatius holding his bridge alone, was nothing compared to me. No one could help me now.

"Pooh! Do you expect me to believe that? After what happened at Leeuwarden—when I trusted you?"

"You trusted me," said I, coldly, "with good reason, and it would be well if you did so again. Kindly state what, from your point of view, did happen at Leeuwarden to bring this storm of unmerited abuse upon my head."

"I dare say it would be convenient to you to forget. I met you with Brederode at the Kermess. You seized me and prevented me from following him as I wished to do. Then, when he had got out of my way, you assured me that you would find him. You said you were not with him on his boat, that you hadn't been together ten minutes—"

"Neither had we," said I. "That was perfectly true. And I'm not on his boat. As he told you, I'm on Miss Van Buren's. And if I didn't look you up to tell you where you could find Jonkheer Brederode, it was because I thought you would only lose your dignity by meeting him, and do Aunt Fay and yourself both more harm than good. I know for a certainty that Alb—Brederode hasn't seen Aunt Fay since July anyhow. And why should I let you and your stupid suspicions make trouble between a very good fellow and—and—the girl he's in love with?"

This time I did not meet Alb's eyes. I was looking straight and with a noble defiance into Sir Alec's.

"You are very high and mighty," said he. "But I'm not to be fooled again by either of you. I've been chasing Brederode for weeks in that beastly



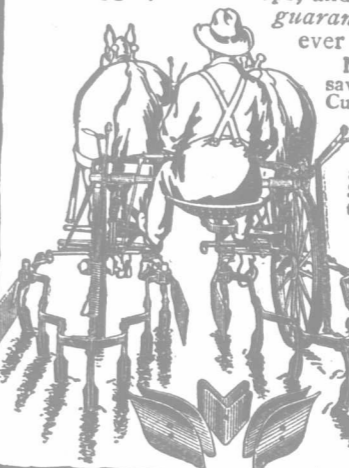
Every milk can will be sweet and sanitary if you always use

Old Dutch

Planet Jr. Cultivators

—biggest savers for farm and garden

Why worry along with slow out-of-date implements and meagre results? Planet Jr tools are far more economical—they do 3 to 6 times the work, get bigger, better crops, and outlast several ordinary implements. Fully guaranteed. You are actually losing money whenever you cultivate without them.



No. 72 Planet Jr 2-row, 2-horse Pivot-wheel Cultivator saves a man, a team, and a cultivator every day it is used. Cultivates 2 rows of corn, potatoes, beans, etc., at one passage, even if rows are crooked or irregular width.

In check rows and listed corn it also beats any other tool. Can be equipped with spring-trip standards, discs, sweeps, hoe steels, and furrowing shovels. Specially hardened cultivating steels add 50 per cent to wear. Also spring lift, new this year.

No. 8 Planet Jr Horse Hoe and Cultivator is stronger, better-made and capable of a greater variety of work than any other horse hoe made. Non-clogging steel wheel. Depth-regulator and extra-long frame make it run steady. Adjustable for both depth and width. 15 other styles of one-horse cultivators—various prices.

New 72-page Catalog (184 illustrations) free! Describes over 70 tools, including 12 entirely new ones, and improvements to our Seeders, Wheel-Hoes, Horse-Hoes, Harrows, Orchard, Beet- and Pivot-wheel Riding Cultivators. Write us for name of nearest Agency.

S. L. Allen & Co Box 1108F Philadelphia

The Complete Line

Harab-Davies

FERTILIZERS

Grow Bigger Crops

Notwithstanding scarcity of all fertilizer materials and the very high cost of same as compared with other years, we are offering again this year a most complete line of Harab-Davies Fertilizers at very reasonable prices. We can supply you with brands containing up to 3% Potash.

Write for our 1916 booklet. We will mail it to you promptly, free of charge, and will have our local agent in your locality call and give you further particulars and prices. Now is the time to figure out your requirements for this coming season. Write us to-day.

Made in Canada by

The Ontario Fertilizers Limited
West Toronto, Ontario

ery milk can will sweet and sanitary you always use Old Dutch



Cultivators for farm and garden

of-date implements and meagre results? ... Write us for name of nearest Agency.

Complete Line Harab-Davies Fertilizers

l fertilizer materials and ed with other years, we are mplete line of Harab-Davies s. We can supply you with We will mail it to you prompt- ur local agent in your localy ars and prices. Now is the ents for this coming season.

What you need for a Sore Throat is WARMTH



Thermogene Curative Wadding as applied for the relief of Sore Throat

THERMOGENE—by generating a soothing, comforting warmth—quickly dispels all the soreness and inflammation.

A strip of this light, dry, fleecy wadding applied to the throat (as in illustration) never fails to bring instant relief.

THERMOGENE CURATIVE WADDING

Removes all pain caused by damp and cold—Pneumonia, Pleurisy, Bronchitis, Rheumatism, Quinsy, Chest Colds, Lumbago; also Sprains, Backache, Neuralgia, etc.

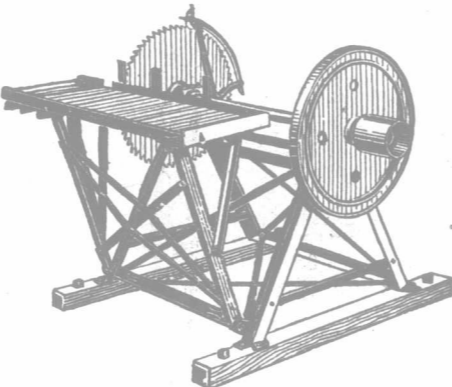
THE THERMOGENE CO., LIMITED, HAYWARDS HEATH, ENG.

Sales Agents for Canada:

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mention "The Farmer's Advocate."

motor-launch, and I'm about sick of the whole business. I've got him now, and you, too. And though you may both tell me till you're blue in the face that my wife hasn't been and isn't on this boat, I won't believe you till I've searched every hole and corner of it."

"Perhaps I had better go and ask Miss Van Buren whether she will kindly permit my uncle-in-law to make such an examination of her property," I said, with the ice of conscious rectitude in my voice.

"Very well," returned Sir Alec. "Go and fetch her."

With head aloft, I stalked to the top of the steps which I defy any human being to descend with dignity.

What would happen between Sir Alec and Alb while I was gone, or what I should say when I got below, I knew not. I could only trust to luck. Was it going to turn out in vain, I asked myself, that all my life I have been called "lucky Starr"?

The canvas curtain at the door of the outer cabin, which protects the ladies from the heat of the motor-room, was unfurled and hanging at length. Standing behind it, I spoke Miss Van Buren's name.

All was silent on the other side. But, after a delay of a few seconds, Nell half pushed aside the heavy flaps of canvas and looked out at me. Her charming face was, for an instant, within twelve inches of mine. I drew back in resignation. With my own hand I had given her to another. Whether or no she would eventually become his, I could not tell, but I felt that, after what I had done, she would never belong to me.

There was, however, very little time to think of that now. My business was pressing.

"Come outside in the passage a minute," I said, in a low voice, still hearing no sound from the other side of the curtain. "I want to speak to you."

"Lady MacNairne—" she began. I put my finger to my lips. She said I.

"Oh, did you know she was ill?" asked Nell.

"She is, poor dear. She had the most sudden attack, just after we came down, and Phyllis and I haven't been able to leave her. She wouldn't let one of us go up to tell you."

"Wonderful little woman!" I could scarcely refrain from exclaiming. "Her cleverness—I mean her consideration—is extraordinary."

"It was her heart," explained Nell. "She's been lying down ever since, holding Phyllis's hand and mine. But she's better now, and I'm not sure she hasn't gone to sleep, for when I heard you call me, and tried to slip my hand out of hers, she didn't seem to notice."

"She wouldn't," I said to myself. "Where's Tibbe?" I asked aloud.

"She's using him for a footstool." All accounted for and under control! Yes; thrice wonderful little woman.

"We couldn't see anything of the race after all," went on Nell. "Did we beat?"

"That's what I've come to talk to you about," I said, not knowing in the least what I was going to say next. "It turned out," I went on slowly, "that a man I—er—know, was on board the boat we were racing. We beat it, but we didn't beat him; for he's walked on board since we've been jammed by a couple of brutes on barges. Oh, no harm done—don't be worried. The man is—in fact—Sir Alec MacNairne."

"Oh, the nice man we met at Amsterdam, and again at Leuwarden, when we—er—" She blushed at the recollection. "He's a distant relation of—"

"Hush! Please don't speak her name or his loud enough for either to hear," I whispered. "I can't explain all to you; but—will you trust me?"

"Why, of course," said my lost Angel. "Sir Alec MacNairne thinks his wife is on board, and he's very angry with Brederode and me, because, you see, he and his wife have had a quarrel," I vaguely explained. "He's got everything mixed up; and because he's heard that a Lady MacNairne's on this boat, he's been chasing us, full of fury. He's silly enough to believe that Brederode's in love with his wife, and—I can't make you understand precisely why, without giving away a secret of my aunt's—that nonsense of his is likely to work our Lady MacNairne a lot of harm."

"What a shame!" exclaimed sympa-

Advertisement for 1895 140 Egg Incubator. Includes image of the incubator and text describing its features and price.

Advertisement for Get Fertile Eggs. Includes image of a chicken and text about poultry regulators and fertile eggs.

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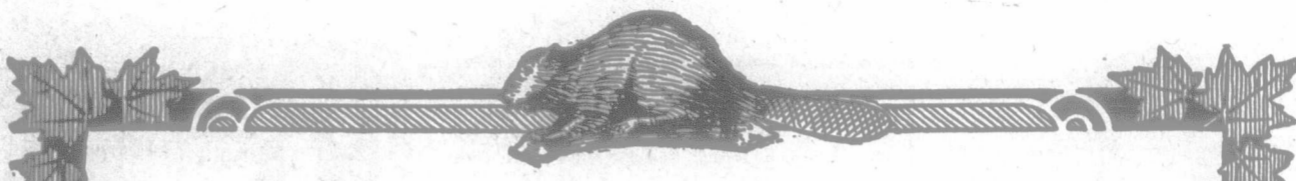
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Forty-Sixth Annual Report of Canada's Only Mutual Life Assurance Co.

On Thursday, February Third, the Forty-Sixth Annual Meeting of the Mutual Life Assurance Company of Canada took place at its Head Office, Waterloo, Ontario. Notwithstanding the disturbed conditions which prevailed throughout the Dominion, the Directors were able to report very gratifying results from the year's operations. Following is a

SUMMARY STATEMENT

| | | | |
|-----------------------------|--------------|----------------------|------------|
| Income | \$ 4,972,782 | Gain over 1915 | \$ 433,709 |
| Paid to Policyholders | 2,035,814 | Gain over 1915 | 444,368 |
| Assets | 26,894,524 | Gain over 1915 | 2,252,210 |
| Surplus | 4,258,737 | Gain over 1915 | 440,258 |
| Assurance in Force | 101,092,030 | Gain over 1915 | 6,614,670 |

EXPENSE AND INTEREST RATE

The ratio of expense to total income has fallen, while the rate of interest earned has risen, both results being favorable to the payment of substantial profits.

SURPLUS EARNINGS

The Company's well-established reputation as a dividend payer was further enhanced by the notable record of

SURPLUS EARNED DURING THE YEAR, \$1,158,210.20

an increase of ten per cent. over the previous year. This assures the continuation of the payment of generous dividends to the participating policyholders of the Company.

The steady growth of the Company is illustrated by the following:

STATEMENT BY DECENNIAL PERIODS

| Year. | Income. | Assets. | Paid to Policyholders. | Business in Force. |
|------------|-----------|------------|------------------------|--------------------|
| 1875 | \$ 29,593 | \$ 53,681 | \$ 4,625 | \$ 1,177,085 |
| 1885 | 270,697 | 750,344 | 115,669 | 8,259,361 |
| 1895 | 735,079 | 3,123,575 | 328,829 | 19,312,477 |
| 1905 | 1,956,519 | 9,296,092 | 552,914 | 44,177,954 |
| 1915 | 4,972,782 | 26,894,524 | 2,035,814 | 101,092,030 |

A full report of the proceedings of the Annual Meeting and the detailed financial statement will be mailed to every policyholder in due course.

GEO. WEGENAST,
Managing Director.

E. P. CLEMENT,
President.

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thetic puzzled Nell. "Can't anything be done about it?"

"Something has been done," said I. "That's what I want you to forgive me for, and—and help me to carry out, for Aunt Fay's sake. Poor Aunt Fay, who's suffering with her heart at this minute! What will she have to endure, if you don't stand by her!"

"I'll stand by her with all my might and main," said Nell. "What can I do?"

"I'm breaking it to you—by degrees. The first degree is, I told Sir Alec that Alb was—is—in love with you."

"Oh—how could you?"

"It was fatally easy. And then I said you were engaged to him. That's the second degree; and the third and last is, that I beg and implore you to come on deck with me, and tell him it's true."

The girl had actually turned pale. "I can't possibly. Anything else—but not that," she said.

"It's the one thing to save my poor aunt. Miss Van Buren—Nell—I tell you frankly, if you won't do this, she—I'm afraid she won't much longer be Lady MacNairne."

"Good gracious! How awful!" stammered the girl.

"Tragic!" I agreed. "And for me—but I say nothing of my feelings. You know how devoted I am to my aunt. She'll be alone in the world—with Tibb—if you refuse to sacrifice yourself in this way for her."

Nell's face was now white and set. I felt a brute; but what was I to do? For the sake of every one concerned, I couldn't have the L.C.P. exposed, or be exposed myself, and the trip broken up at the last, in contumely for all.

I hung on her lips. "Where is Jonkheer Brederode?" she asked.

"He is on deck, too."

"And you expect me to say—before him—that—"

"He's said the same, already. Or, at least, he agreed while I said it."

"Oh! Well, I don't see how I'm to go through with it. But for Lady MacNairne's sake, I'll—do it. Come, let's get it over."

"Wait a minute," I urged, restraining her impatience. "I must explain a little more, first. After Sir Alec has talked with you, he'll want to come below to the cabins, and everywhere, searching for his wife; for he won't believe, till he's made sure with his own eyes, that she's not on board. If you're willing that he should, I am; but don't tell him that a person named Lady MacNairne's really with us, or I can't answer for the consequences."

"If he comes below, he'll see her."

"That doesn't matter, as they've never met; so long as he doesn't know her name."

"Very well, he shan't learn it from me."

"And he mustn't from Miss Rivers. Will you warn your stepsister, not under any provocation whatever, to speak the name of Lady MacNairne?"

"I will. But why couldn't you have said Phil was engaged to Jonkheer Brederode?"

"Robert van Buren wouldn't have stood it."

"I see. But what about him? It's no use my telling him anything; he would go and do the opposite. He's sitting in the outer cabin, alone, where Lady MacNairne asked him to stay and keep guard over her, while Phyllis and I stopped beside her in the inner room."

"Dear Aunt Fay," I murmured. "If you'll just warn Miss Rivers, and tell my aunt that she'd better be asleep when Sir Alec MacNairne peeps in, I'll tackle your cousin."

"Come, then," said Nell. And I followed her into that tasteful little cabin which, in the dim past, I decorated for my own use.

Luckily, it is a far more difficult task to persuade Robert van Buren to say something than not to say anything at all; and though he was puzzled, and not too pleased at being plunged into a mystery, I extorted from him a promise to glare as much as he liked at the intruder but not on any account to speak.

"He won't know you understand English," I said, determining to strengthen in Sir Alec's mind, by every means in my power, the impression of Robert's Dutchness.

I had just arranged matters when Nell

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"Just arranged matters when Nell can you forgive us?"

came back with the strained air of a martyr who hears the lions. We went up on deck together, and a glance showed Sir Alec that no introduction was needed.

"What! This is Miss Van Buren, the young lady who is engaged to marry Jonkheer Brederode!" he exclaimed.

Nell bowed, thankful no doubt that his way of putting it relieved her of the necessity for words.

"You said in Leeuwarden that you didn't know the two young ladies in Dutch costumes," my uncle-in-law flung at me.

"You may have gathered that impression. I certainly never said so," I answered promptly—and truthfully too.

"Perhaps I thought, at the time, that the less attention bestowed on the ladies the better they would be pleased," I added.

"You were right," remarked Nell, bravely.

"Oh, very well," said Sir Alec. Then, abruptly, "How's the dog?"

"He's as nice as ever," replied the girl.

Silence for an instant. MacNairne was visibly reflecting. The sight of Miss Van Buren, and her tacit confirmation of my statement, was cooling him down. He is a gentleman, and a good fellow when not in one of his jealous rages; and evidently he did not wish to distress her, or shake her faith in a man she was going to marry.

"I expected to find my wife on board this boat," he said at last abruptly.

"Is she here?"

"No," said Nell, "she is not, and never has been."

"It's your boat—not Brederode's?"

"It's my boat. He is—kindly acting as our skipper. If you would care to go below, and satisfy yourself that Lady MacNairne isn't on board, please do so."

Sir Alec looked at her, and she looked at him, straight in the eyes, as why should she not, poor girl, having no guilty secret of her own to conceal?

"Thank you," he said. "If I've your word for it, that's enough. I won't go below. Instead, I will bid you good afternoon, and get back to my own boat—if I can. But first—Starr, do you know where my wife is?"

"I don't," said I. "That I swear. I only wish I did, and I'd tell you like a shot. Why don't you advertise in the papers: 'Come home. Forget and forgive. I'll do the same.' Or something of the sort? I'm perfectly sure that would fetch her, for she's very fond of you, you know—or ought to know. She told me once that, in spite of all, you were one of the best fellows in the world."

"Did she really?" the poor chap asked, his face flushing up—not with rage this time.

"She did, indeed."

"Thank you," he said absently-mindedly. He thought for a moment, and then spoke quickly, "Well, Brederode, I'm not sure that I oughtn't to apologize."

"I am sure, Sir Alec," Alb answered. But he was smiling.

"Here goes, then." The big Scotsman held out his hand. The tall Dutchman in the blue overalls took it.

"I don't know about you, Starr," said Sir Alec. "I'm inclined to feel that you, at all events, have treated me rather badly. As my wife's—"

"I've meant well all through," I broke in hurriedly. "And just now I gave you a bit of good advice. You'll thank me when you've taken it."

"Perhaps I will take it," he muttered.

"Hurrah!" said Alb. "The grand pressure of the whole flock of us is forcing the barrier apart. We shall make our way through in a few minutes now."

"Good-by, then, all," exclaimed Sir Alec. "I must be getting back to my boat. The barges don't mind me much now it's dawned on their intelligence that I'm neither mad nor an anarchist. Brederode, I congratulate you on your engagement to Miss Van Buren. I hope, Miss Van Buren, that you will be very happy. As for me, probably I shall leave Holland to-morrow."

With that he turned his back upon us resolutely and made off, scrambling on board the barge jammed nearest "Mascotte's" side. So he went on, from one to another, until he had disappeared from sight.

"Miss Van Buren," said Brederode. "can you forgive us?"

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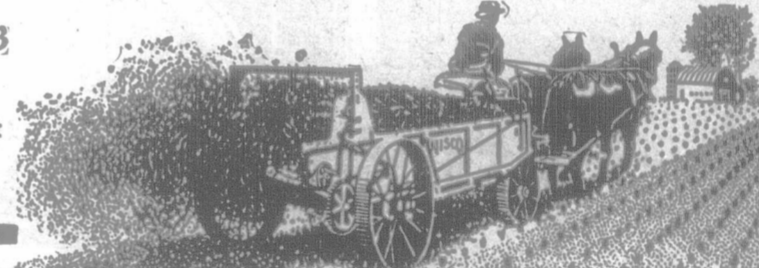
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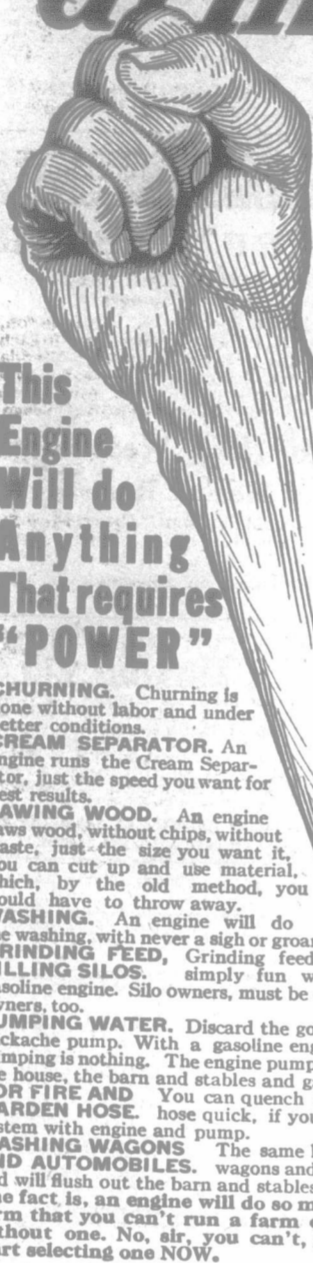
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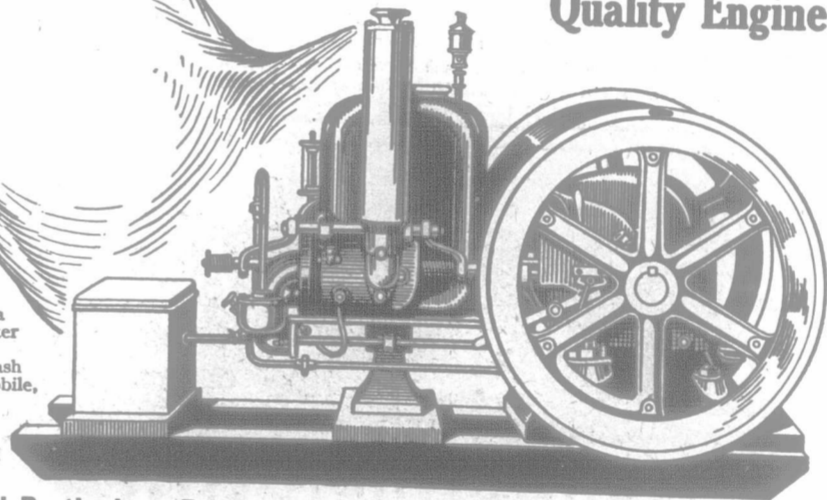
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 - FOR FIRE AND GARDEN HOSE.** You can quench a fire with a hose quick, if you have a water system with engine and pump.
 - WASHING WAGONS AND AUTOMOBILES.** The same hose will wash wagons and the automobile, and will flush out the barn and stables.
- The fact is, an engine will do so much on a farm that you can't run a farm efficiently without one. No, sir, you can't, you should start selecting one NOW.

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Big Power—Little Cost—SOLD ON A GUARANTEE

POINTS OF SUPERIORITY. The Chapman Engine has such an excellent reputation that imitations are already on the market, but it is in appearance only. The best Chapman features are patented and cannot be imitated. In selecting an engine, remember that the Chapman is the only engine with (1) a perfect straight line valve motion; (2) a combined suction and pump feed fuel supply; (3) a cast iron fuel tank that cannot leak; (4) a specially designed carburetor; (5) a ball bearing cam motion; (6) a ball bearing gasoline pump action; (7) a full banjo type frame; (8) a cam box that contains the entire operating and ignition mechanism and protects it by a cast iron frame, easily removed when adjustments or repairs are required; (9) a fly ball governor that gives a variation of 250 r.p.m. without stopping the engine; (10) sufficient weight to keep it still while running at full speed. If you want an engine that will never fail you, and cost you least in the end—get a Chapman. It is Canada's great

Quality Engine



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 Pay Highest Price.
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Please mention "The Farmer's Advocate."

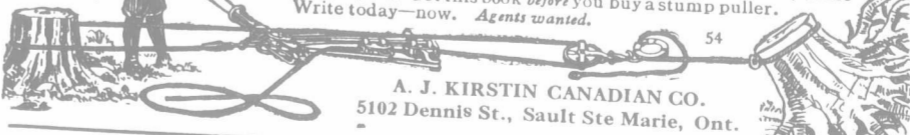
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 Improved seed, clean and pure. Heavy yielder. \$1.00 per bushel. Bags free.
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Seed Corn—Prizewinning Wisconsin No. 7 and Longfellow, the best or the silo.
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 Northwood, R.R. No. 3 Ontario

"It is hard," she said, picking up a fold of her white dress and playing with it nervously. "But we won't talk of it any more—ever. I must go now, and see how Lady MacNairne is."

"Not yet. One moment. There's something I must say in justice to myself," Brederode persisted.

She hesitated. And there was that in her face, that in his voice, which made me realize suddenly that my explanations were not needed. I could trust Alb not to give me away, and, as for him, he had forgotten all about me—so had Nell. And I crept off unnoticed.

The one place for me was on board "Waterspin," and before the barrier had done more than show signs of yielding I crawled over, slinking into my cabin.

"Well, well!" I said to myself. "Well, well!" I said again, with my head between my hands as I sat on my lonely bunk. There seemed nothing else to say.

I stayed for a long time, until the press had broken, and we were going on at full speed once more. Then I went to a window of the kitchen, which Phyllis so much admired, and looked out. I could see the deck of "Mascotte," and Brederode and Nell, who were still alone there together.

"Well, well!" I repeated idiotically: "it's I who did that. If it hadn't been for me—but I don't know. I suppose it was bound to happen, anyway. I wonder?"

Then I returned to my cabin and fitted about restlessly. Soon I became conscious that I was humming an air. It was not, in itself, a sad air; but there was a certain sadness as well as appropriateness in its meaning for me—

Giving agreeable girls away—
 One for you, and one for you, but never
 (how does it go?), never one for me!

We were stopping. We had come to Middleburg. I looked out again. Nell was on deck alone. Doubtless Alb had at last gone below to the motor-room, and was exchanging the blue overalls for something more decorous. Would he, even for the sake of conventionality, have left her at such a moment unless everything were settled?

"Mascotte" and "Waterspin" were at rest, and I could avail myself of Alb's absence to find out if I liked. I was not at all sure that I did like. Nevertheless, something urged me to go, and before I quite knew how or why I had come there, I stood beside the pretty white figure. Nell looked up at me, radiant with emotion.

"Oh, Mr. Starr, you were just the one I wanted to see," she exclaimed. "I was willing you to come."

"Well, I came," I said, smiling. "I'm glad you want me."

"I want to ask you what to do. I sent him away. You know, we must stop on board till Lady MacNairne's better, so—there's no hurry, and—he had to change. At first he wouldn't go without an answer. But I told him I must have ten minutes to make up my mind. He explained everything. He was never to blame. It was all Freule Menela's fault—and mine. Please say what you think. You know him so well; you're old friends. There's no one else I can talk to, and—I feel somehow—I have for a long time—almost as if you were a kind of—adopted brother."

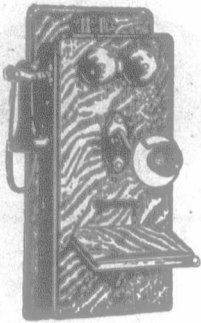
Brother again! Blow after blow; let them fall now, one upon another. I had feared this, yet would not expect it. But I suppose I must unwittingly have been born a brother.

"That's right," said I. "Go on—little sister." The words were getting quite familiar now.

"He says that he has never stopped loving me—dreadfully—desperately—from the very first. But I was so sure it was so bad to him, and Phyllis so kind, he began to care for her instead. Just now, when you said I must pretend to be engaged to him, I was thinking how horrid it would be for him to feel, 'Oh, if it were only Phyllis!' Didn't you suppose he was in love with Phyllis?"

"Never," I heard myself assuring her; "never."

"I'm so glad. You're sure, then, that he knows his own mind, that he isn't asking me to go on being really



Which Telephone?

There are several thousand farmers scattered throughout Canada who have decided to establish telephone connection with their neighbors and with the outside world—to get in close touch with buyers, commission agents, the doctor and the stores. To ensure their complete satisfaction, their installation MUST measure up to the efficiency of

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Inferior apparatus is not worth installation—an instrument that does not reproduce the message clearly would cause endless trouble. Stromberg-Carlson Telephones, throughout North America, in City, Factory and Farm, are daily serving millions.

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This book contains valuable information for you and will be sent free upon request. Do not hesitate to ask for estimates and assistance. Address—
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Incorporated
Write for our 1916 Catalogue of Garden, Lawn and Farm SEEDS
Prices substantially reduced. Stocks as good as ever.
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Price—Barley \$1.00, Oats 90c. per bushel. Bags extra.

John Elder & Sons, Hensall, Ont.

Questions and Answers. Miscellaneous.

Frost Proof Cellar—Sowing Timothy with Alsike.

1. Describe a frost-proof cellar or warehouse for storing seven thousand bushels of potatoes. What facilities would you have for getting the potatoes in and out?

2. I expect to take a crop of alsike seed off a field next summer. If I sow timothy seed on this field next spring, will it come on for hay the following year?

E. McF.

Ans.—1. Nine thousand cubic feet of space would be required to store 7,000 bushels of potatoes. A cellar 60 feet by 25 feet by 7 feet, would be of sufficient size. A cement wall, with two-by-four scantling and boarded tight on the inside to give a dead-air space, should keep out the frost. If not, building paper and another thickness of lumber could be put on. Where there is a building over the cellar, double boarding the ceiling would be sufficient. The cellar could be filled through trapdoors in the ceiling. One wide door could be built in the wall so that a wagon might be backed into the cellar to facilitate shipping out the potatoes. Where it is not convenient to have a building over the storage place, a cement roof could be put on the cellar and holes left for filling. The ceiling would have to be boarded the same as the wall in order to keep out the frost.

Purchase of a Thresher.

I am a member of a syndicate threshing company, and at our last year's annual meeting we decided to buy a new machine. There were four directors appointed to buy it. This part was set down in the minutes of the meeting. Then, in the talk before the meeting broke up, the company advised the directors to buy some one of the good machines with a barley-bearder on, as the members grow considerable barley in this district, and as we have had two machines, the directors were told not to buy any more of that kind, as they did not suit the members, because they did not have the bearder on. The managing director was in favor of this machine, and bought it, with a grain-blower attachment on, without the consent of the other directors. Will the members have to pay for this machine? Please let us know before the 2nd of February, as that is our meeting day. Ontario.

Ans.—The word "limited" not being used as part of the name of the threshing concern, we assume that it is not a company incorporated under The Ontario Companies' Act, but is really a partnership. If the vendor of the machine was not aware of the circumstances which attended the authorization of the purchase of the machine, we think that he would probably be entitled to collect from the partnership, and, if necessary, from the members thereof personally. But as between the managing-director and the partnership and members, there might be the legal right on their part to hold him personally responsible for the price, if they should be compelled to pay it. We think that they ought to promptly notify both their managing-director and the vendor, in writing, repudiating the purchase and his authority to purchase, and refuse to accept delivery of the machine, and then, if sued, have the managing-director added as a party to the action, so that the whole matter might be disposed of, if possible, in the one case.

Gossip.

Attention is directed to the advertisement in this issue of Jersey bulls, the property of Mr. Nichols, Woodstock, Ont. Mr. Nichols has sold his farm at Woodstock and purchased 200 acres near Burgoyneville.

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It contains information that has saved them time and money in making farm improvements. It has taught them the economy of building everything of everlasting concrete.

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It is free and will be mailed to you immediately upon receipt of coupon below.

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WORMS KEPT OFF CATTLE

FEBRUARY 10, 1916

THE FARMER'S ADVOCATE.

239

Questions and Answers. Miscellaneous.

Concrete for a Wall.

Please publish, through the columns of your valuable paper, the number of barrels of cement and yards of gravel required to build a foundation wall 70 feet long, 8 feet high above the ground, and two feet below, the wall being 1 foot thick? B. R. H.

Ans.—Mixing in the proportions of one part cement to nine parts gravel, it will require about 28 yards of gravel and 20 barrels of cement, to build the wall. A few small stones might be used and save a little on the gravel. However, the stones should not come within two inches of either face of the wall.

Stringy Milk—Twin, Heifers Calves.

1. We have a Holstein cow, and the last two years her milk gets stringy. Sometimes she is affected only in one quarter, then again in two or three, and sometimes in the four quarters. Some days it is quite thick, and it will gradually disappear and then reappear. This usually appears about the last two months of her milking. Kindly advise us as to the cause and remedy.

2. This cow had twin calves (heifers), and as they are fine, big calves, we would like to raise them if they will breed. M. L.

Ans.—1. The stringy milk is possibly due to abnormal changes in milk which frequently accompany an inflamed udder, and is called garget. Sometimes it is caused from an injury, or it may appear without any appreciable cause. Give a purgative of 1½ lbs. Epsom salts, and follow up with a teaspoonful of saltpetre in a pint of water as a drench, daily, for a week. If the affected quarter is swollen, bathe with hot water and vinegar, then rub twice daily with goose grease and spirits of turpentine.

2. Where twin calves are both heifers, they usually breed all right.

Curing Pork—Keeping Fowl in Condition.

1. Please give a recipe for curing pork for summer use.

2. What is the best way to keep fowl in good condition? I had a lot die last spring after they were a few days old. Some of the old fowl had what was called gapes. MRS. S. H.

Ans.—1. The following methods of curing pork have been recommended: To salt pork dry, take a mixture of 4 lbs. fine salt, 1½ lbs. brown sugar and 2 ounces saltpetre and apply to each 100 lbs. meat. Apply three times for hams and shoulders, and twice for bacon. Rub the mixture well in at intervals of about a week. Hams and shoulders may be put in pickle. Seven pounds of salt, 1½ lbs. of granulated sugar, and 2 ounces saltpetre, are used for every 100 lbs. of meat. This mixture should be well rubbed into the meat, and then pack the meat in a cask, using all the salt, then cover with cold water. It is best to give the cask a roll once a week. In about seven weeks the hams may be taken out and soaked twelve hours before using.

2. Good feed and proper housing are necessary to keep fowl healthy. Give exercise by making them scratch for their feed. Plenty of clean water for the birds to drink is essential. In case of young chicks dying, it may be due to a low degree of vitality in the parent stock, or improper feeding of the chick. Delay feeding the chick until it is at least 36 hours old, then give a drink and some chick-grit. Hard-boiled eggs and bread crumbs chopped up together make a satisfactory feed for the first few days, and then small wheat may be fed.

All birds affected with gapes should be isolated, in order that the worms coughed up or voided with the excrement may not be eaten by other chicks, or contaminate the ground. All runs should be disinfected. The individual surgical method seems to be the only sure method of ridding an infested bird of the parasites. This is done by taking two straight hairs from a horse's tail, tying the ends, and passing them down the windpipe. After giving a twist between the thumb and finger, draw out, and usually several worms will be attached to the hair. Repeat several times, and the worms will be nearly all dislodged from the windpipe.



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40 horse power
7 passenger**

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-POWER that laughs at the heaviest roads

Never in the history of the industry has there been a 4-cylinder car that offered so much POWER at its price as this new SERIES 17 Studebaker. Never has there been offered to the man living in the country, to the man running a farm, to the man driving over the muddy roads and the trying hills a car with such masterful yet ECONOMICAL power as this SERIES 17 Studebaker possesses.

POWER with economy of gasoline has always been a Studebaker ideal. And this car's big, 3⅞-inch bore x 5-inch stroke motor develops and delivers FULL Forty Horse Power with a surprisingly low consumption of fuel.

It is the ideal car for the man operating a farm—big, light and sturdy and easily operated. It has room for SEVEN to ride in COMFORT. It is handsome in design and finish. It incorporates many new refinements of design such as the tank in rear with Stewart Vacuum Feed; DIVIDED and adjustable front seats; overlapping, storm-proof windshield; self-starting and lighting control and other instruments conveniently located on dash, illuminated by new indirect lighting system. And taken from any angle, it offers the BIGGEST value, dollar for dollar of the price, that the industry has ever seen.

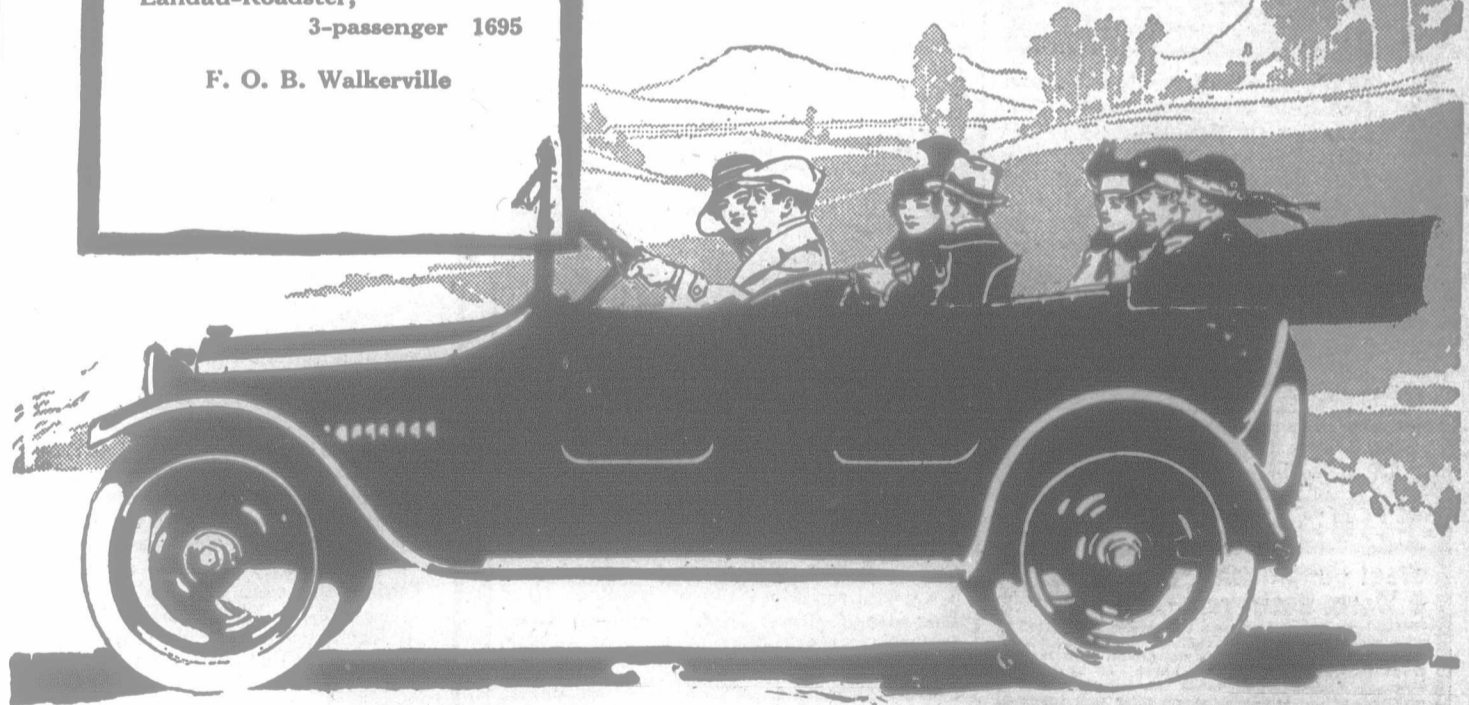
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"I want the Whole World to Know What It Has Done For Me."—Frank Stevens, of Greenwood, Ind., and adds: "Save-The-Horse has cured bone spavin, thoroughpin, and one with a sprained stifle."

Our Charges for Treatment ARE MODERATE. But write for our 96 page "SAVE-THE-HORSE BOOK"—it is the last word on the UP-TO-DATE treatment of 58 kinds of Lameness—Ringbone—Thoroughpin—SPAVIN—and ALL Shoulder, Knee, Ankle, Hoof, and Tendon Disease.—Fully ILLUSTRATED. WE ORIGINATED the plan of giving a Signed Contract Bond to return money if remedy fails.

But write, **BOOK, Sample Contract and ADVICE—ALL FREE** (to Horse Owners and Managers). Address: **TROY CHEMICAL CO., 145 Van Horn St., Toronto, Ont.**

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Bright bay, four white feet and white face; weighs 1,800 lbs., and quality from the ground up; has proved himself very sure on a limited number of mares served this season.

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(Dams all registered) Apply to: **DAVID CORDINGLEY** Streetsville, Ont. R.R. No. 2

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TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, Muscles or Bruises. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. \$2 a bottle delivered. Describe your case for special instructions and Book 2K Free.

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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.** or **WM. COOPER & NEPHEWS, Toronto, Ont.**

COMMISSION MEN PAY MORE. Dealers at the Stock Yards pay more for cattle that have been dehorned. The hides are worth more and the flesh has less bruises. It pays to dehorn your cattle. Write for booklet telling about the **KEYSTONE DEHORNER**. **R. H. McKENNA, 219 Robert St., Toronto.**

For Sale: Clydesdale Stallion Tommy Macnah [15419] rising three years old, bred from imported stock. He is sound and right. Apply to: **Robert Robinson, R.R. No. Bolton, Ont.**

Grade Steers and Heifers Growthy large framed. Write your wants. **LISTOWEL BROKERS, Listowel, Ont.**

Mention Advocate.

Gossip.

SPRUCE GLEN SHORTHORNS.

The 734-acre Spruce Glen Farm, owned by James McPherson & Sons, is situated in the County of Grey, five miles from the village of Dundalk, on the Owen Sound line of the C. P. R. For twenty-five years McPherson & Sons have been breeding Shorthorns, their original foundation stock all being purchased from the noted Greenwood herd of the late Arthur Johnson. This fact alone will be all the evidence needed relative to the herd's breeding on fashionable and modern lines. The herd, now 70 strong, is made up of Bruce Fames, Florences, Miss Ramsdens, Minas and Emilys, daughters of Imp. Cyclone, Imp. Lord Roseberry, Imp. Royal Archer, Imp. Choice Kora. The Crimson Flower-bred Broomwell, by Imp. Premier Earl; the Dairy Maid-bred Lord William, a grandson of Imp. Indian Chief, the Cecilia-bred Lord Cecil, a son of Imp. Lord Rintore; the Bessie-bred Earl Derby, a son of Imp. Derby, and the present stock bull, Royal Red Blood, a son of Imp. Blood Royal, and out of Imp. Red Rose. They are an exceptionally strong herd of cattle, and all in the nicest kind of breeding condition. There is a big selection in one- and two-year-old heifers for intending purchasers, and many good ones there are among them. In young bulls there are several of breeding age, Miss Ramsdens, Blythsome Girls, Crimson Flowers and Emilys, reids and roans; a level, mellow, splendidly-fleshed lot. Parties wanting Shorthorns should visit this herd. The selection is a big one, and the quality the kind that pays the mortgage.

J. M. GARDHOUSE'S BIG SALE.

As stated in last week's paper, the offering in Shorthorns to be sold at J. M. Gardhouse's big sale at the Union Stock Yards, West Toronto, on Friday, February 18, will possess rich, fashionable breeding and showing merit to an exceptional degree. Among the bulls to be sold is the famous proven sire, Ben-holme Butterly (imp.), a roan Cruickshank Butterly, nine years old, active, safe, and sure, and a sire of sterling merit. Another great bull to be sold is the Augusta-bred, O. A. C. Augustine, a son of the famous Loyal Scott (imp.), and out of College Augusta. He is a roan four-year-old, a most successful sire, and a low, thick, mellow bull. He is one of the good ones, and his breeding cannot be surpassed. Among the younger bulls is a son of the great Gainford Marquis (imp.), and out of Belmar Avenir, by the Toronto junior champion, Marigold Sailor. This is a show calf all over, a roan, five months old, and his dam, which will also be sold, is one of the best cows in Canada to-day. There are also several other young bulls from ten to fifteen months of age. High-class herd-headers among them are Nonpareils, Villages, Jits, English Ladies, Beales, Crimson Flowers, etc. Parties wanting a herd-header should attend this sale. Among the females are a number of high-class show things, particularly among the heifers, representing such popular tribes as Jealousys, Mysies, Rachels, English Ladies, Miss Ramsdens, Rosemarys, Golden Hope, Village, Strathallans, etc. Many of them are imported, many others by imported sires, and out of imported dams, and nearly all by imported sires. The cattle-breeding business in Canada has a future of promise and financial profit the brightest in the country's history, and the offerings at this sale are the class of cattle that are sure winners, for all are breeders.

Of the 699 cases of marital unhappiness heard in the Chicago Court of Domestic Relations during a single year, the following causes of friction were noted:

- Intemper, 11 per cent.
 - Interference of wife's parents, 6 per cent.
 - Interference of husband's parents, 4 per cent.
 - Disease, 13 per cent.
 - Immorality, 11 per cent.
 - Marrying too young, 1 per cent.
 - Inebriety, 3 per cent.
 - Miscellaneous, 6 per cent.
 - Idiot, 42 per cent.
- Some lessons are bound up with the above statistics.

Make the Change Now

Mogul 8-16 Kerosene Tractor

GRAND PRIZE WINNER AT SAN FRANCISCO EXPOSITION

THESE are the days of heavy horse power expense. The horses are idle. Hay and oats are worth so much it's a shame to use them for feed. It takes five acres of land to raise enough to feed one horse one year. Horses are at the top of the market, with prices higher than for years past. The market for horses is so good that, even at these higher prices, they are easy to sell. What better time could there be to consider replacing some of your horses with a **Mogul 8-16** kerosene tractor?

You can use a **Mogul 8-16** with profit for about all the work you are now doing with horses—the tractor does it better and cheaper. It takes less of your time to care for it. It increases the amount of land you make a profit from—five acres for every horse it replaces. It is the right size for most of your belt work. It burns any fuel oil—kerosene, naphtha, benzine, motor spirits, enabling you to use the cheapest fuel you can buy.

Why not plan to sell some of your horses now and save the winter feeding? **Mogul 8-16** will take their place and do your spring work in time. Write today for our 100-page book "Tractor Power vs. Horse Power," which we will send promptly if you'll only ask for it. Write us at the nearest branch house.

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

Unreserved Sale by Auction
OF THE FAMOUS "FAIRVIEW FARMS" STOCK OF
CLYDESDALES, SHORTHORNS
and **SHROPSHIRE**

The property of the estate of the late DON. J. CAMPBELL, of Woodville, will be held at the farm on
Friday, February 18th, 1916

when the entire stock will be sold absolutely without reserve. The stock consists of imported and Canadian bred registered Clydesdale mares and fillies and a number of first-class geldings, 20 head of registered Shorthorn cows, heifers and bulls of the famous "Mysie" and "Strathallan" families, and a number of splendid grades, together with 70 head of imported and home-bred breeding and show Shropshires. The flock that made "Fairview" famous in a price, for the past 35 years. This sale offers an opportunity to breeders to improve their flocks with the very best stock obtainable on the continent at absolutely unreserved prices.

Woodville is 65 miles from Toronto on the Midland Division, G. T. R. Two trains each way daily. Conveyances will meet trains on day of sale. Sale at 12.30 o'clock sharp. Lunch served.

Terms cash. Purchasers from a distance will be expected to have checks marked or a line of credit from their bank.

Catalogues of the live stock may be had on application to the executors.
N. W. ROSS, Cannington, Ont. * JOHN P. CAMPBELL, Woodville.
GEO. JACKSON, Auctioneer

Columbia Batteries

Use **COLUMBIAS** in your hand lantern. They're the 27-year-old, time-tried, world-used battery. Fresh. Full of vigor. Long-lasting. Uniform. The most dependable battery for lanterns, phones, bells, blasting; and to run engines, autos, tractors. Insist on **COLUMBIA**.

Canadian National Carbon Co., Limited
99 Paton Road, Toronto
Fahnestock spring-clip binding posts, no extra charge.

No. 6 COLUMBIA IGNITOR DRY CELL

FOR GENERAL IGNITION
CANADIAN NATIONAL CARBON CO. TORONTO, ONT.

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

LECTION SALE

Shorthorns 45

without reserve on February 18th, 1916

S, WEST TORONTO, ONT. e herd of Shorthorns from Mr. John ...

LS AND 30 FEMALES

at foot, together with a choice lot of ls are in good breeding condition, and ...

Gardhouse, Weston, Ont.

Our herd has won more prizes since 1893 than ny herd in Canada, and in 1915 we won more on to Edmonton, at all fairs except Brandon, ...

ED BULLS

may now be seen at our farms. There are some cows and a heifer, all of which are forward in d in this class of stock to visit us at any time.

J. A. & H. M. PETTIT, Freeman, Ont.

he is offering in Shorthorns some of the best can be produced. Young bulls fit for service, ...

ROBERT MILLER, Stouffville, Ontario

23 lb. bull ready for immediate service. Write have also a limited number of choice young bulls ...

Collingwood, Ontario.

When in want of Shorthorns visit our herd. We have 70 ...

PHERSON & SONS, DUNDALK, ONT.

We have this year the best lot of young bulls we ever bred ...

WALDEMAR, ONT., P.O. AND STATION

HIRES T. L. MERCER Markdale, Ontario ...

RM SHORTHORNS

rd header or to raise better steers is right now. ...

Myrtle Sta., C.P.R. & G.T.R.

and 40 females. Shropshire and Cotswold ewes for sale at prices within the reach of all.

HENSALL, ONT.

H IN BREEDING, HIGH IN QUALITY herd of Scotch and Scotch-topped Shorthorns ...

ORNS

Herd headed by the two great breeding bulls, Newton Ringlander (imp.) 73783, and Nonpareil ...

Ont. Phone and Telegraph Via Ayr

le one three-year-old shire stallion, winner of on at Canadian National Exhibition, Toronto, ...

BIRRELL & SON, Claremont, Ont.

879 = our splendid stock bull for sale, also ...

Manager, R. R. No. 2, Port Hope, Ont.

Apiculture Short Course a Success.

This Short Course was held at the Ontario Agricultural College, Guelph, Jan. 11 to 22, 1916. Owing to war conditions a large attendance was not anticipated. On the opening day, however, there was an attendance of twenty-seven, later increased to thirty-five young men and a few ladies. Practically every one of these had been previously engaged in beekeeping. They included beekeepers owning one hundred or more colonies, sons of successful beekeepers, and in one case a beekeeper's hired man.

Many different parts of Ontario were represented, also Quebec, and the State of Michigan. The get-together spirit was much in evidence, and the interest shown at all the lectures was very gratifying. It is the purpose of this course to give the underlying principles of bee nature, a knowledge of which is essential to successful bee management. Fifty-nine lectures and demonstrations were given, covering the different phases of beekeeping. Typewritten copies of each lecture outline were distributed to the class so the main points could be followed closely and carried home for future reference.

One important feature of the work was the display of apian apparatus and implements. The educational value of this was clearly demonstrated by the keen interest shown by those present.

In conducting this course, the Provincial Apiarist, Morley Pettit, was assisted by F. W. L. Sladen, Apiculturist, Central Experimental Farm, Ottawa; F. E. Millen, B.S.A., Lecturer in Apiculture and State Inspector of Apiaries for Michigan; F. W. Krouse, President of the Ontario Beekeepers' Association; James Armstrong, Selkirk, Vice-President of the Ontario Beekeepers' Association; also some of the apian inspectors of Ontario. Lectures on allied subjects were given by other members of the College staff. Frank C. Pellett, State Apiarist of Iowa, paid the class a visit, and lectured on beekeeping conditions in his State. Throughout the course there were many kind words of appreciation by members of the class, and on the last day a vote of thanks was tendered Mr. Pettit and the other instructors for the valuable information received and the systematic arrangement of the work. It is proposed to hold a Summer School for beekeepers at the Ontario Agricultural College some time in June, when bees are active and a lary practice will be possible. Persons interested should write at once for particulars to Morley Pettit, Provincial Apiarist, Guelph, Ont.

Gossip.

If you want milk you can get it from a Holstein cow, and if you want Holstein cows, see the advertisement in another column of the big, 40-head sale, to be held at Simcoe, Ont., Feb. 16. Nothing but females will be offered. The Norfolk Holstein-Friesian Breeders' Club has had two sales, and people were well pleased. The stock this year is better than before, so buyers will be sure of good bargains. Write to Wallace H. Mason for catalogue as directed in the advertisement.

One afternoon in the trenches an Irish soldier discovered that one of his company was wearing a nice new pair of boots. "How did you manage to get hold of them?" asked Pat enviously. "Well," said his friend, "I stole out of the trench last night, and found them on a German I killed." Pat became thoughtful, and that night disappeared. Early next morning he staggered back into the trenches carrying a pair of boots. Making for his friend, he whispered: "I had the hardest job of my life. Had to kill about fifty before I got a pair to fit me."

McLAUGHLIN

A High-Grade Six-Cylinder Car for \$1,110

"F. O. B. OSHAWA"

Live Farmers acknowledge that an automobile is a necessity nowadays—that it is a profitable investment. The vital points remaining for consideration are "MONEY VALUE" and "SERVICE."

Value

Dollar for dollar, the 1916 McLaughlin six-cylinder "Valve-in-Head" motor car insures its owner greater VALUE than any other car. We challenge comparison with any car at any price.

Service

Twelve branches throughout Canada guarantee a "Service" unsurpassed in the Dominion. Over fifty years of business experience with Canadian farmers testify as to our reputation for quality and square dealing.

IMPORTANT. There is no reason—good or bad—why you should buy a four cylinder car, when you can own a powerful, high-grade McLaughlin six-cylinder "Valve-in-Head," 5 passenger touring car for the same or less money.

Write to-day for our free booklet "Farm Life and Freedom."



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BRANCHES:
St. John, N.B.
Montreal, Que.
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GIANTS OF POWER

Escana Farm Shorthorns

For Sale—15 bulls 8 to 14 months old, several of them prize-winners at Toronto and London, sired by the noted imported bulls Right Sort and Raphael. Also for sale—20 heifers and cows of choice breeding and quality for show or foundation purposes.

MITCHELL BROS. Burlington P.O., Ontario

Jos. McCrudden, Manager. Farm ¼ mile from Burlington Jct.

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.

W. A. DRYDEN, Maple Shade Farm, Brooklin, Ont.

Brooklin, G. T. R., C. N. R. Myrtle, C. P. R.

The Salem Shorthorns

One of the largest collections of Scotch Shorthorns in America. Can suit you in either sex, at prices you can afford to pay.

J. A. WATT, ELORA, ONT.

SHORTHORNS AND CLYDESDALES

10 Bulls serviceable age, all good ones (some herd headers) and are offering females of all ages. Have a choice lot of heifers bred to Clansman—87809—; also four choice fillies all from imported stock

A. B. & T. W. DOUGLAS Long-Distance Phone STRATHROY, ONTARIO

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; bfg 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.

SHORTHORNS YORKSHIRES SHROPSHIRE

We have a choice selection in young shorthorn bulls. Young Yorkshires of both sexes, shearing ewes ram and ewe lambs. We aim to please by shipping quality. Write us your wants.

RICHARDSON BROS. Columbus, Ont.

Woodholme Shorthorns

For Sale—Four bulls sired by Imp. Lord Gordon, fit to head good herds, and a number of cheap bulls for graded herds, from good milking families. Also a few good heifers in nice condition that I can sell worth the money. Mail orders filled with greatest care. Write your wants.

G. M. FORSYTH, Claremont, Ontario

SHORTHORNS AND SHIRES

For Sale—a few choice young bulls, cows and heifers, of high-class quality, choice breeding and from splendid milking dams. Also two young stallions and a few mares and fillies. Prices reasonable.

JOHN GARDHOUSE & SONS, Weston, Ont. C.P.R., G.T.R. & Electric Railway L-D Phone.

Eureka Potato Planter

For Large or Small Growers, 1 or 2 rows Opens furrow, drops seed any distance or depth required, puts on fertilizer (if wanted), covers up, marks next row. Accurate, automatic and dependable. Operated by one man. Furrow is opened directly under axle and seed is dropped in plain sight of operator. Made of steel and malleable iron, assuring long life and few repairs.

Send for Catalogue



Lynnore Stock Farm

Imported Dairy Shorthorn Stock. Imported English Berkshires. Young pigs now on hand for sale.

F. W. Cockshutt, Brantford, Ont.

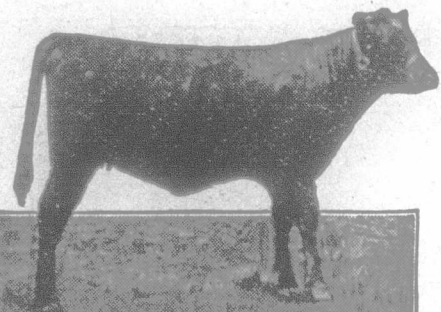
Insist on "GOOD LUCK" Brand COTTON SEED MEAL

41 to 48 per cent. Protein IT MAKES RICH MILK Write for feeding directions and prices to Crampsey & Kelly Dovercourt Toronto Road

1854—Maple Lodge Stock Farm—1916 SHORTHORNS AND LEICESTERS

We have now for sale, one red bull, eleven months from one of our record cows. Also some younger ones, very desirable stock. Two ram lambs and four ewe lambs remain for sale. Choice ones at very moderate prices.

MISS C. SMITH, Glandeboye, R.R. 1, Ont. Lucan Crossing one mile east of farm



Raised Without Milk!
 Her name is "Daisy" and her owner W. A. Riddle, of Chupin, 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 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 Pig Meal insures rapid, sturdy growth of young pigs at weaning time. Prevents setback.

See Actual Figures—based on records—that show you how to increase your calf profits. Write today.
 Steele Briggs Seed Co., Dept. 68, Toronto, Ont.

95 UPWARD
ON TRIAL
 Fully Guaranteed

American Cream Separator

A SOLID PROPOSITION to send a new, well made, easy running, perfect skimming separator for \$15.00. Skims warm or cold milk; making heavy or light cream.

ABSOLUTELY ON APPROVAL
 Bowls sanitary marvel, easily cleaned. Different from picture which illustrates our large capacity machines. Shipments made promptly from Winnipeg, Man., Toronto, Ont., and St. John, N.E. Whether dairy is large or small, write for handsome free catalog. Address: AMERICAN SEPARATOR CO., Box 3200, Balmbridge, N. Y.

New Edition of Modern Silage Methods

ENTIRELY a new book—new chapters—full facts about every type of silo—lime made, stave, brick, cement, tile, metal, pit, etc. Tells best for your needs—impartial suggestions for making most profits. 264 pages—10 page index—Copyrighted Nov. 1914, covers 41 silage crops. Good for use look it best all purpose volume. Write today. Mailed with four-color picture folder for 25c duty and postage. Mention this paper.
 SILVER BLDG. CO., Salem, Ohio

Holstein Bull
 Well bred 6 mos. old bull from good producing stock. A bargain for quick sale.
M. G. RANSFORD
 Clinton, Ontario

HOLSTEINS
 Two bulls over a year old, three more fit for service. Two grandsons of "Rag Apple Korndyke 8th" (May), and several sons of "King Segis Pontiac Duplicate," one of the best.
R. M. Holtby, R.R. 4, Port Perry, Ont.

HOLSTEIN BULL
 A grand show individual, fit for immediate heavy service, 13 months old. Sire, Ourvilla Sir Teake Colantha. Dam just finished record of over 23 lbs. at 4 years; average test 4%. Price right for immediate sale. Apply
WM. J. BALD, Mitchell, Ont. R.R. No. 2.

Lakeside Ayrshires
 A few young bulls for sale from Record of Performance dams, imported and Canadian-bred, sired by Auchenbrain Sea Foam (Imp.) 35758, grand champion at both Quebec and Sherbrooke. Write for Catalogue.
GEO. H. MONTGOMERY, Proprietor
 Dominion Express Bldg., Montreal, Que.
D. McArthur, Mgr., Phillipsburg, Que.

High-Class Ayrshires If you are wanting a richly-bred young bull out of a 50-lb.-a-day and over cow, imported or Canadian-bred dam or sire, write me. Females all ages. Prices are easy.
D. A. MacFARLANE, KELSO, QUEBEC

For Sale—two Jersey bulls, grandson's Fairy Glen's Raleigh dam of one, Junior Champion, Toronto, 1915. Several Berkshire pigs from prize-winners at Toronto and Guelph.
IRA NICHOLS, Woodstock, Ont.

Please mention "The Farmer's Advocate."

Notes on Cow Testing.

To assist dairy farmers who desire to test their herds for milk production, the Dairy and Cold Storage Commissioner at Ottawa has issued for public distribution a pamphlet entitled "Cow Testing Notes," and designated Circular No. 16, D. & S. Series. The pamphlet shows the necessary equipment, as spring scales, box of sample bottles, dipper, etc., and tells the cost of each and where the outfit may be procured, as well as the purpose and method of use of each.

The Department of Agriculture, through the Dairy and Cold Storage Branch, helps farmers to test their cows. In July, 1915, the branch received records of 22,669 cows. Evidences of the value of cow testing are given:

Cow testing not only produces better cows, but more interested and better dairymen.

With each cow's record before him, the dairyman is able to feed more intelligently. Meal in proportion to milk is a good motto.

The figures of a creamery statement at Way's Mills, Que., show that from a herd of twelve cows in 1912, the cash received by the owner was \$297.85. In 1914, from twelve cows, he received \$804.48. He discovered the poor cows and got rid of them.

At Mallorytown, Ont., a herd of twelve cows has increased from 3,726 pounds of milk per cow in 1909, to 7,388 pounds per cow in 1914; this is an increase of 3,662 pounds of milk per cow, or 98 per cent.

In Hastings County, Ontario, a farmer commenced cow testing in 1912, and found his herd of ten cows averaged 5,780 pounds of milk and 187 pounds of fat. In 1914, his ten cows averaged 7,436 pounds of milk and 254 pounds of fat, an increase of 1,656 pounds of milk and 67 pounds of fat in two years.

This pamphlet is available at the Publications Branch of the Department of Agriculture at Ottawa.

The Cost of Producing Milk.

The cost of producing milk obviously depends a great deal on the milking capacity of the cows used. Comparison between eight of the best and eight of the poorer cows in an Ontario dairy record center shows that there was a difference in profit per cow of \$24.56, the eight high-yielding cows giving an average profit of \$37.21, while the poorer cows returned a profit of only \$12.65 per head. The milk in each case was valued at \$1.15 per hundred pounds. The difference would no doubt have been very much reduced had the feeding been the same for all the animals. Those that yielded the higher profit were much better fed than the others. The average cost of their feed for the milking period being \$43.96 per head, while the food received by the less profitable animals was valued at \$32.33 per head. Calculating from the standpoint of cost of the milk, the eight cows with the low yields made only 32 cents profit on a hundred pounds of milk, while the higher-yielding cows made 51 cents profit from an equal amount of milk.

This information, and a great deal more of equal value, is contained in the recently issued Annual Report of the Dairy and Cold Storage Commissioner of the Department of Agriculture at Ottawa. This Report, in addition to the Dairy and Cold Storage Commissioner's general report, contains twelve appendices which deal with the work of the Assistant Dairy Commissioner, the extension of markets, dairy and cold storage divisions, etc. An appendix of unusual interest gives statistics of the export and import trade in dairy produce, which show that the exports of butter increased from 1,951,585 lbs. in 1890, to 2,724,913 in 1915, while during the same period the exports of cheese increased from 94,264,187 lbs. to 137,601,661 lbs.

This Report is available at the office of the Publications Branch of the Department of Agriculture at Ottawa.

If you contemplate building, see the advertisement elsewhere in this issue of J. Vicar Munro, architect. Employ a competent man and have no trouble.

Third Annual Consignment Sale of 40 Holstein - Friesian Cattle

At SIMCOE at 1 o'clock

Wednesday, February 16th

Just north of the Air Line Station, at barns on "Lyn River Stock Farm."

The offering is females ONLY, and is by members of the Norfolk Holstein-Friesian Breeders' Club. Advt. of young sires in the club for sale will be found near the back of the catalogue.

TERMS—Cash or credit on bankable paper.

Send for catalogue to secretary of sale.

Wallace H. Mason, Simcoe, Ont. R.R. No. 4.

James Dunlop, Auctioneer

LYNDEN FARM HOLSTEINS

Offers choice bulls with 20,000-lb. breeding, including Pontiac Korndyke Plus, 2 years old, out of Plus Pontiac Artis, 20,900 lbs. milk, 985 lbs. butter, champion 3-year-old of Canada in R.O.P. test, and sired by Inka Sylvia Beets Posch, the sire of May Echo Sylvia, champion milk cow of the world for 120 days, and the only bull in Canada with two 33-lb. daughters. Also the champion yearling bull at Guelph, by the same sire, and another yearling with four 20,000 dams in his pedigree. Also a few richly-bred young lambs.

S. LEMON & SONS, Lynden, Ont.

RIVERSIDE HOLSTEINS

Herd headed by King Johanna Pontiac Korndyke, a grandson of Pontiac Korndyke, and a brother of Pontiac Lady Korndyke, 38.02 lbs. butter in seven days, 156.92 in 30 days—world's record when made.

J. W. Richardson, R. R. No. 2, Caledonia, Ontario

HOLSTEIN CATTLE

Canary Mercedes Pietje Hartog 7th heads our herd. His dam gave 116 lbs. milk in one day and 6.197 in sixty days and made 34.60 lbs. butter in 7 days. There are more cows in our herd giving over one hundred lbs. of milk a day than any other in Ontario. We have both bulls and heifers for sale.

D. C. FLATT & SON, R. R. No. 2, HAMILTON, ONTARIO
Long-Distance Telephone

QUALITY AND PRODUCTION are combined in the dams of the young bulls for sale; dams average from 25 to 31 lbs. butter in 7 days. Also females of all ages for sale.

M. L. HALEY SPRINGFORD, ONT. M. H. HALEY

Dumfries Farm Holsteins Think this over, we have 175 head of Holsteins, 60 cows milking, 25 heifers due to calve in the fall and for sale. Breeding and individuality the very best.

S. G. & EARL KITCHEN, St. George, Ont.

Ourvilla Holstein Herd If you are starting a herd, or wanting to improve one, look at these young sires for sale, from Homestead Susie Colantha, at three years 26.50; Ourvilla Susie Abbecker, at three years 26.02; Ourvilla Calamity Ormsby, 22.14 at three years; Homestead Helton Abbecker, at three years 23.51, and a few others. Also come and make a selection in choice females from our herd of 100 head.
LIDLAW BROS., Aylmer, Ont.

HOLSTEIN CATTLE Pure-bred cows, heifers and heifer calves. 66 HEAD MUST BE SOLD, having disposed of my two stock farms. Cows and make your selection. Price and terms to suit. Cattle will be in good working shape, not forced or fitted for sale purposes.
HAMILTON FARMS, SOUTHWEND P.O., ONT.
Telegraph and Phone Niagara Falls. Farm 10 minutes trolley from Niagara Falls.

Clover Bar Holsteins My special offering just now are some choice young bulls Ormsby, whose dam has 3-30 lb. sister, and a 24 lb. 4-year-old and a 21.06 lb. 3-year-old daughters, 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.

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, Ont.**

Lakeview Stock Farm Bronte, Ont. BREEDERS OF HIGH TESTING HOLSTEIN-FRIESIAN CATTLE OFFER FOR SALE A FOUNDATION HERD consisting of 1 male and 3 females all bred in the purple and backed by officially tested dams. Terms to suit purchasers.
T. A. DAWSON, Manager

HOSPITAL FOR INSANE, Hamilton, Ont. For Sale—Holstein Bulls, 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.

QUEEN CITY HOLSTEINS
Present Offering is 10 young bulls, from 6 to 14 months of age, the records of whose dams, sires 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

For Sale---Sons of King Segis Walker
From high-testing dams of Pontiac Korndyke. Photo and pedigree sent on application.
A. A. FAREWELL OSHAWA, ONTARIO

30-lb. BRED HOLSTEINS 30-lb. The home of Sir Sadie Korndyke Segis, sire King Segis DeKol Korndyke, who is the sire of the 4-yr-old 40-lb. cow, Dan Sadie Cornucopia Mignone, 31.74 butter. We have some of his bull calves for sale out of cows with records up to 26 lbs. Write for extended pedigree or come to see them.
D. B. TRACY, Cobourg, Ont.

CITY VIEW AYRSHIRES Every cow qualified in Record of Performance with an average of 4.5 per cent. fat. Do you want a young bull from one of them? All ages up to 18 months. Write:
JAMES BEGG & SON R. R. 1, St. Thomas, Ont.

ment Sale of
esian Cattle
 o'clock
February 16th
 s on "Lyn River Stock Farm."
 mbers of the Norfolk Holstein-
 res in the club for sale will be
 per.
 , Ont. R.R. No. 4.
 ctioneer

HOLSTEINS
 ng Pontiac Korndyke Plus, 2 years
 lbs. butter, champion 3-year-old
 Sets Posch, the sire of May Echo
 and the only bull in Canada with
 bull at Guelph, by the same sire,
 pedigree. Also a few richly-bred

Lynden, Ont.
HOLSTEINS
 ndyke, a grandson of Pontiac
 Korndyke, 38.02 lbs. butter
 ld's record when made.

, Caledonia, Ontario
CATTLE
 s dam gave 116 lbs. milk in one day
 in 7 days. There are more cows
 of milk a day than any
 bulls and heifers

HAMILTON, ONTARIO
 none
 ed in the dams of the young bulls
 tter in 7 days. Also females of

M. H. HALEY
 s over, we have 175 head of Holsteins, 50
 ing, 25 heifers due to calve in the fall and
 g bulls, and anything you may select is

St. George, Ont.
 ing a herd, or wanting to improve one,
 ung sires for sale, from Homestead Susie
 at three years 26.02; Ourvilla Calamity
 at three years 23.51, and a few others.

W BROS., Aylmer, Ont.
 ers and heifer calves. 66 HEAD MUST
 isposed of my two stock farms. Coms
 tion. Price and terms to suit. Cattle
 rposes.

SOUTHEND P.O., ONT.
 utes trolley from Niagara Falls.
 y just now are some choice young bulls
 rd dams and sired by Count Mercedes
 d and a 21.06 lb. 3-year-old daughters,
 females.

Stratford or Sebringville, Stations.
TERED HOLSTEINS
 also a few yearling heifers bred

ulet, Norwich, Ont.
 ate, Ont. BREEDERS OF HIGH
 TING HOLSTEIN-FRIESIAN CAT-
 OFFER FOR SALE A FOUNDATION
 ple and backed by officially tested dams.
VSON, Manager

Ont. For Sale—Holstein Bulls,
 varying in age from 1 to 11
 dams and the grand bulls Sir Korndyke
 Duchland Le Strange, a grandson of
SUPERINTENDENT.

HOLSTEINS
 onths of age, the records of whose dams,
 32 lbs. They are sons of King Lyons

On T. & Y. Railroad Line
Segis Walker
 and pedigree sent on application.
OSHAWA, ONTARIO

The home of Sir Sadie Korndyke
 Segis, sire King Segis DeKol Korn-
 dyke, who is the sire of the 4-yr-old
 e have some of his bull calves for sale
 digree or come to see them.
Cobourg, Ont.

ow qualified in Record of Performance
 average of 4.5 per cent. fat. Do you
 young bull from one of them? All
R. 1, St. Thomas, Ont.

Questions and Answers.
 Miscellaneous.

Killing Lice.

Would you kindly let me know, through
 the columns of your valuable paper, in
 what proportion you mix coal oil and
 soft soap to kill lice on cattle?

J. N. P.

Ans.—We have never used this mixture.
 Why not try the cement and hellebore
 mixture recommended by Institute speak-
 ers and thousands of farmers who have
 tried it. Mix one part hellebore to four
 parts dry cement and dust down the cat-
 tles' backs. Give a second application
 in a week or ten days. Proprietary
 remedies advertised in these columns will
 also be found successful.

Probably Contagious Abortion.

Will you please tell me, through your
 paper, what treatment to give a cow
 we think has contagious abortion? Will
 she do to breed again next summer?

D. F.

Ans.—If the cow is a valuable animal,
 certainly she should be bred again. Dis-
 infect her exterior genital organs, and
 separate her from other cows in the
 herd. Disinfect the stables. Flush out
 her genital organs with a mild disin-
 fectant solution. Take precautions to
 disinfect the sheath of the bull before
 and after service. She may abort again,
 but it is quite possible that she may go
 on breeding regularly in the future.

Infant and Tutor.

Some years ago A died, leaving one
 child. An inventory of the movables
 was taken, and B, the father, appointed
 tutor, and D sub-tutor, and registered.
 B owned farm when married. A few
 years after, B rented farm and moved to
 another Province. Lately, B has mort-
 gaged farm nearly to its full value. The
 child is now of age, but a helpless in-
 valid. The father has contributed noth-
 ing to its support for the last twenty
 years.

1. Will mortgages come in before the
 child's claim?
2. Should there have been security
 taken on the farm for child's share?
3. Should it have been registered
 against the farm?

4. What is the duty of sub-tutor?
 Quebec.

SUBSCRIBER.

Ans.—1. We do not see that the child
 has any legal claim upon the farm.

2. No.
3. No.
4. We presume that A was B's wife,
 and that she died intestate as to her
 share of the movables. The child, ac-
 cordingly, became entitled, upon her
 death, to two-thirds of such share. As
 to the sub-tutor's duty in respect of
 this property in particular, and the
 duties generally of a sub-tutor, you
 should consult, personally, a lawyer of
 your locality.

Veterinary.

Air-Slaked Lime.

What is the action of air-slaked lime
 on pigs ten or twelve weeks old. After
 cleaning the pen I threw a little on the
 cement floor. In a day or two they
 took diarrhoea, and two died.

R. E. O.

Ans.—Lime of this nature in small
 doses is astringent. In very large doses
 it might cause diarrhoea by setting up
 an irritation. It is not practicable that
 under the circumstances mentioned the
 pigs ate enough to do any harm. There
 was some other cause for diarrhoea. V.

Urinary Trouble.

Horse passes bloody urine, or prac-
 tically pure blood, three or four times
 daily. He passes about half cupful of
 blood at a time.
 ...H. E. G.

Ans.—The symptoms indicate the pre-
 sence of one or more rough-surfaced
 calculi (stones) in the bladder. It will
 be wise to have him examined by a vet-
 erinarian to make a definite diagnosis,
 as he may discover some other cause for
 the trouble. If there be calculi, prac-
 tically nothing can be done, as drugs
 have little action, and an operation is
 very expensive, and the results not likely
 to be satisfactory.
 V.

The Gothic Period Style

How Easily Your Home Too Could be Made More Livable!

HOW easily you could make its four dull walls reflect all the cheeriness and joy you love to bring it yourself!

How easily those who make it home might enjoy the added distinction

PEDLAR'S PERFECT METAL CEILINGS AND WALLS

Why bring it. Only a little of your spare time these stay-in days and your home can have the richness and charm of costly plaster or composition effects, without their excessive cost. The free plans we send you make erection simple and easy.

Pedlar's Perfect Metal Ceilings and Walls are moulded sharp and clear on steel dies. The Pedlar machine cut beads on each panel make all joints fit tight and invisible—an added advantage peculiar to Pedlar's Perfect Metal Ceilings and Walls. Prime coated with special Mellow tone paint which makes possible that desirable soft finish. Place them right on your plaster or wooden walls. They can be painted any tint or shade and will last as long as your house—dust proof, vermin proof, fire proof, sanitary and ornamental. Why not give your home—Now—the added charm and cheeriness the home-folks would love it to have? Why not see what a difference a little of your spare time these long evenings would make in your home, in any room.

Send us a rough plan of any rooms you wish —our experts will make you helpful suggestions free of charge.

Shall we send you too, the fine Wall and Ceiling Catalogue L. F., showing many of the 2,000 designs and Period styles you have to select from? Ask us today. Address nearest branch.

THE PEDLAR PEOPLE, LIMITED
 Established 1861
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PEDLAR'S PERFECT METAL CEILINGS

DON JERSEYS
 Special Offering—A few choice yearling bulls fit for service, also heifer calves six months old, sired by Eminent Royal Fern. Write for what you want.
D. Duncan & Son, Totmorden, R. R. No. 1, Duncan Sta., C.N.O.

Brampton Jerseys
 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

THE WOODVIEW FARM CANADA'S MOST BEAUTIFUL JERSEY HERD
JERSEYS
 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.
LONDON, ONTARIO
John Pringle, Proprietor

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.

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.
JOHN MILLER, Claremont, Ont.
 Claremont, C. P. R., 3 miles Pickering, G.T.R., 7 miles Greenburn, C. N. R., 4 miles.

Gossip.
ANNUAL SALE OF SHORTHORNS AT GUELPH.

At the annual sale of Shorthorns to take place in the Winter Fair Buildings at Guelph, on March 1, many extra good animals will be sold. In the offering are several high-class show bulls of excellent breeding, fit to head any herd. Included in the lot are nine young bulls from the herd of W. C. Edwards & Co., Rockland, and many smaller consignments from other prominent breeders. Further particulars will appear in next week's issue. For catalogues, apply to Secretary, J. M. Duff, Guelph.

THE "FAIRVIEW" DISPERSION.
 Do not forget the great sale of blood-stock to be held at "Fairview," Woodville, Ont., February 18. Clydesdales, Shorthorns and Shropshires, among the best in America, will go at the buyer's own prices. The stock is being dispersed to wind up the estate of the late D. J. Campbell. Stockmen all over Canada and the United States know the standard of the great winning herds and flocks owned by the Campbells at Fairview. Real world-beaters will be offered. It is the opportunity of a lifetime. See the advertisement. Get a catalogue. Attend the sale at Woodville, 65 miles north of Toronto, on the Midland Division G. T. R. You will be met at the station on Feb. 18.



Certain-teed Roofing

Made of best quality roofing felts, saturated with properly blended asphalts, and coated with a blend of harder asphalts. This keeps the soft saturation within from drying out, and makes a roof pliable, yet durable and impervious to the elements.

Guaranteed for 5, 10 and 15 years, according to ply (1, 2 or 3). Lasts longer. Sold by good dealers all over Canada, at reasonable prices.

General Roofing Mfg. Co.
World's largest manufacturers of Roofing and Building Papers.

Distributing centers: Toronto, Montreal, Halifax, St. John's, N. F., Winnipeg, Regina, Calgary, Vancouver.

R.M.S.P.

FORTNIGHTLY SAILINGS

TWIN-SCREW BY MAIL STEAMERS

St. John (N.S.) AND Halifax (N.S.)

WEST INDIES

SPECIAL FACILITIES FOR TOURISTS.

Next sailing from HALIFAX: R.M.S.P. "Caraque" Feb. 11, 1916

APPLY TO THE **Royal Mail Steam Packet Co.** 57-59, Cranville St., HALIFAX (N.S.) or to the Local TICKET AGENCIES.

Yorkshire Pigs

BOTH SEXES FOR SALE

Farrowed in October from sire and dams of extra good quality. These young pigs are choice individuals.

Weldwood Farm
Farmer's Advocate, London, Ont.

Tamworths Boars fit for service, young sows ready to breed, pigs of all ages for sale. Before buying, write for prices.
JOHN W TODD
R. R. No. 1, Corinth, Ont.

Alderly Edge Yorkshires
Young pigs both sexes born in September and March. Price right.
J. R. KENNEDY, KNOWLTON, QUEBEC.

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 mos. old, dandies, also cows and heifers of the deep milking strain. **Chas. Currie, Morrison**

STOCKWOOD YORKSHIRES
Sired by my royally bred and prizewinning bull, Whitehall King of Hearts, Imp., for sale are, in calf heifers and young bulls, out of Imp. and big producing cows.
D. M. Watt, St. Louis St., P. O., Quebec

Prospect Hill Berkshires Special offering for the trade: A fine lot of young sows that farrowed in June and July. Being bred and ready to breed, also some hours same age. Terms and prices right.
JOHN WEIR & SON, R. R. No. 1, Paris, Ont.

Yorkshire Sows for Sale—Two choice Yorkshire sows, born eight months old, weight about 275 lbs. L. D. Phone. **Geo. D. Fletcher, R. R. No. 1, Erin, Ont.**

Pine Grove Berkshires—Sows bred and ready to breed. Boars fit for service. Young things, both sexes, from my prize-winning herd.
W. W. Brownridge, R. R. 3, Georgetown, Ont.

Questions and Answers.
Miscellaneous.

Breeding Coons.

I intend going into coon raising, and would like to know when they mate?
A. N. McV.

Ans.—It has been found somewhat difficult to breed coons in captivity. They mate in February, and give birth to young in fifty-two days.

Kerosene or Gas Engine.

1. Would a kerosene engine, or an engine using kerosene, be any more complicated or troublesome than an ordinary gasoline engine?

2. Which would be the better for winter use? I understand the kerosene mixer uses a little water.

3. Does it require any greater quantity of kerosene than gasoline on the same load?
E. P. H.

Ans.—1 and 2. Kerosene engines are generally a little more complicated than those using gasoline, because provisions have to be made: First, for starting the engine on gasoline, and then changing to kerosene after the engine has become warmed up. It will not start on kerosene. Secondly, for drawing warm air through the carburetor to vaporize the kerosene. It requires considerably higher temperature to make kerosene evaporate thoroughly than it does for gasoline. Thirdly, a good many men are using kerosene satisfactorily in engines adapted for it, and where the engines are run constantly, day after day and week after week, a considerable saving is effected in the price of fuel. For general farm use, where the engine would not be run more than half an hour to an hour per day on the average, it would probably not be wise to bother with kerosene. For winter use, there is about the same difference between them as in summer.

3. There is more heat in a gallon of kerosene than in the same quantity of gasoline, and if everything is working properly, it will not require quite as many gallons of kerosene as of gasoline. In the larger-sized engines, provision has to be made for admitting a little water into the mixture.
W. H. D.

Quicksand in a Well—Pasture Mixture for Wet Land—Cement for a Wall.

1. I have a well, 46 feet in depth, dug in sand, with a four-foot square curb. I am bothered with quicksand in bottom. Is there any way to keep it from coming in?

2. What is the best grass or clover to sow on wet muck land for pasture? Would white clover grow on it?

3. How many barrels of cement and yards of gravel would it take to build a wall 30 feet square, 8 feet high, and 10 inches thick? Is eight of gravel to one of cement, strong enough for a wall?

4. How many thousand feet of clapboards would it take for a wall 8 feet high and 30 feet square?
J. K.

Ans.—1. Quicksand is a difficult thing to handle. We doubt if it can be stopped from coming into your well without extending the curbing beneath the layer of quicksand. A wooden curb could be made and driven down through the sand by a pile-driver. If the well was dried, a cement wall could then be built inside the wood to make it permanent. Where it is impossible to put in a curb, the next best thing would be to drive a casing down through the sand, and secure the water supply from below the quicksand layer.

2. For low land, a mixture of red top, 4 lbs.; orchard grass, 4 lbs.; Kentucky blue grass, 2 lbs.; alsike, 2 lbs.; white clover, 2 lbs.; timothy, 2 lbs., making a mixture of 16 lbs. of seed per acre, should give satisfaction.

3. About 20 yards of gravel will be required to build the wall. This amount may be lessened somewhat by using small stone, but care must be taken not to allow the stone to come within two inches of either face of the wall. One part cement to eight of gravel will make a sufficiently strong wall. Twenty-five barrels of cement will be required to build the wall mentioned.

4. Clapboards are usually cut one-quarter inch thick on one edge and one-half inch thick on the other. The boards are lapped one inch over each other. About 600 feet of lumber will be required.

I'LL PUT YOUR STOCK
in a thriving condition, make the ailing ones healthy and expel the worms.

Why Pay the Peddler Twice My Price?

I urge every farmer to see to it right now that his work horses are put in condition for the hard work of spring and summer, so that when the sun shines your horses will be rid of their old coats, full of stamina and ready for business. And don't overlook the spring pig crop—the mortgage lifters. Start them off free from disease—free from worms. Be sure, also, that your milk cows are thoroughly conditioned for the long, heavy milking season, and that those with calf are vigorous and fit. Remember, your stock have been cooped up for the last few months and have been on dry feed. As corn or oats, hay and fodder do not contain the laxatives and tonics so abundantly supplied in grass, your stock are pretty apt to be out of fit. Some of your animals are liable to be constipated, rough in hair, their legs may have become stocky, or they have dropsical swellings, but the most common disease of all, especially among hogs, is worms—worms.

DR. HESS STOCK TONIC

25-lb. Pall, \$2.25. 100-lb. Sack, \$7.00 (duty paid)
Highly Concentrated, as the Small Dose Quantity Proves

Now, as a worm expeller, I will go the limit in guaranteeing my Stock Tonic. To clean out your hogs, put in the swill one tablespoonful of my Tonic to every two hogs twice a day and you'll make short work of the worms. Dr. Hess Stock Tonic is

A Sure Worm Expeller—A SPLENDID TONIC

This preparation of mine is 24 years old, farmers everywhere have tested it. I feed it to my own stock, for I know that it contains the necessary ingredients for enriching the blood, improving the digestion and assimilation, keeping the entire animal system clean and well regulated.

So sure am I that Dr. Hess Stock Tonic will put your animals in a thriving condition, make the ailing ones healthy and expel the worms, that I have authorized my dealer in your town to supply you with enough for your stock, and if it does not do as I claim, return the empty packages and my dealer will refund your money.

And here are my prices—just half what the peddler charges: 25-lb. pall, \$2.25; 100-lb. sack, \$7.00 (duty paid). Smaller packages in proportion. Sold only by reliable dealers who are known for square dealing.

Dr. Hess Poultry Pan-a-c-e-a
This is just the time you should be giving your poultry this splendid tonic. It will put them in fine condition, make your hens lay, ensure fertile hatching eggs and strong vigorous chicks. Very economical—a penny's worth is enough for 20 fowl per day. Sold only by reliable dealers—1 1/2 lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75; 25-lb. pall, \$3.50 (duty paid). Guaranteed.

Dr. Hess Instant Louse Killer
Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, or, if kept in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc. Comes in handy, sitting-top cans. 1 lb. 35c; 3 lbs. 85c (duty paid). I guarantee it.

I have a book about Dr. Hess Stock Tonic that you may have for the asking.

DR. HESS & CLARK, Ashland, Ohio



If you have a sick or injured animal, write me at once, giving symptoms, and I will send you prescription and letter of advice free of charge. Send 2c stamp for reply.

SUMMER HILL OXFORDS

Flock established many years ago on Summer Hill Stock Farm by the late Peter Arkell, now owned by his son, Peter Arkell. Rams and ewes in any quantity for sale, all recorded. Positively no grades registered as pure-breeds; also no grades handled except by order.

Peter Arkell & Co., P.O. Box 454, Teeswater, Ont. C.P.R. Sta.

BERKSHIRES My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highclears and Sallies, the best strain of the breed, both sexes, any age.
ADAM THOMPSON, R. R. No. 1, STRATFORD, ONT.
Shakespeare Station, G. T. R.

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 breeding as **WM. MANNING & SONS, WOODVILLE, ONT.**

DUROC JERSEY SWINE, JERSEY CATTLE
In Duroc Jersey 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.
MAG. CAMPBELL & SONS, Northwood Ont.

Newcastle Tamworths and Shorthorns Boars ready for service. Sows due to farrow, others bred and ready to extra choice young bulls and heifer calves, recently dropped; grand milking strain, 2 bulls, 5 and 8 months old. All at reasonable prices.
A. A. COLWILL, NEWCASTLE, ONTARIO
Long-Distance Telephone

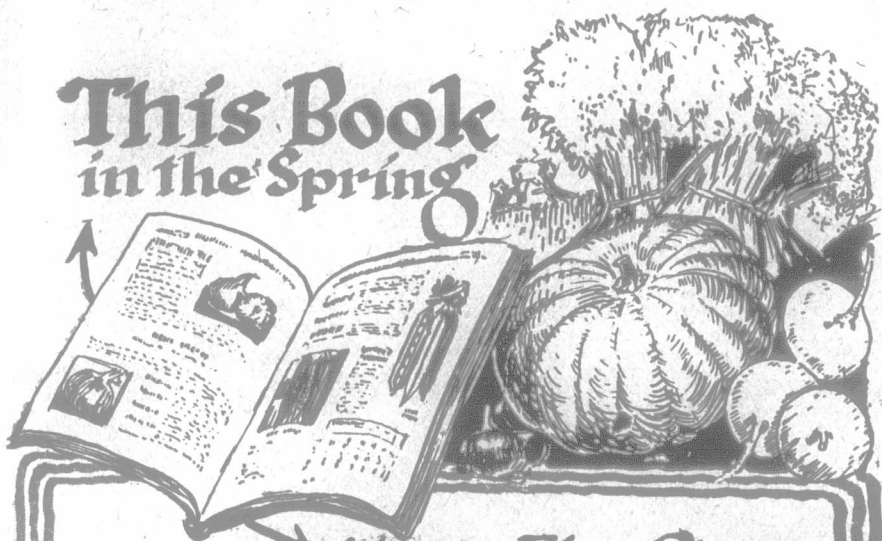
OAK LODGE YORKSHIRES We are offering a choice lot of young sows in pig, also young sows and boars of various ages. Our Yorkshires are the quick maturing kind that show a profit to the feeder.
J. E. BRETHOUR & NEPHEWS, Burford, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R. R. 1, Brantford, Ontario
Langford Station on Brantford and Hamilton Radial.

Cloverdale Large English Berkshires!
Sows bred, others ready to breed; younger stock, both sexes, pairs not akin. All breeding stock imp. or from imp. stock. Prices reasonable.
C. J. Lang, Burketon, Ont. R.R. 3.

Remember, I have no peddler's wagon and horse expenses to pay; that's why I can sell you my Stock Tonic through a local dealer in your town—a man with whom you trade every week—at rock-bottom prices.

This Book in the Spring



Means Fine Crops in Summer & Fall

STRONG, vigorous seeds, tested for vitality and of strains selected for bountiful yield in Canada's climate, go a long way toward assuring big, early crops. For forty years,



have fulfilled all these requirements. The latest edition of McDONALD'S Seed Annual is just off the press. It is the finest catalogue we have ever issued—a veritable fund of information for all who plant seeds for pleasure or profit.

Your Copy Ready for Mailing—FREE

No matter what seeds you have been accustomed to use, you should have this book before planting-time. Describes McDONALD specialties that have produced remarkable results and that cannot be obtained elsewhere.

Also special price offers on selections of standard seeds. Send your name and address to

(1) **KENNETH McDONALD & SONS, Limited**
1 Market Square OTTAWA

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



CENTRAL NURSERIES

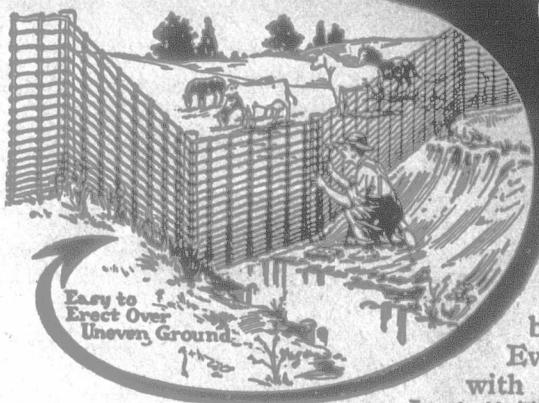
For reliable Apple, Pear, Plum, Cherry, Peach and Ornamental Trees, Shrubs, Roses, Grape Vines, Berry Plants, Evergreens, Hedges, etc.—good ones, too. Also Seed Potatoes.

We ship direct to customers. Our apple trees are extra fine. Write us for prices on your lists for early Spring Planting.—36 years at it. No agents.

A. G. HULL & SON, St. Catharines, Ontario

PEERLESS PERFECTION

THE FENCE THAT STAYS "PUT"



PEERLESS Perfection is one of the easiest fences to erect, because it stays "put." It can be erected over the most hilly and uneven ground, without buckling, snapping or kinking. Every joint is locked together with the well-known "Peerless Lock." The heavy stay wires we use prevent sagging and require only about half as many posts as other fences.

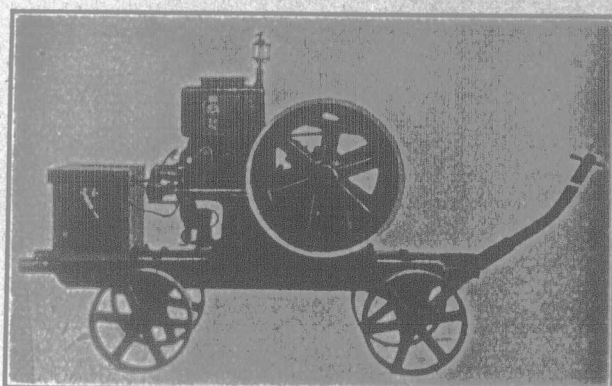
Peerless Farm Fence

is made of the best Open Hearth steel fence wire. All the impurities of the steel are burned out and all the strength and toughness left in. Makes the fence elastic and springy. It will not snap or break under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and the coating will not flake, peel or chip off.

Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.

Agents nearly everywhere. Agents wanted in unassigned territory.

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Manitoba Hamilton, Ontario



Direct from the Factory to the Farmer

Monarch Gasoline Engines

1 1/4 to 35 Horse Power

Grain Grinders, Silage Cutters, Saw Frames and Pump Jacks

1 1/4 H.P. Horizontal Hopper Cooled

This engine built specially for small jobs around the farm and in connection with our intermediate pulley takes care of the churning, washing, pumping, etc. Being mounted it is easily moved from place to place.

Read this letter received by Canadian Engines, Limited, from their Eastern Sales Agents

The Frost & Wood Co., Ltd., St. John, N.B. Clifton, Gloucester Co., N.B., Dec. 13th, 1915.
Dear Sir—In regard to the Monarch Engine purchased through you, I would like to say a few words as I may not have a chance again. I have used it two years now, and every day I run the machine I like it better. In fact I think it's the best thing I ever saw. I threshed six weeks this fall, and I just kept a record of its work for fun. In the six weeks I just made an average of 403 bushels a day, on an average of 2 gallons of gasoline a day, and the engine never missed an explosion in the six weeks. If this can be beat by any of the other makes of engines I am ready to eat my shirt. I am entirely satisfied with the engine and would not take my money back to-day. You can publish this letter in any of your engine catalogues, and I am ready to prove what I said any old time.
Yours, (Sgd.) Jos. G. Powers, Clifton, N. B.

Write for catalogue and prices to—**Canadian Engines Ltd., Dunnville, Ont.**
FROST & WOOD Co., Limited, exclusive sales agents east of Peterboro, Quebec and the Maritime Provinces.
Good live agents wanted in unrepresented territory.

AYLMER SPRAYERS have won Medals and are used by seven Governments

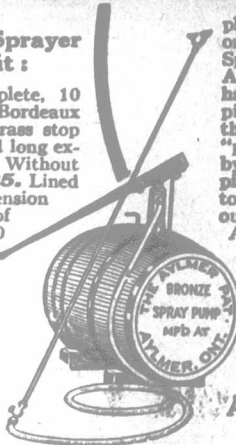
USE THE

AYLMER SPRAYER

Fruit growers use Aylmer Sprayers because they give **RESULTS.** Aylmer Sprayers have the force to drive the mixture into crevices of bark and buds and make it penetrate the hiding places of the destructive little insects. No time wasted on repairs during the spraying season if you get a Sprayer that **DOES NOT GET OUT OF ORDER.** Any man who has had the exasperating experience of having to stop on account of loose "packing" on the pistons, will be glad to own an Aylmer Sprayer. It is the only Sprayer constructed without troublesome "packing." In the Aylmer, the pistons are made tight by three bronze expanding rings, the same as the pistons in automobile engines. This Sprayer is easy to pump and there is no pressure leakage; every ounce of pressure being turned into spray work. Agitators prevent clogging; nozzles are up-to-date; throw full distance and with full power from a stream to a spray. Every part designed to give perfect service. Prices low. **FREE GUIDE TO SPRAY MIXTURES** sent on request.

Aylmer Sprayer Outfit:

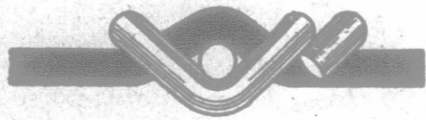
Pump, complete, 10 feet hose; 2 Bordeaux nozzles; 1 brass stop cock; 1 V; 1 long extension rod; Without barrel \$15.25. Lined Bamboo extension rod, in place of iron rod, \$1.50 extra. Barrel \$3.00 extra. Shipped freight prepaid, any station in Ontario.



Aylmer Pump and Scale Co. Ltd.
WATER ST., AYLMEER, ONT.

One Hundred Weak Spots to the Rod

In the Average Woven Wire Fence



A HARD WIRE THAT IS SHARPLY KINKED LOSES ABOUT 25% OF ITS STRENGTH

Of the two cuts above, one is a lock of an ordinary woven fence, the other is a cut of a lateral wire, minus locks and stays, of the same kind of woven wire fence. Just look at the kinks that are put in the lateral wire to make the

stays hold. You do not notice these kinks when the stays and locks are attached; but they are there, sure enough, and how much they weaken the wires, you can well judge. **YOU WOULD NEVER THINK OF BUYING PLAIN OR COILED**

WIRE WITH SUCH KINKS WOULD YOU?

Why, then, consider a ready woven fence, with thousands of these weak spots? A hard wire that is sharply kinked loses about 25 per cent. of its strength.

Frost Fence First

The improved binding used only in Frost Fences gives greater security without the necessity of a kink to hold stay in position. One big reason why, is the fact that we DO use hard wire, harder than could be used in those fences where the lateral has to be kinked. Shown in the cut below is a lateral wire and lock taken from a Frost Fence. The lateral wire, as you can

see, lies absolutely straight: no strength is lost at all. You can always depend on each wire in the fence holding just as much as it ever did, and in Frost Fence this means about 2,000 lbs.---one ton.

You can see now why "FROST FENCE" is better.



In a rod of most every other make there are 100 bindings or locks which mean 100 kinks in the laterals: 100 WEAK SPOTS we say. Is there any doubt of it? Why shouldn't such fences be sold cheaper than "FROST FENCE" --- not only a few cents as they are, but about "half as much" as they ought to be when "quality and service" is to be considered?

THE LATERAL WIRE, AS YOU CAN SEE, LIES ABSOLUTELY STRAIGHT: NO STRENGTH LOST AT ALL

To be sure about the above, make your own examination. Examine any of these so near alike kinds of fence and then inspect the laterals in "FROST FENCE".

We own and operate our own Wire Drawing and Rolling Mills, so that

we're responsible for the quality of all we turn out. We've got to be, otherwise, we could not keep the reputation we now have of being the biggest fence manufacturers in Canada.

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