

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

# THE FARMER'S ADVOCATE

Director Central Exp Farm  
dec 31, 17

## AND HOME MAGAZINE

PERSEVERE  
AND  
SUCCEED  
FOUNDED 1880

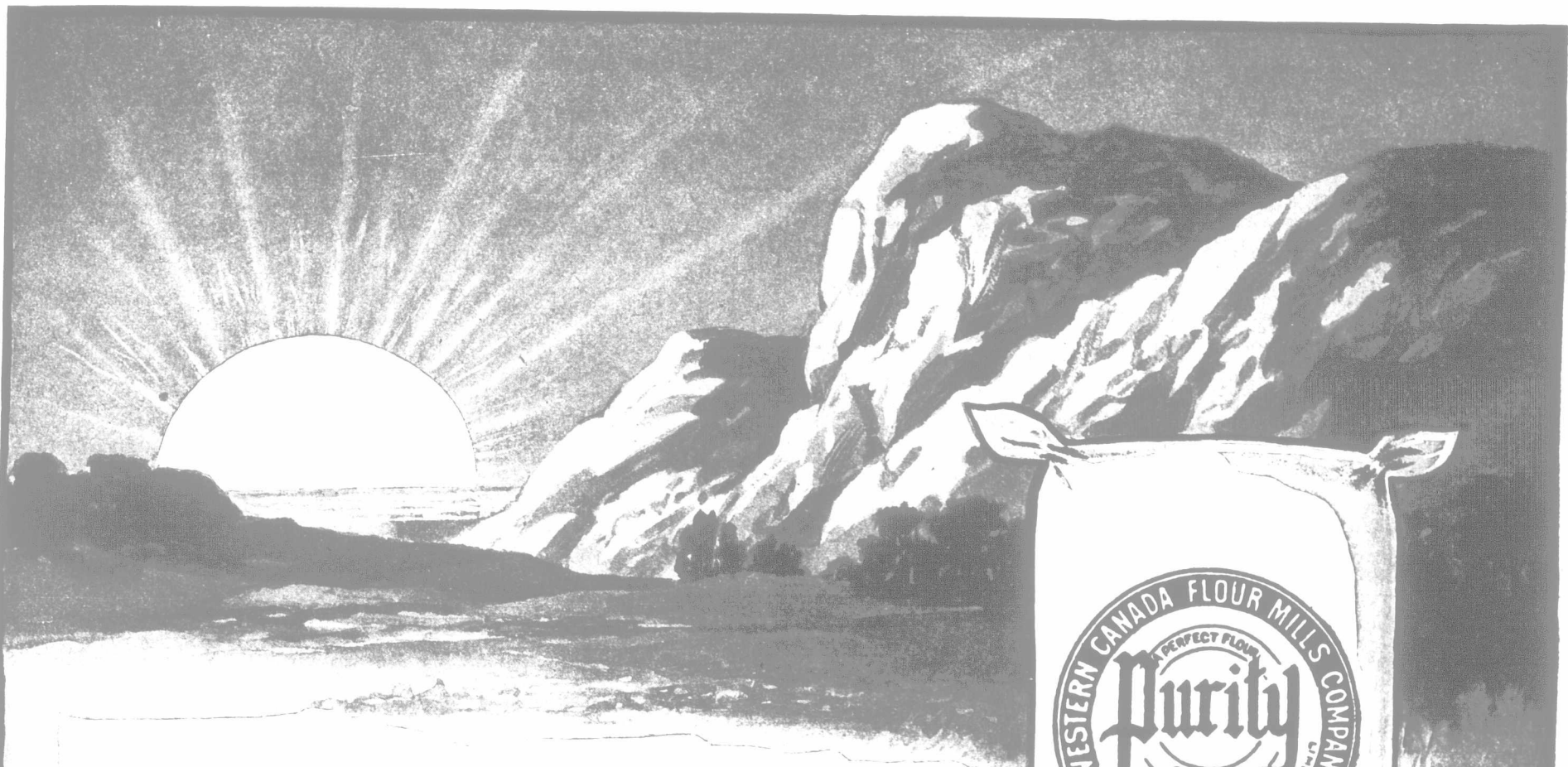
\* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE. \*

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. LII.

LONDON, ONTARIO, MARCH 8, 1917.

No. 1276



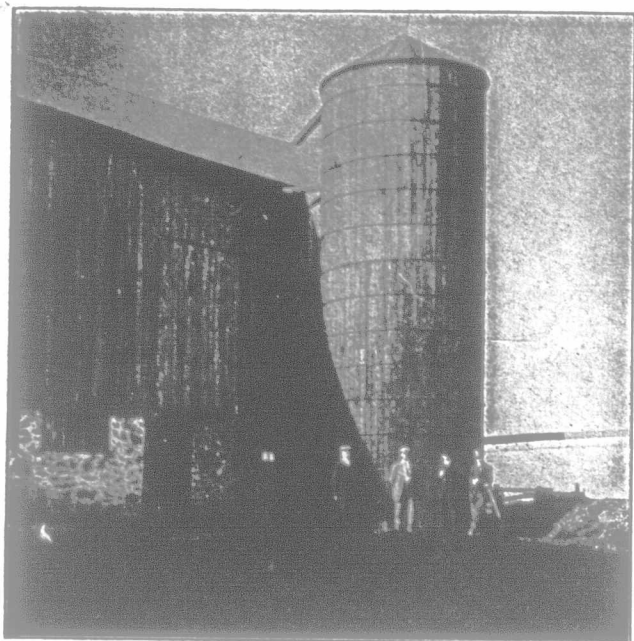
The dawn of "More bread and better bread" arrived the day the sun first shone on



# PURITY FLOUR

For sale by your grocer

"More bread and better bread"



PUT UP A  
**Lister Silo**

Made of  
*Canadian Spruce*

Hundreds erected  
all over Ontario.

Write for the  
*Lister Silo Book*  
and photos of Lister  
Silo-Filling Outfits  
in operation.

NEW FEATURES  
FOR 1917

Lister British-Made Engines, Milkers, Grinders, Threshers, Melotte Separators  
**EVERY TRACTORS** 5-10, 8-16, 12-25, 15-36, 40-80

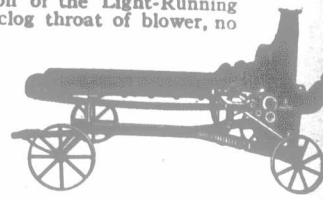
**R. A. Lister & Co., Limited,** TORONTO  
DEPT. G.

**THE LIGHT-RUNNING GILSON  
FEED AND ENSILAGE CUTTER**

The simple, scientific, carefully-worked-out construction of the Light-Running "Gilson Silo Filler" makes it absolutely impossible to clog throat of blower, no matter how fast the corn is thrown in. The Gilson is rightly called

**THE KING OF FEED CUTTERS**

because of its remarkable elevating powers, absolute safety, durability, strength and simplicity—it stands supreme. It has convenient and quick knife adjustment; solid steel-bound cutting wheel; patented safety reverse—and is guaranteed to cut and elevate MORE ensilage with the SAME power than ANY other ensilage cutter IN THE WORLD. Write to-day for catalogue and proof. Manufactured and guaranteed by  
**GILSON MFG. CO., LTD., 199 York St., Guelph, Canada**



**WE WANT TO DEMONSTRATE  
ON YOUR FARM**

We will send a Gilson Engine, any size, without charge, to any responsible farmer in Canada to try out on his own farm at his own work. Write for further particulars of our free trial offer, catalogue, and special introductory prices.



**Gilson Mfg. Co., Limited,**  
York St., 269 Guelph, Ont

**HYLO SILO**

THE cheapest silo you can buy—because it will make you the most money.

You don't buy a silo every day—get a Hylo Everlasting Silo now, and it will yield you 100% profit on your investment every year you use it.

The HYLO is made of a special grade of Imported Long Leaf Yellow Pine—built to last indefinitely—yielding sweet, succulent ensilage down to the last forkful.

The exclusive patented features, special material, design, etc., of the HYLO set a new standard of Silo quality in Canada.

Send for free silo book to-day

Gilson Mfg. Co. Ltd.  
245 York St., Guelph 34



**GRAND TRUNK RAILWAY SYSTEM**

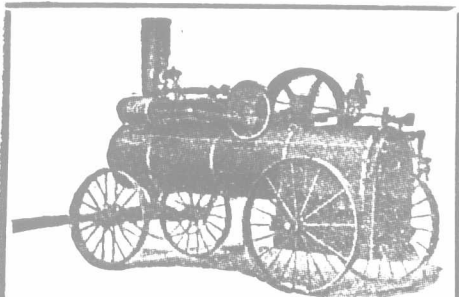
**Winter Tours**

SPECIAL Fares now in effect to resorts in Florida, Georgia, North and South Carolina, Louisiana and other Southern States, and to Bermuda and the West Indies.

Return Limit, May 31, 1917  
Liberal Stop-Overs Allowed

For full information write to

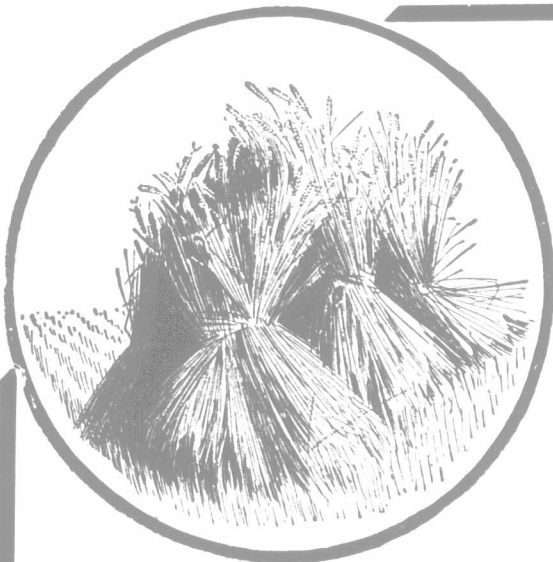
C. E. HORNING,  
D.P.A., Union Station,  
Toronto, Ont.



**Rebuilt Portable, Traction Engines and Threshers**

A number of good, rebuilt Portable and Traction Engines suitable for silo filling and threshing; also a few good separators for sale cheap.

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



It  
pays  
to use  
good  
fertilizers

Cheap fertilizers are always more expensive in the long run. If they are not well mixed, for instance, they may produce uneven plant growth, because the fertilizer is weak in some places and strong in others. Make sure of first-class results by using

**Harab-Davies  
FERTILIZERS**

They are very finely ground and perfectly mixed by the most thorough method known. One of these fertilizers is the right one for your soil. It will increase your crops, hasten maturity, improve the quality and make more money for you. Harab-Davies Fertilizers are true plant foods, good for both crop and soil. Write to-day for bulletins and our fertilizer booklet. We send them free of charge.

**Ontario Fertilizers, Limited**  
WEST TORONTO, CANADA

**FREE LAND** FOR THE SETTLER IN  
Northern 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. HON. G. HOWARD FERGUSON,  
Parliament Buildings, TORONTO, ONT. Minister of Lands, Forests and Mines.

**IRON AGE**

Farm, Garden and Orchard Tools  
Answer the farmers' big questions. How can I grow crops with less expense? How can I save in planting potatoes? How make high priced seed go farthest? The

**IRON AGE Potato Planter** solves the labor problem and makes the best use of high priced seed. Means \$5 to \$50 extra profit per acre. Every seed piece in its place and only one. Saves 1 to 2 bushels seed per acre. Uniform depth; even spacing. We make a full line of potato machinery. Send for booklet today.

No Misses  
No Doubles

**THE BATEMAN-WILKINSON CO., Ltd.**  
41 Symington Avenue, Toronto, Canada.



**Nursery Stock  
AT WHOLESALE PRICES**

Guaranteed first grade and true to name.

No Agents. Send for Catalogue.

**IMPERIAL NURSERIES**  
RIDGEVILLE : : ONTARIO



**DUNN CEMENT  
Drain Tile Machine**

Makes all sizes, from 3 to 18 inches. Price with one size, \$250. Cement Drain Tile are here to stay.

Large profits in the business. If interested, send for catalogue No. 2.

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

**CREAM WANTED**

We hesitate to quote prices, because the figures for to-day may be too low for to-morrow.

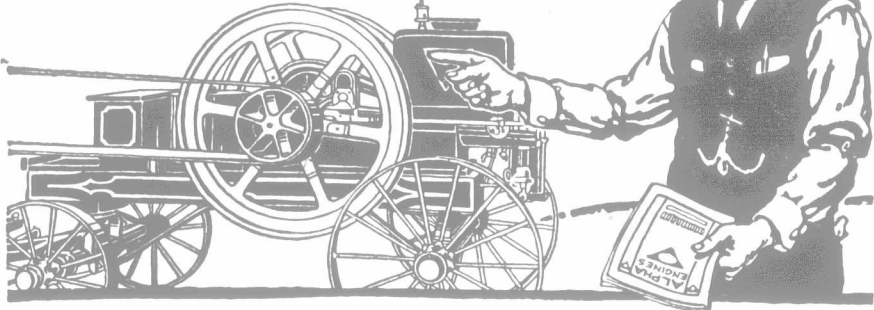
Our guarantee is:  
Prompt Service  
Accurate Records  
Highest Prices

Write for particulars—it will be worth your while.

**TORONTO CREAMERY CO., Ltd.**  
9 Church Street, Toronto

**TREES & SHRUBS  
BROWN BROTHERS Co.  
NURSERYMEN LIMITED  
BROWNS NURSERIES, ONT.**

"I'll guarantee you will make no mistake in buying an ALPHA"



THE strongest words of commendation for the Alpha Gas Engine come from the men who use this engine. In the long, economical and reliable service the Alpha gives they have positive proof of its value and they never hesitate to assure their friends of the wisdom of buying an Alpha.

Possibly you can buy an engine for less money than you can an Alpha, but you cannot buy an equal amount of good service in any other engine for so little money. In the Alpha you get more years of service, the lowest fuel cost, exceptional freedom from the need of repairs and the easiest engine to operate and care for.

The Alpha is a simple engine, with plenty of power, perfectly controlled by a governor that keeps it running steadily and smoothly under light, heavy or varying loads. This engine has no complicated, delicate parts to require constant attention—not even batteries. It starts and operates on a simple low speed magneto. You can use either kerosene or gasoline for fuel.

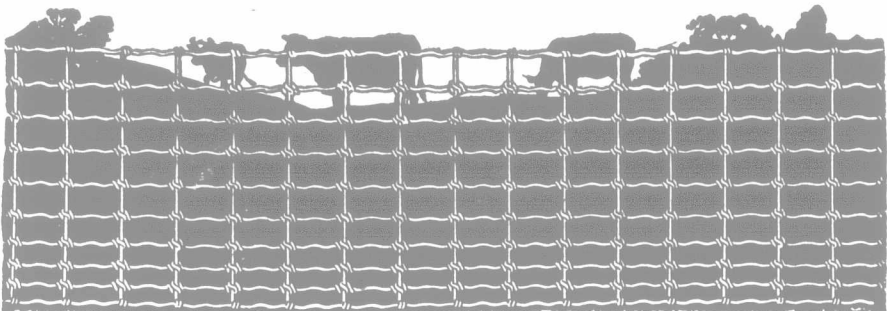
You need a gas engine on your farm. Buy an Alpha now. That is the quickest and best way to save the money that is to pay for the engine. Ask for a copy of the Alpha Engine catalogue.

Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable, or portable style, and with hopper or tank cooled cylinder.

**THE DE LAVAL COMPANY, Ltd.**

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER



**It's service, not surface, that counts in Wire Fencing**

Fences made of soft wire may look all right, but they are liable to get all wrong when it comes to keeping strong, healthy, active live stock within bounds.

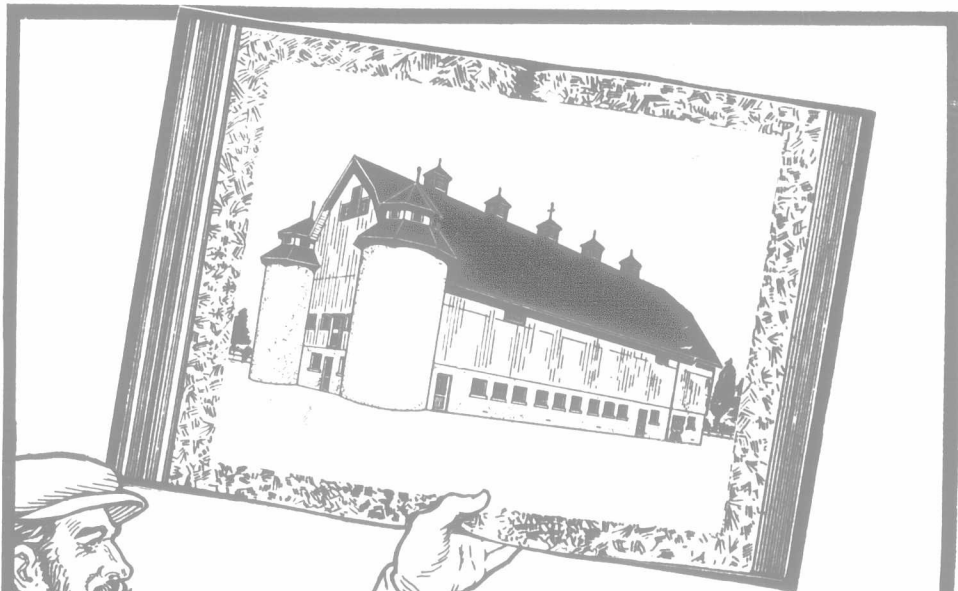
THERE is, however, one fence that you can count on for satisfactory service year in and year out, and that is "Ideal." Made of large gauge No. 9 hard steel wire, heavily galvanized, with the verticals and horizontals clamped together with a patent lock that cannot slip, "Ideal" fence is bull-strong, hog-tight, horse-high—a real fence, every foot of it.

**Ideal Fence**

The quality of the wire from top to bottom in "Ideal" Fence is all the same gauge, hard drawn steel wire, tough, live, springy, heavy wire that will be standing up doing splendid service years from now. This is a point you have to watch mighty carefully. Some fences have 9-gauge horizontals, but softer, weaker wire for the stays and locks. Naturally this takes something off the price, and it takes something off the strength and durability too, far more than the difference in price. You are going to fence for a lifetime, then fence with "Ideal" and get a lifetime's service.

We make a fence for every purpose. Write for a copy of our catalogue which describes them all.

The McGregor-Banwell Fence Co., Limited, Walkerville, Ontario.



**Build Your Barn Like This**

Build a handsome barn when you are at it, one that will attract the attention of every one who drives past your farm. It costs no more to build a barn like this than to build a poor one and it is surprising how much a fine looking building adds to the value of the farm.

**Get the BT Barn Book**

It shows you how to build your barn right, how to build it from start to finish, how to lay the floors and walls and build the frame, how to fix the stables and arrange the passages and cattlestands so everything will be handy for the stable work. It is completely illustrated by blue print plans and cross sections and many full page pictures of good barns.

**Send Coupon**

This book is free to every farmer who is building or remodeling his barn. Simply fill in the coupon and mail. Send coupon to-day, as there are only a few copies left for distribution.

**BEATTY BROS., LIMITED**  
Dept. K 304 - FERGUS, ONTARIO



**Free**

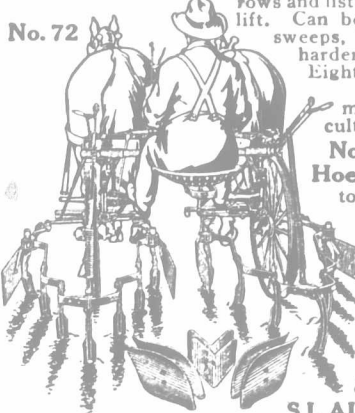
**COUPON**

Beatty Bros., Limited, Dept. K 304, Fergus, Ontario.  
Send me your barn book free. I have answered the questions below.  
Are you building or remodeling?.....  
When will you start?.....  
How many cows will you keep?.....  
Your name..... P.O..... Prov.....

**"The best implements on the market - Planet Jr."**

This is what T. D. Buchanan, Grosse Isle, Mich., says of Planet Jr Cultivators and Seeders. Planet Jrs are so scientifically designed and skilfully made that they save time, lighten labor, and produce bigger and better crops.

**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 two 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. Has spring lift. Can be equipped with spring-trip standards, discs, sweeps, hoe steels and furrowing shovels. Specially hardened cultivating steels add 50 per cent to wear. Eight styles—various prices.



Planet Jrs range from these big 2-horse implements for large acreage down to the light hand-cultivators for the family garden.

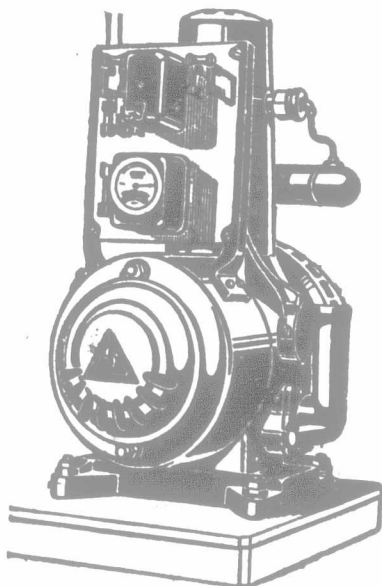
**No. 12 Planet Jr Double and Single Wheel-Hoe Combined** is the greatest hand-cultivating tool in the world. It straddles crops till 20 inches high, then works between rows with one or two wheels. The plows open furrows and cover them. The cultivator teeth work deep or shallow. The hoes are wonderful weed-killers. We make 32 other styles of wheel-hoes and seed drills. **New 72-page Catalog, free!**

Illustrates Planet Jrs doing actual farm and garden work, and describes over 70 different tools, including Seeders, Wheel-Hoes, Horse-Hoes, Harrows, Orchard, Beet, and Pivot-Wheel Riding Cultivators. Write postal for it today, also name of nearest agency.

**S. L. ALLEN & CO Box 1108F Philadelphia**



## Electricity Everywhere



An end to those toilsome, smelly, dim oil-lamps! An end to those dangerous kerosene lanterns that give little light and a lot of trouble! Delco-Light is here—a complete electric plant that makes farms as bright as city homes. Floods your farm with brilliant, cheerful, convenient electric light. House, yard, lane, barn, stables, tool-house, hay-loft—every nook and corner can be made light as day at the turn of a switch.

### Small Cost—Easy to Run—No Danger

Delco-Light is a complete electric plant. Gas engine, which is air-cooled, dynamo for generating current, specially designed storage batteries, and switchboard are all combined in one compact unit. Supplies current for all the lights required and power to run small machines. Gas engine need only be run once or twice a week. A child can operate it—starts on pressing of a lever—stops itself when batteries are fully charged. Costs less than five cents a day to light your farm. Low voltage system (32 volts) saves expense and eliminates danger completely. No trouble—Delco-Light is trouble-proof.

Prices: No. 205, \$300; and No. 216, \$465.

# DELCO-LIGHT

### FREE FULL INFORMATION ABOUT DELCO-LIGHT

Learns all about the wonderful Delco-Light electric plant. A postcard sent to your nearest Canadian office will bring you free literature describing Delco-Light, the plant itself and its possibilities. Write to-day—study now the advantages of electricity about your farm—don't put off the day when you will be rid of those dim, dirty oil lamps.

The Delco-Light ideal is "Electricity for EVERY home in Canada." The plant is thoroughly efficient. The big organization selling Delco-Light is equally efficient—enthusiastic about this successful achievement.

Agents Wanted Everywhere Write at once for Open Territory

Delco-Light was developed by the same company making Delco starting, lighting, ignition plants for automobiles.

**C. H. ROOKE**  
Delco-Light Distributor for Ontario and Quebec  
168 Bay Street, Toronto

**The Domestic Engineering Co.**  
Dayton, Ohio

Every planting season you stake land, fertilizer, time, work, and the cost of the seed on the good faith of your Seedsmen.

Every season for Forty-five years

## EWING'S SEEDS have justified this good faith.

They are clean and fresh—they show a very high percentage of germination—and are true to name and type. They include all the best of the new varieties, as well as the old favorites.

Write early for our new Illustrated Catalogue, and if your dealer hasn't Ewing's Seeds, order from us direct.

**The William Ewing Co., Limited**  
Seed Merchants, McGill St., Montreal.



### Ewing's "Improved Hanson" Lettuce

A "crisp heading" variety that is very hardy and will stand extremes of weather. Head is large, hard, tender and crisp, with blanched centre; wholly free from bitterness, and remains long in excellent condition.

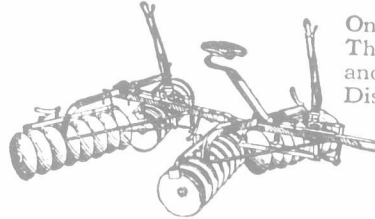
1/2 lb. 60c; oz. 20c; pkt. 5c.  
Sent postage paid—cash with order.

### Louden Barn Equipments

SAVE TIME—Save Labor—Save Expense  
Our new catalogue describes every kind of device for money-making and labor-saving on farms. Write to:  
**LOUDEN MACHINERY CO.,**  
Dept. 1 Guelph, Ont.

Please mention The Farmer's Advocate.

### BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil.



One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. W for free catalogue.

**T. E. BISSELL CO., LTD., Elora, Ont.**

## Columbia Batteries

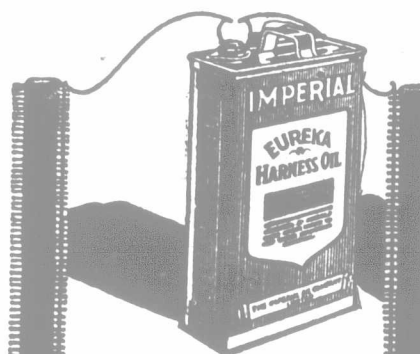
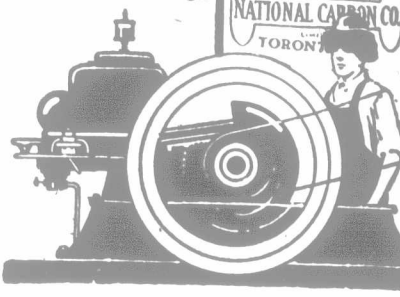
The heavier the power-demand, the more you need Columbias. They were made right in the first place—and improved each year for 28 years.

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

**NO. 6 COLUMBIA IGNITOR DRY CELL**



FOR GENERAL IGNITION  
CANADIAN NATIONAL CARBON CO. TORONTO



A CLEAN HARNESS wears longest

### EUREKA HARNESS OIL

does more than make your harness clean. It revives the leather.

This oil soaks into the pores, makes the leather softer, blacker, tougher. Try it on any black leather.

**THE IMPERIAL OIL COMPANY, Limited**  
Branches Throughout Canada

## IRON AGE

### GARDEN TOOLS

Answer the gardener's big questions: How can I grow plenty of fresh vegetables with my limited time? How can I avoid backache and drudgery? Use

### IRON AGE Wheel Hoes and Drills

Do the work ten times faster than the old-fashioned tools. A woman, boy or girl can push one. 38 combinations—easily adjusted. Light, strong and durable. Prices, \$3.25 to \$15.00. Will help you to cut the high cost of living.

Write us for free booklet today.



**THE BATEMAN-WILKINSON CO., Ltd.**  
41, Symington Avenue, Toronto, Canada.

## Eureka Potato Planter

### Raise Potatoes This Year

Increase your profits by using our potato planter. Opens furrow, drops seed any distance or depth, covers, marks for next row—all automatically. Puts on fertilizer if desired. One man operates and sees seed drop. Made of steel and malleable iron, assuring long service and few repairs.

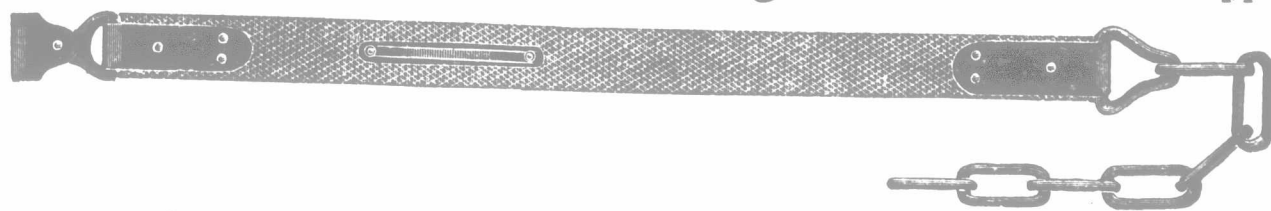
Send for Catalog

**EUREKA MOWER CO.**  
Box 788  
Utica, N. Y.



# You Should Worry

About the **HIGH PRICE OF LEATHER**  
When We Can Supply You With



## SCANDINAVIA WEB TRACES

After five years of successful service these traces have passed the experimental stage. We place them on the market with the assurance of giving the public an article that has stood the test of time and come through with flying colors.

Wherever they have been tried, they have been accepted, and never yet have they made an enemy of their purchaser. Many contracting and lumber concerns have equipped their entire outfit with SCANDINAVIA WEB TRACES. As they are chemically treated to add strength, and at the same time

flexibility, they are the most desirable Trace to use, and they are immune to climatic conditions, such as heat, wind, rain, snow, ice or frost.

The breaking strain of the web has been placed at 5,010 lbs. We have designed and are making on our own premises a clip that has increased the pulling-out strain to 3,000 lbs. to each end, or the equivalent of 6 tons to a set of traces.

As 2 tons is considered a good load, this new clip leaves a reserve of 4 tons of pulling strength to each set of traces.

### BEWARE OF IMITATIONS

#### OUR GUARANTEE

Each set of traces carries our guarantee of at least two years' service at the above pulling strain, and we guarantee to refund the purchase price or supply a new set of traces free if any defect is found.

These traces are made in 2 ply, 1 3/4 and 2 inches wide, and are made in Heel Chain end or Pinery Hook end styles. Double strength of leather. One-third cheaper in price.

Read what Mr. James Ludgate says of these traces:

"Having used the Scandinavia Traces in our lumber camps for the past three years, we have no hesitancy in highly recommending them. We have upward of fifty teams doing very heavy work, and have them all equipped with these traces. Our Foreman will use nothing else."

(Sgd.) JAMES LUDGATE, Manager  
Schroeder Mills and Timber Co., Parry Sound.

### ASK YOUR HARNESS DEALER FOR THEM

Manufactured by **THE ADAMS BROS.' HARNESS MANUFACTURING CO., Limited**  
(FROM COAST TO COAST)

TORONTO

WINNIPEG

SASKATOON

CALGARY

EDMONTON

## Ontario Farmers!

Existing war conditions demand that you give the question of seed special attention this year. Seed of desirable varieties and high germination power will be factors influencing yields.

If you have not secured your seed,

**Let the Ontario Department of Agriculture Help You!**

Farmers having seed grain or potatoes for sale may forward samples to the District Representative's Office, stating varieties, price and quantity.

Farmers wishing to purchase seed are also invited to communicate with the District Representative's Office, stating variety and quantity, and this office will endeavor to put them in touch with farmers having seed for sale.

In Counties where District Representatives are not established farmers are invited to communicate with the Department of Agriculture, Parliament Buildings, Toronto.

W. H. HEARST, Minister of Agriculture  
Parliament Buildings, Toronto

## Mr. Farmer!

Get your bricks in now during sleighing. We have a large stock of the famous Milton Red Pressed Brick on hand and can give you immediate delivery.

Owing to the coal situation, later deliveries will doubtless be advanced in price, so secure yours at once.

# MILTON BRICK

For 25 years Milton Brick has been the standard of quality and durability—and still leads. Write to-day for samples and prices.

MILTON PRESSED BRICK CO., LIMITED., MILTON, ONT.

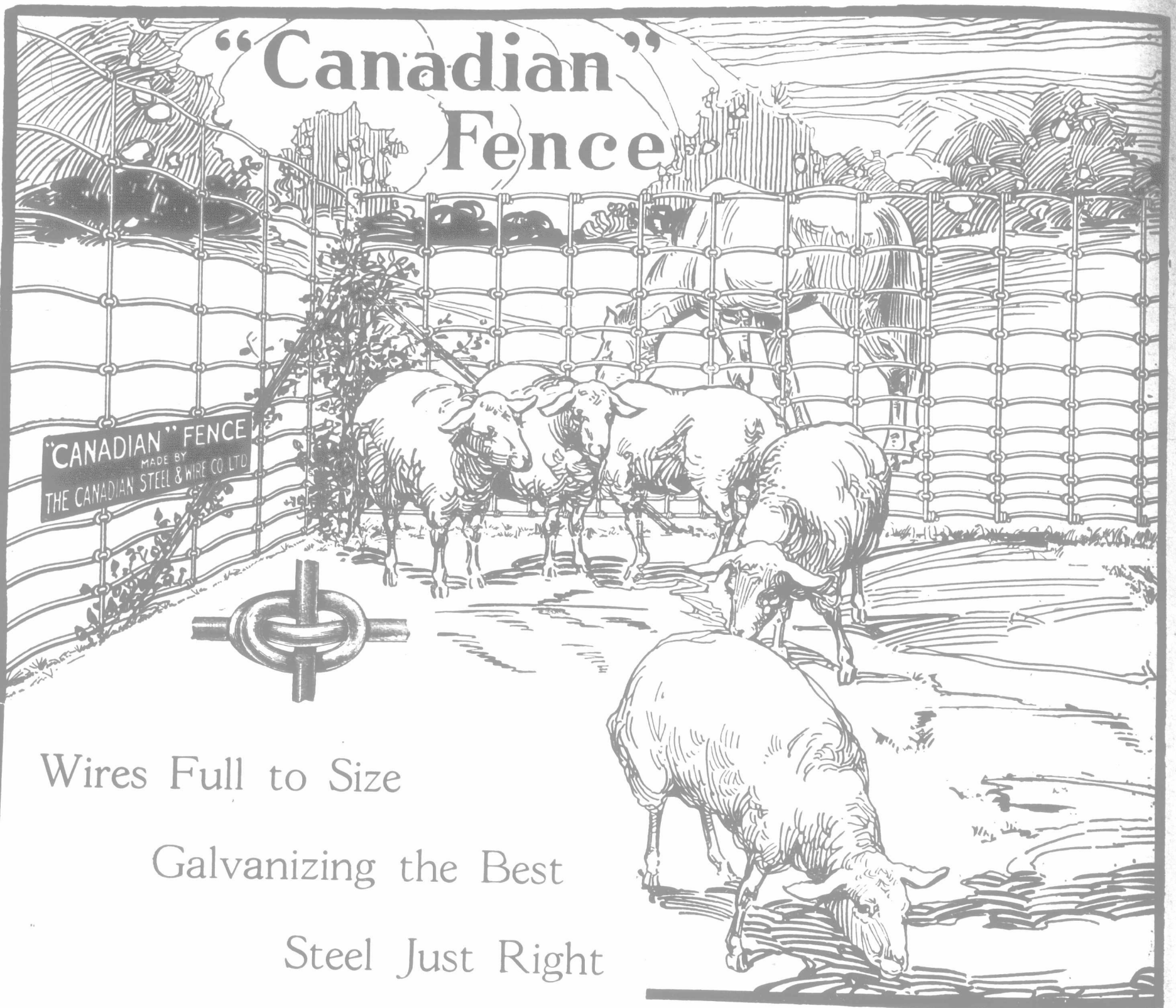


Section of Simonds Crescent Ground Saw No. 22

## We Manufacture Our Own Steel

The steel used in Simonds Cross-Cut Saws is manufactured in our own crucible steel mill. This steel will take a temper to hold a cutting edge longer than any ordinary brand of saw.

SIMONDS CANADA SAW CO., LTD., MONTREAL, QUE.  
VANCOUVER, B. C. ST. JOHN, N. B.



Wires Full to Size

Galvanizing the Best

Steel Just Right

Stays Won't Slip

Spacings of Wires to Suit All Purposes

Full Length Rolls

Look for the Sign:

# "CANADIAN FENCE"

Agents everywhere, if you don't know him, write us:

## The Canadian Steel & Wire Co., Limited

Hamilton

Ontario

LII.

It is

No

fare" t

No

pell me

The

is not u

The

a qual

Whe

can do

fulness.

The

enough

may be

Whe

things i

that yo

Flyi

to the f

human

The

soon be

settling

should

It is

stupid o

quickly

Try a l

its effe

It w

patent r

their id

asked b

people a

who do

The

realized.

cities be

be unlo

sailing o

a decrea

Matters

in the h

prevent

Wha

traffic o

Automol

of five r

feel sur

machine

were pla

and driv

but they

few irres

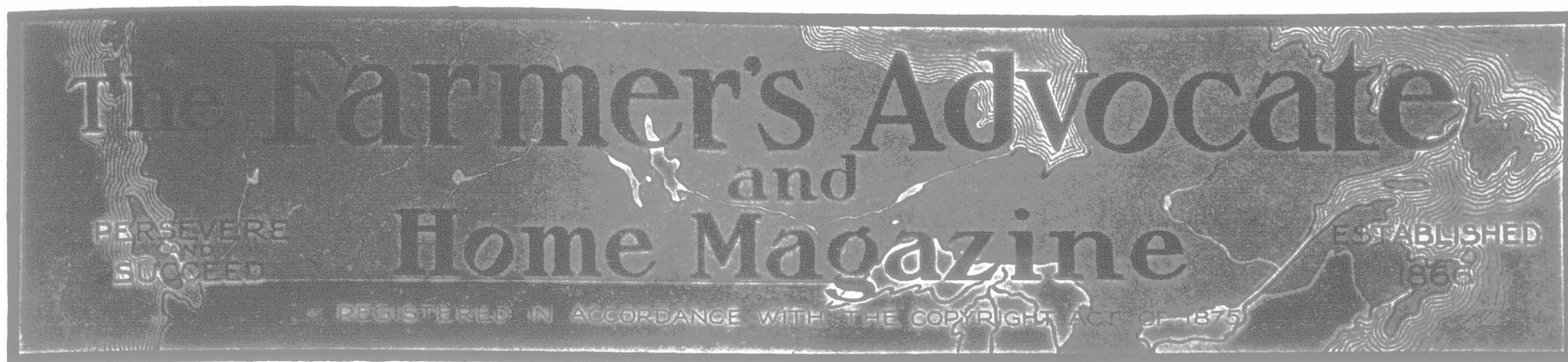
so fast t

What is

for care

maniacs

and car



## EDITORIAL.

It is time to get ready for spring.

No one looks upon the lowly potato as "common fare" these days.

No one can say of President Wilson that he rushed pell mell into war.

The man who leaves his seed to clean in seeding is not usually well up with his work.

The best farmers believe in selling their goods on a quality basis and they expect payment accordingly.

When nations or individuals get the idea that they can do no wrong it is time for others to resort to watchfulness.

The man who cannot stand criticism is not big enough for his position no matter what that position may be.

When you are inclined to find fault with life and things in general, remember that there is a great chance that you are what makes some things faulty.

Flying from the farm to the city or from the city to the farm is not all that is necessary to satisfy the human mind. There are troubles in both spheres of life.

The futility of attempted world conquest should soon be apparent even to Germans and the folly of settling international differences by force of arms should be plain to the world.

It is poor encouragement to a boy to be called stupid or lazy by his parents. Did you ever notice how quickly a child becomes just what he or she is called. Try a little praise of ability and industry and watch its effect.

It will be time enough for city sociologists—the patent medicine for the ills of rural society—to impose their ideas on farming communities when they are asked by the people living in those communities. Some people are a little over-zealous for the welfare of others who do not ask or need their advice.

The ramifications of a great war can scarcely be realized. Food riots have occurred in United States cities because railway cars were tied up and could not be unloaded because certain neutral ships were not sailing owing to the submarine blockade. This meant a decrease in transportation facilities and food shortage. Matters of such magnitude as great wars should not be in the hands of any man or group of men who cannot prevent them.

What is the use of a "speed limit"? Is it to control traffic or to encourage dare-devils to break the law? Automobile organizations are asking for an increase of five miles or so an hour in the "speed limit". We feel sure those who desire to go faster would find a machine capable of breaking the law if the "limit" were placed at fifty or sixty miles an hour. Most owners and drivers of cars have good sense and exercise it, but they must suffer because of the foolhardiness of a few irresponsibles who see no pleasure unless they go so fast that they run over someone, his dog or his poultry. What is needed is not so much limits to speed as penalties for careless or reckless driving. A few of the speed maniacs should be made examples of. Pedestrians and car drivers would both be pleased.

## Farming Unpopular With Returned Men.

For some time, certain urban dwellers have been "holding forth" with plans to make all or nearly all returned soldiers into successful Canadian farmers. Those who understood the men and at the same time knew something of the requirements necessary to successful farming simply said—"nonsense". Other schemes were put forth, some with more merit, but we fear that most of us have very uncertain ideas as to the percentage of returned soldiers who will desire a farm in New Ontario or on the prairie, and less knowledge regarding the percentage of those who would make for themselves desirable homes on farms in a new district. J. B. Kidner, Vocational Secretary of the Military Hospitals Commission, recently gave the Parliamentary Committee on the Care of Returned Soldiers a few interesting facts. According to Mr. Kidner only a very small percentage of the twelve thousand returned men, so far, looked after by the Commission were willing to go to the farm. They wanted to live in the cities. Out of 346 returned to Alberta only six signified willingness to take up farming, even though a number of these men had been farmers before enlisting. Out of fifty returned men, personally questioned by Mr. Kidner, only one wanted to farm. Some, however, are reported to have said they would go on the land "if they would get a farm in a pleasant valley and have two or three thousand dollars in cash."

Farming was not popular with these men before they went overseas. Many, doubtless, have labored on farms and know something of the work. They do not want to farm. Doubtless the percentage of those who would be willing to farm will increase somewhat as time goes on and more return to Canada, but any attempt to force farming on unwilling returned men will end in failure. One urban dweller back from the front with a permanent limp said of the farming scheme: "What have the returned soldiers done to deserve such a sentence?" That statement shows how breaking up new land or clearing New Ontario farms appeals to at least some of the returned heroes. Free farms in pleasant valleys are about as scarce as the two or three thousand dollars to go with each.

There seems to be something wrong with agriculture as a calling in the eyes of the people. Farming for the beginner can never be a pleasant-valley, easy-street occupation. No work can be enjoyed and bring success to the worker unless he desires that work and is willing to enter into it with all his heart. Canada had better have more good workers in the cities, than more discontented farm failures. The Government should plan and is doing so, to put those who desire farm work on farms of their own, but it is well to let the man who desires city life follow his desired occupation. The food factor may make a change in the likes and dislikes of many urban dwellers in different countries of the world in the next few years. If nearly all will live in the city, eating will become a luxury which only the man on the land will enjoy. Returned soldiers are not by any means the only people who are not willing to farm but we never believe in attempting to make something of anyone when that one would rather be something else.

## The Food Factor.

Is the great war to be the means of bringing home to humanity the importance of fertile fields and their products to the human race? Indications point that way. The civilized world has been travelling very fast. The overworked gregarious instinct and the unheathful race for pleasure and pelf have herded the hordes in large cities of skyscrapers, great white ways, bustle, hustle and glare. Peace and prosperity brought more

people from the farms to join in the great carnival of money-making, spending and pleasure, and all got something to eat and many blossomed forth in the "latest styles". But there may soon be a change. Money has very little value unless it can be exchanged for a reasonable quantity of some one or more of the necessities of life. Suppose these latter fail. Suppose a food shortage comes to the world. What then? We read that the food reserves of the world are very low. Food riots are already occurring not only in some belligerent countries but in some neutrals. A great part of the world lives from "hand to mouth." Many of the most highly civilized countries have developed a large consuming population at the expense of their producing industry. Urban centers were getting top heavy before the war and then Armageddon came and men in millions were taken out of production of all kinds and placed at war work where they consumed more heavily than they had ever done. The world's production fell off last year. Unless Providence is very kind it may show a serious drop again this year. The heads of the nations are beginning to see the importance of agriculture. Upon it the world lives. Germany realized this importance years before the war, and so organized production of food products that something over ninety per cent of Germany's farmers own their own farms, and 100 acres of German soil, not the best in the world by any means, will sustain seventy-five people. Great Britain realizes, now, that she must pay more attention to agriculture. She doubled her wheat output last year. She plans the plowing up of large parks and planting to food crops. Talk is already heard of great changes from the land monopoly in Britain to small holdings. Only eleven per cent. of the tillers of the soil in England and Wales own the land they till, and 100 acres of that land only supports fifty people as compared with Germany's seventy-five, and the British have the more fertile soil. In passing, this fact shows land owning to be a better plan than tenant farming. France is appealing to the women, children and old men to work for an abundant harvest. Even Russia, the great wheat-growing country, has been forced to pay more attention to food production. Food riots have occurred in one or two cities in the United States and in that country and in Canada the high prices of such staples as bread, potatoes, meat and milk are beginning to make the consumer cringe. Canada calls for greater production, but the men, and women too, still drift cityward where wages remain high but are not advancing as fast as the cost of living.

And still the war draws on the producing power of the world; and still the people prefer the cities and crowd therein. What would happen with a world crop shortage or serious failure in 1917? We are not pessimistic but shudder to think of the suffering that would follow. We speak of the world, not of any one country. It may be, after all, that the farm press of Canada was not far wrong when it advocated keeping the trained men on the farms rather than sending them overseas. Far-seeing men understand the importance of the full dinner pail to the munitions and other workers, and the greater importance of plenty of the best of food to the fighting forces. Notwithstanding warnings, the country districts were fine-combed for recruits and the boys and men went as they saw their duty. All honor to them! But their places cannot be filled on the farms by city men even if the latter were willing. It looks just a little ridiculous to send the man who knew how to farm to the front and then ask the pool-room frequenter, the dance hall nimble Dick, or the moving picture fan to help on the farm. And yet help must come from somewhere if a big crop is to go in the soil of Canada, flourish and ripen and be safely garnered for next winter's food. Yes, the eyes of the world are turned toward agriculture. When the eyes of the individual turn the same way, owing to the difficulty

# The Farmer's Advocate

## AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

Published weekly by

THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries, 12s., in advance.
3. ADVERTISING RATES.—Single insertion, 25 cents per line agate. Contract rates furnished on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.
6. REMITTANCES should be made direct to us, either by Money Order, Postal Note, Express Order or Registered Letter, which will be at our risk. When made otherwise we will not be responsible.
7. THE DATE ON YOUR LABEL shows to what time your subscription is paid.
8. ANONYMOUS communications will receive no attention. In every case the "Full Name and Post-office Address Must be Given."
9. WHEN A REPLY BY MAIL IS REQUIRED to Urgent Veterinary or Legal Enquiries, \$1.00 must be enclosed.
10. LETTERS intended for publication should be written on one side of the paper only.
11. CHANGE OF ADDRESS.—Subscribers when ordering a change of address should give the old as well as the new P. O. address.
12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
13. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
14. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or  
THE WILLIAM WELD COMPANY (Limited),  
London, Canada.

of obtaining a livelihood in the city, then will the back-to-the-land movement be a reality, not a newspaper story. The food factor is the biggest factor and war is turning the attention of those in power toward a safer and more stable national existence, based on better agriculture.

### Conditions Improving.

Never in the history of "The Farmer's Advocate" have so many enquiries come to this office regarding water systems and sewage disposal contrivances for country homes. In this issue is published an article dealing with sewage disposal on the farm. Much of this information has been published in these columns on previous occasions, but we are pleased to meet the demand for more information on a subject which interests such a large percentage of our clientele. There is a hopeful sign in the enquiries. Conditions in the farm homes are improving. All too often the farmer has bought new machinery and implements to lighten his work, forgetting about the ceaseless toil of his wife. Too often, also, has the barn been a model of handiness while the house was anything but such. Many a man had running water in his pig pen while the only running water in the house, where his wife toiled without ceasing, was in the attic where the roof leaked and the water soaked through and spoiled the paper in the front room. The woman on the farm deserves conveniences and she is gradually getting them. Running water and sewage disposal are important in farm home comfort, and they are not costly beyond the reach of the farmer.

The Zeppelin and the submarine have failed. So have poison gas and forced labor outrages. Frightfulness does not frighten. It produces the opposite feeling.

### A Year of Unselfishness.

BY PETER MCARTHUR.

This week I want to talk to you as I have never talked before. I want to talk to you straight from my heart and I want you to listen patiently and kindly. During the past few years many readers of the Advocate have written to tell me that they enjoy these weekly talks, and wherever I have appeared on the public platform many have given me the handclasp of friendship. The result is that I often feel that I have more friends than I deserve, but this week I want everyone who has any feeling of friendship for me to read what I shall say as carefully and thoughtfully as possible. To-day I want you to feel that I have your hand in mine and that I am talking straight to you.

I have just finished reading Lloyd George's great speech in the British House of Parliament and I am so aroused by the message I find in it that I am afraid lest anyone should miss its meaning. The world's greatest common man has called to us from his place beside the throne and we as common men should answer him from our place in the fields. This is the message that I find in his speech:

One year's unselfishness will save the British Empire. More than that it will save our democratic form of government. It will save humanity.

What answer shall we make to our great common man? Up to the present time we have enjoyed more freedom than any men who have ever walked the earth. Shall we prove worthy to have our freedom endure?

I know what your answer will be. You will say as I do: "Tell us what to do and we will do it."

I do not claim to be one who speaks with authority, but I see some things very clearly and I want to tell you what I see. Perhaps if we consider these things carefully and do what we can, someone who is able to speak with authority will tell us all that we should do.

Anyone who gives the matter thought will see that the cause of this war has been selfishness—selfishness for power, selfishness for wealth, selfishness for territory. And now Lloyd George tells us that the only way to end the war is to make sacrifices—to be unselfish. In his speech he has shown us our duty, but while reading it I remembered a great line from Whitman—the poet of democracy: "What others give you as duties I give you as impulses." That will be our answer to Lloyd George. That is the answer that a democratic people will make to its leader. He has asked us to do much, but we will do more. By following our impulses—the promptings of our own hearts—we will do more than we could possibly do if we were simply acting from a sense of duty. Our boys are offering their lives in the cause of freedom. Surely it is but a little thing in comparison with what they are doing if you and I offer to work unselfishly for one year. Let us meet Lloyd George half way, or more than half way.

At the present time the great need of the world is food and the raw materials of manufacture. I am told that at no time has humanity ever had more than a few months' supply of food ahead. Owing to last year's crop failure, the fact that millions of producers are engaged in war and that much of the world's most fertile land has been laid waste by war, that narrow margin has become dangerously narrow. Those who have studied the matter say that unless we bestir ourselves we are in danger of a world famine. Not only the British Empire, but Canada and all the world are threatened. Surely that menace is enough to arouse us to action. But there are other dangers that we might find almost as hard to endure as famine. Lloyd George tells us that if we do not produce to meet the present emergency it is not impossible that the Empire may go down before the enemy. If that should happen we would come under the control of a power that would practically reduce us to slavery.

On the other hand we are threatened by a danger almost equally great here at home. If by our lack of co-operation we allow our government and the government of Great Britain to be driven to desperate straits they may be forced to take action that might be equally dangerous to our freedom. If faced by the threat of ultimate defeat they will not dare to hesitate in taking every measure that might mean victory. It has been suggested already that our governments may be brought to a pass where they will be forced to take over all the resources of the country, both of man power and wealth, and direct them, under military authority, to the one end of winning the war. A victory won in authority that might prove but little less dangerous to our liberties than a foreign conqueror. And yet we can avoid all these dangers—famine, conquest and unselfishness in our own fields. Surely we will not hesitate. A victory won in that way will establish our freedom more firmly than ever before. If we show that we can act together for the common good, no one can enslave us.

Now I shall tell you what I intend to do. If you laugh at me I shall laugh with you; but even if we laugh together I shall not despise the little that I am able to do. If you will do as much we may be able to do all that Lloyd George asks us to do.

To begin with I am going to take him at his word. He says that the war can be won if we will all produce and work for the common good. That is so simple that it is almost ridiculous, but he has shouldered the responsibility of managing this war and he should know what he is talking about. I do not claim to be much of a

farmer but I have done almost every kind of unscientific—farm work in a kind of a way, and this year I have made up my mind to do all I can in the best way I can. And I shall not trouble myself about profits. I know that anything from a cabbage head to a bushel of beans that I manage to produce will be a real addition to the world's wealth at a time when it is needed and I shall be satisfied if the world gets the good of it. If anyone shows a way by which I can give what I produce, above what is needed for the use of the family, to the Government, I shall give it freely and gladly. As the father of a family my only wish is that my children shall enjoy the same freedom that I have enjoyed. As the children cannot be expected to understand such motives or the state that the world is in I shall let them have for their own use whatever profit they can make on anything they can produce in the garden or the fields. That will give them the fullest possible interest in their work and they will produce more than if I set tasks for them and drove them to the work. The main thing is to get them all to produce as much as possible. The product is the all important thing. Will you as the father of a family do the same? You and I can work our hardest because of the greatness of our purpose but we cannot expect the happy, eager children to do the same. They must have something that they can understand to work for—if only a new toy. Lloyd George has treated the plain people of Great Britain just as I propose to treat the children. He has promised them a minimum wage that will be profitable and a minimum price for products that will be profitable. But I venture to think that we of the new world who have enjoyed freedom and independence can rise to a higher plane than this. We can produce for the common good without looking for profits. If there are others who will take advantage of our public spirit and grasp for profits at every turn we can regard them with pity. I fear that there is a dreadful day coming for all who enrich themselves through this war. But we need not think of that just now. Like the proposed re-organization of the empire, it can wait until the war has been won. The business of every true citizen is to work eagerly himself and make it possible for others to work eagerly. What is produced will be true war-winning wealth but the profits that are made from handling it and placing it at the disposal of the world will be only fool's gold. When Mr. Flavelle exclaimed in his wrath, "To hell with profits!" he said something that every decent man should adopt as his motto just now. To produce something should be the aim of everyone from the little girl who can raise a pet lamb or pet chicken to the old man who can only poke out a weed with the end of his cane. Produce, Produce! Produce! And if the profiteer insists on travelling Mr. Flavelle's route with the profits, let him go.

### Nature's Diary.

A. B. KLUGH, M. A.

In our discussion of the animal mind we now come to the last group, the mammals—the group of which man is the highest representative. As might be supposed there is a great mass of information available on this group, and a full discussion of it would require a long and elaborate treatise. We shall however, merely deal with the most important topics, dealing mainly with other animals and only making such references to human psychology as are required for a proper understanding of the subject.

In this group the tropisms, so characteristic of the lowest forms of animals, disappear; the reflexes are numerous and important, but do not play the large role in psychical life that they do in some of the lower groups; the instincts, likewise, though still important, are reduced; and it is mainly with intelligence and reason that we are concerned.

As far as intelligence is concerned we can safely say that all the mammals exhibit it in, of course, different degrees. At the same time we must be on our guard against statements made by the owners of pets, and also accounts freely circulated in the press of the extremely intelligent behavior of individual animals. The scientific investigation into the performance of some of these animals is of much interest, and we shall consider one or two outstanding cases.

In 1901 Mr. von Osten, of Berlin, began the training of a horse, Hans 2nd, otherwise, and more widely known as Clever Hans. He started by teaching the horse to respond properly to such words as left, right above, below, etc. Simple arithmetic problems were next attempted. Von Osten would place one, two, three, etc., objects upon a table, kneel down, take the horse's fore-foot, and make him tap once for each object. In a remarkably short time Hans learned to "count", and to perform simple additions and multiplications. Next von Osten made a conventional alphabet for him, in which the letters were arranged in rows, one row below another, so that in giving a letter Hans tapped first the number of the row, then the number of the letter in that row, and having mastered this alphabet the horse was able to read and answer questions. At the height of his career Hans had mastered the cardinal numbers from 1 to 100 and the ordinals up to 10. Upon request he would count objects of all kinds, the persons present, even to distinctions of sex, then hats, umbrellas, and eyeglasses. He could do addition, subtraction, multiplication, and fractions, reducing the latter first to decimals. He could solve such problems as "I have a number in mind. I subtract 9 and have 3 as a remainder. What is the number?" when Hans answered by tapping 12 times, and "What are the factors of 28?" when he tapped out "2.4.7.14.28". He was able to read German readily, whether printed or



written. By the use of his alphabet he would answer such questions as "What is the woman holding in her hand?" He carried the entire yearly calendar in his head, and could give the date of the day without being previously taught. He could tell the time to the minute. His musical ability was especially well developed. He could analyze compound clangs, and could inform his experimenters as to what changes should be made in a discordant clang to produce consonance.

Naturally Hans' fame spread far and wide, the public at large became interested and von Osten's court-yard became too small to accommodate the curious. Heated discussions in the press arose—some writers holding that the horse was truly highly intellectual, others that there was some trickery in connection with his performances. A commission consisting of two professors of Berlin University, the director of the Zoological Garden, a director of the circus, veterinarians and cavalry officers, was appointed to investigate the case. Their report was entirely negative and merely denied the existence of any tricks used by von Osten so that the mystery deepened. A second commission, consisting of Stumpf, the professor of psychology of Berlin University, and his students, was appointed. Soon after they started their investigation one important point was established—Hans could not read, calculate, or count, unless someone present knew the answers. If a card bearing a certain number was picked at random by the experimenter and exhibited to the horse in such a way that no one could see it (the answer being unknown to the experimenter himself) the horse returned only 8% of correct responses, whereas he responded with an accuracy of 98% in those cases where the questioner knew the answer. Exactly the same state of affairs was found to exist with respect to calculations and reading. The memory tests and tests on musical ability all failed to yield correct responses if the experimenter was ignorant of the correct answer. It was next found that vision was necessary for correct response, and that when the horse's eyes were covered only 6% of the answers were correct. Finally the signs to which the horse responded were discovered. As soon as the experimenter had given a problem to the horse, he invariably bent his head and trunk slightly forward, and Hans would then put his right foot forward and begin to tap. As soon as the required number of taps were given the questioner would make a slight upward jerk of his head, when the horse ceased tapping. Thus, unconsciously, the questioner had given the cue to Hans. While we thus see that there was nothing wonderful or mysterious about the intelligence of Hans, we must give him credit for an acuteness of observation which would put to shame the observational power of many members of the human race.

(To be Concluded.)

## THE HORSE.

### England's Future Army Horses.

EDITOR "THE FARMER'S ADVOCATE":

English horse breeders, of both light and heavy types, are engaged in discussing future races and supplies of army horses. The coming of the Percheron in the country has been the cause of it; not that they mind the invasion of the French horse, because the majority of them are convinced that the Shire, the Clydesdale and the Suffolk could be left to very well settle and solve all future problems in the way of getting almost any type of army horse. But this horse talk has two sides to it—light and heavy. We will take the light horse question first. The Board of Agriculture has had the guidance and control of subsidized light horse breeding and its critics aver that it has failed in its duty, and that in future the War Office, through its remount service, should handle the money and should control the destinies of light horse raising, i. e., in the matter of horses fundamentally meant to be bought over, at maturity, by the army's purchasing officers.

In the service of the British Army at the moment, is a coterie of successful light-horse breeders, and they know what is wanted. The majority of them will still be in the army at the conclusion of the war, and it is felt by some folk that those men should be handed over the control of light horse breeding, it having been alleged that the red tape, pigeon-holing antics of the permanent officials at the Board of Agriculture are all against progress. But there has been a loud outcry against this threatened change. Many breeders argue that there is no tangible evidence that the Board of Agriculture has failed in its duties in the very short period that it has had under its wing the full control and the guidance of the State subsidy for the encouragement of horse breeding. All horse breeders will and do agree that the Board has done its work exceedingly well. It has administered the grant wisely, and it has undoubtedly well and truly helped, through the existing King's Premium scheme, to not only raise the standard of stallion being used for the production of hunters and high-class army horses, but has made possible the extension of the limits of light horse breeding, and has so, unconsciously, increased the numbers of horses which can only be described by that ugly phrase "misfits", but the real utility of which cannot be denied, even by the greatest enemies of our modern methods of light horse breeding.

The Board, too, has done within very recent date some good work in the matter of preventing unsound

stallions from travelling the country. It now proposes legislation to make the travelling of unsound stallions an offence. It is claimed that the Board has the correct machinery and the right men, just as capable as any army wing of working out future race evolution, be it upon exactly the same lines we are following today or upon any new or thought-to-be necessary lines to be defined later by the War Office for the raising of future army horses. The War Office (some breeders declare) has only to tell the Board of Agriculture and the farmers of England what it wants in the way of future stocks of horses for the Army, and the Board, with its far-reaching ramifications, can have the stock produced, provided that the army will pay a price for the horses which will cover the breeder's outlay and leave a reasonable margin of profit.

Some other breeders are against the threatened change, because they do not want to see established Government Studs, and the creation of another Department and batch of officials.

So far as the heavy-horse question goes, English breeders are against the booming or boosting of the Percheron, fourteen head of which, i. e., twelve mares and two stallions have reached the country and have been divided between Lord Lonsdale and Henry Overman, who mean to show the world that the Percheron is the *beau ideal* horse to get army horses, particularly useful for artillery work, a thing in which it is alleged the highly bred Shire, the Suffolk and the Clydesdale have failed in. But Britishers are stoutly maintaining that any of those three breeds can raise any kind of *grade* horse the army may want without French stock having to be requisitioned. One writer is convinced that "all the Percherons in the universe cannot shake the foundations of the Shire in England." That breed, he tells us, has nothing to fear and will always be the world's best breed for the making of heavy town and city geldings, the pride of two continents and the like of which even America or Europe itself has been unable to reproduce.

A cry has gone up for a new "light-heavy" horse to be evolved from existing breeds. Sir Edward Stern, a Shire breeder, recalls that the van-horse, the type formerly used by the London General Omnibus Company came from three sources: (1) misfit hunters, (2) misfit Shires, and (3) importations from the continent. The supply from (1) and (2) would probably continue if the Government is willing to give a price for them which would enable farmers to make a small profit, after the very great risks of production.

Mr. Goodwin Preece, another Shire breeder, declares that the Government will still continue to have to find the horses they require abroad, unless they will greatly increase the prices they have paid in the past. The type of "light-heavy" horse the army has in view is the heavy vanner, such as the cross of a Shire or Clydesdale mare with a Yorkshire Coach-horse or Cleveland Bay. The produce, Mr. Preece thinks, would be a somewhat nondescript animal, but the experiment would be interesting, and it rests with the Government to make it worth while for farmers to try it.

John Crowe, manager to the Duke of Westminster's Shire Stud at Eaton, Chester, does not favor the suggestion of raising the "light-heavy" type of horse. "We get plenty of the light-heavy type in trying to breed heavy horses," he adds. Mr. Crowe does not think that the production of the "light-heavy" horse if persevered in, could affect the Shire breed at all.

F. E. Muntz, still another Shire breeder, writes: "As far as I am able to form an opinion as to the future of the Shire being affected by the production of a 'light-heavy' horse, I do not see why it should be, as that breed is required for a special purpose where weight and strength are needed."

Therefore it would look as if the Shire and the heavy haulage horse stands on a distinct plane from the Percheron, and the Percheron grades, which have found so much favor in the English Army. It must not be forgotten that the draft horse is required chiefly for two purposes—hauling traffic in town and country, and the working and cultivation of the land. It is, therefore, with regard to these two purposes that suitable stock has to be bred. The lighter type of draft horse finds a ready market for the class of town traffic connected with vans and carts, and although this is not a branch of draft-horse breeding generally aimed at, or very remunerative, it nevertheless affords a market for those of each breed which are not quite up to the standard of power required for the heavier traffic of the streets and the service of farms.

The principle, therefore, to be kept in view in breeding heavy horses is to select and use stallions and mares that, from their personal character and known breeding, are likely to produce horses combining power with activity, and of such proper structural developments that, in the performance of their work, they shall not unduly strain, wear, or prematurely destroy any one limb, joint, muscle or sinew. The produce of any animal, in respect to its size, also generally follows the sire rather than the dam, and in breeding draft-horses too great height ought to be particularly avoided in the stallion. As tenant farmers breed the bulk of our English draft horses, their interests must not be overlooked. For all practical purposes connected with the agricultural employment of draft horses, animals of excessive size and weight are neither desirable nor profitable. It cannot be disputed that the big and heavy horses that it is the fashion to breed in some parts of England have neither the activity of those of rather more moderate size, nor the quality of bone, the more wearing character of limbs and joints, combined with action, which are also desirable in the "Heavy Haulage Horse."

ALBION.

## LIVE STOCK.

Pregnant live stock should not be too fat nor too thin. Thrift and strength to withstand the drain of lactation should be aimed at.

If purchasing a new sire this spring buy as good a one as it is possible to pay for. No one can afford a poor sire in these times.

Clean all vermin from the flocks and herds before the young stuff comes. Feed is too high in price to waste on lice and ticks, and the newly-born animals will thrive better if they are free from them.

Watch closely, in the increase this spring, the results of the matings made last year. Live stock and feeds are sure to be high for some years to come and time or money should not be thrown away on indiscriminate breeding.

Epistos, the grand champion Aberdeen-Angus bull at the last International at Chicago sold at public auction for \$4,500; Woodford 6th, the junior champion Hereford bull sold at \$15,100, and Maxwalton Pride 2nd, the first prize, two-year-old Shorthorn bull at auction realized \$6,600. Prize-winning blood can be cashed at big figures.

### Some New Year Auction Sales in U. S. A.

While the year is yet young some very successful auction sales of pure-bred live stock have been staged in Canada and the United States. Bids and prices indicate an unprecedented confidence in the future on the part of breeders who are ready to pay good money for good sires and dams and the get of such.

Early in January, Mousel Bros. of Nebraska, offered 76 Herefords, many of which were the get of that good breeding bull, Beau Mischief. The average on 39 bulls was \$815, and on 37 females, \$770. A splendid young bull, Superior Mischief, was taken by Jewell & Jewell of Texas at \$4,750. Other sons of Beau Mischief in the sale sold as follows: Carl's Mischief, \$2,550; Peerless Mischief, \$2,200; Mischief Mixer 7th, \$1,800; Mischief Mixer 5th, \$1,400; Frank Mischief, \$1,225. This sale was eclipsed by that held at Denver by the American Hereford Cattle Breeders' Association, on January 25, where 49 head averaged \$1,010.30. The 44 bulls offered averaged \$932.15 and the 5 females, \$1,170. The highest bid of the sale was placed on the grand champion bull, Panama, which went to Thos. Mortimer of Nebraska, at \$5,100. The top on females was \$2,250 for Pet Perfection 2nd. Dr. J. E. Logan of Keystone, Mo., offered 12 head on February 2 and received for them \$36,510 or an average of \$709.10. The top price for a female was \$2,075 and for a male, \$6,200.

Polled Herefords had a notable week from January 30 to February 3, when a series of meetings and sales were held in Iowa and Illinois. In this series the \$1,000 mark was reached or passed on 15 different occasions; \$5,500 was paid for Alexander 16th; \$5,400 was paid for Marvel's Pride; and \$5,000 for Echo Mischief.

During the past two months the Shorthorn fraternity have had no reason to feel discouraged. Offerings of this breed have been appreciated and well paid for. On January 9 and 10, the Ohio Shorthorn Breeders' Association held their annual judging and sale meet at Columbus. Robt. Amos and W. A. Dryden made the awards. Sixty-four averaged \$218, while \$790 was the top price paid. Thos. Stanton's sale at Chicago, on January 16 and 17, brought out a number of buyers from all over the States. Fifteen bulls averaged \$781, while the average for the entire lot was \$775. Mrs. Jack London, of California, took Pine Grove Secret 8th, and her bull calf at \$2,000; this price was also paid for George's Selection, a heifer calved in March, 1916. The \$1,000 mark was reached or surpassed on 23 individuals. At the Denver Sale on January 2, 40 head of young bulls averaged \$400; the top was \$1,200 paid for a roan yearling, College King, bred by the Allan Cattle Company. The Hill-Brown sale at Northcote, Minn., on January 30 and 31, was an event of considerable importance since it was a dispersion of the Northcote herd of Walter J. Hill. In all there were 112 sold, making the grand total of \$48,895. Type's Model by Cumberland's Type went to Idaho for \$2,300. Several other males and females went for \$1,000 and over. Mr. Hill, it is said, has secured a farm at Bear Lake, Minn. He has retained the services of George Bruce and intends to build up another herd of good Shorthorns. At the initial show and sale of the Wisconsin Shorthorn Breeders' Association at Madison, on February 15, 50 head made the fair average of \$232. It must be remembered that this was an initial sale and many of the contributors had not been in a position to observe the benefit of development and fit in auction sale cattle. The Michigan Association sold 50 head on January 19 and realized an average of \$198.50.

Aberdeen-Angus cattle offered by O. E. Briney, Central City, Ia., on February 16, met with ready sale. The average of \$300 was realized on 47 lots. Ten bulls averaged \$150 and 37 females, \$337. The buyers wanted females and came in quest of cows and heifers.

Thirty-one Shires sold by McCray and Fowler at Danville, Ill., January 17, averaged \$443. Thirty-two Percherons disposed of by the Estate of the late C. F. Singmaster, Keota, Ia., on February 15, sold at an average of \$872.

# Practical Pointers for the Parturition Period.

The season of the year is approaching when the barnyard, the stables and the pens will be inhabited with new life from the flocks and herds. It is the happiest season of the year, for few there are who do not feel rejuvenated in the spring and enjoy watching the antics of the capricious little pigs and frolicsome lambs. Spring is the harvest time for the live stock farmer; it is then that the increase takes place, and it is then that a new period begins. A little attention, a little "watchful waiting" in the pens and stables, when this increase is expected, will be rewarded by a larger harvest, for the man who is there and knows what to do can often save a lamb, a pig, or a calf by a very simple operation or a little assistance. There is quite as much also in having the pregnant females in the proper condition prior to parturition and the natural view to take of this matter is, that nature usually does things just about right and if we copy nature in our care of the herds and flocks we shall go a long way in making conditions most suitable for the birth of the young stock. Domestication, however, has created or fostered many detriments and we must guard against them with practical and scientific means. In this regard, each year brings additional and further trouble; old-time customs, traditions and whims must be cast to the winds and methods, based on conditions as they are at present, introduced into our management of live stock.

Farmers generally in Eastern Canada have had considerable experience with breeding animals and in an article such as this it seems unnecessary to go into details more than to remind those who may be forgetful, or become negligent that they should put forth every effort this year to make the foal, calf, pig and lamb crops as large as possible, consistent with the number of pregnant females in the country. No young or dam should be lost through neglect at any time, but such, this season and under present conditions, would be almost criminal. Too much feed and pampering invite disaster with pregnant live stock, so we should strive to keep the dial pointing to the happy medium which brings the good results.

## Care of the Pregnant Mare and Young Foal.

It is nonsense to think that an in-foal mare should be confined in the stable constantly and highly fed in order that she may give birth to a large, healthy foal. Pregnant mares require and should have steady and regular exercise, and fairly liberal supply of wholesome feed. Team work is all right for the mare, but she should not be forced to draw or back on slippery ground neither should the wagon tongue be allowed to strike her sides violently, such as frequently happens when the wagon is being drawn over rough land or roads; this is often the cause for many foals being slipped. Any kind of work which is not too severe and which affords a steady draft is best. Plowing in the spring or harrowing probably furnishes the most steady labor but the jumping, jerking action of a heavy spring-tooth barrow is rather tiring and sometimes injurious to the mare carrying a well-developed foal. The whole matter of exercise resolves itself into this, that the pasture field is probably the most ideal spot for an in-foal mare, but the farmer generally must have her in the collar, and any kind of farm work is not injurious provided it is not violent and the mare does not become exhausted or over-heated. With regard to feeding it is only necessary to say that the ration should be fairly liberal consisting of good hay, oats and bran; other grains can be mixed with these but the combination should be laxative in its effect, and particularly so as foaling time approaches. A mare in a good, strong, thrifty condition is best fitted for parturition; it is a mistake to have them over fat, flabby and unexercised. Strong foals are sired by vigorous well-fed and well-exercised stallions and born by mares that have received treatment similar to that just mentioned.

A shrinking of the muscles and parts back of the hips can often be detected a week or ten days before the time of foaling arrives. Four or five days before foaling the teats generally become filled, and when wax appears on the ends of the teats one can expect the foal in a day or two. If the colt is to be born in the stable a box stall should be thoroughly cleaned and disinfected for the purpose. If no disinfecting agents are available sprinkle lime on the floor and against the walls. Normal parturition requires only a few minutes, in most cases, and it is well to be on hand in case assistance may be required. The attendant, however, should not interfere until he is sure everything is not right and then his actions should be guarded and his manner quiet. An excitable, noisy person will frequently do more harm than good. In case of a normal presentation the fore legs of the foal come first with the bottom of the hoofs downward and the nose between the knees. When twins are born the hind legs of the second foal appear first with the bottom of the hoofs downward. In case of malpresentation or difficult parturition summon an experienced man or a veterinarian at once.

Joint ill or navel ill is the greatest enemy of the newborn foal, and preventive measures should be taken as soon as the colt is born. If the cord is cut have this done with a clean instrument and tied with string that has been disinfected immediately prior to its use. Anoint the navel with tincture of iodine and dress it four or five times daily with a strong disinfectant until it dries, which will be three or four days. Some vet-

erinarians do not use the iodine at all, but depend upon a 10 per cent. solution of carbolic acid, formalin, creolin, zenoleum, or other coal tar products or a solution of 30 to 40 grains of corrosive sublimate to a pint of water.

When a strong, healthy foal is born and the dam is motherly towards it there is seldom any difficulty in getting it to suck. When the mare is cross, however, or the colt weak some attention is necessary in this regard, and the mother may have to be tied and perhaps a fore foot held up or tied up while the foal is assisted. The afterbirth should be expelled soon after the foal is born, but if it is not expelled at the end of 12 hours it should be taken away at once by a skilled hand or a veterinarian.

Young foals frequently suffer from constipation, and in the majority of cases it is due to hard fecal matter in the last intestine which cannot be passed. If yellow or orange colored droppings are seen about the anus of the foal it is an indication that this dark brown, fecal matter, called the meconium, has been expelled, and normal defecation is likely to follow as a result of the colostrum or first milk taken from the dam. If constipation results give a tablespoonful of castor oil and an injection per rectum of warm water. If the meconium is not expelled after one or two injections have been given, insert the finger and remove the meconium. Orphan foals can often be reared successfully on modified cows' milk. Dissolve a tablespoonful of sugar in warm water. Add three to five tablespoonfuls of lime water and enough milk from a fresh cow to make a pint. This mixture should be given hourly at first,  $\frac{1}{4}$  pint at blood heat, and then less frequently in larger quantities.

After foaling the mare should be allowed warm drinks and wholesome feed such as hay, oats and bran, so mixed and in such proportions as to be laxative in its effect. If seasonable, the mare and colt should be turned to pasture for two weeks before the mother is again put to work.

## The Herd at Calving Time.

The ideal spot for cows, well advanced in gestation, as with other pregnant stock, is on the grass, but our climate does not permit of pasturing at all seasons of the year so we are obliged to make stable conditions conform, as nearly as possible, with the herbage and environments which nature provides. Hay, grain, roots and silage make a suitable winter or spring ration for the in-calf cow, but where the succulent feeds, such as roots and silage, are not produced in sufficient quantities it is well to breed the cows so the calves can be dropped on grass. This particularly applies to New Ontario conditions where it has been found that mortality runs high where parturition in any class of live stock takes place before the grass starts and the animals have not been allowed to condition themselves with this natural spring tonic. In such a case bran is the best substitute of a commercial character and it should be fed freely. In the majority of districts, in a normal year, roots or silage will be available in sufficient quantities to keep the breeding herd in the proper condition. The matter of exercise cannot be too strongly emphasized. The pregnant cow should not be allowed to become chilled, but from now on the weather will probably be moderate enough in the majority of cases to permit of the herd being turned out daily in the barnyard to rustle about the straw stack and get ample exercise. If a cow nearing the end of her gestation period shows signs of constipation, purge mildly with a quart of linseed oil, a couple of days before calving and give laxative feed.

If the cow is to calve in the stable, clean out a box-stall and disinfect it thoroughly. This can be done very effectively with hot whitewash containing some disinfecting agent. Don't interfere during parturition unless the presentation is abnormal or the labor unusually difficult. In case of a normal presentation the fore feet appear first with the bottom of the hoofs downward and the nose between the knees. The birth can be assisted often by pulling outward and downward on the feet when the cow labors. Dogs and other animals should be kept out of sight, and the attendant should be quiet and kind in his conduct. If the presentation is wrong some skilled person should make an examination and correct the position of the foetus.

Warm drink should be allowed the dam for a day or two after parturition. Good hay, chop and bran in small quantities, should constitute the solid feed, and the cow should be kept comfortable and quiet. In case of mature, heavy-producing cows do not milk the udder out completely at the first two or three milkings as a prevention against milk fever. This disease is liable to overtake heavy producing, mature females within two days after calving. In case of attack the victim will first exhibit partial paralysis of the hind quarters; she will lie down, get up again, and finally go down to stay. The entire system becomes paralyzed and the patient will lie on her side with her head stretched back and the nose pointing towards the flank. Don't attempt to drench the patient in such a case; such treatment is very often fatal. Summon a veterinarian until he arrives. The modern remedy is to distend the teats and udder with sterilized air or oxygen, and a skilled hand should perform the feat.

If the afterbirth has not been expelled in 24 hours it should be removed. An experienced person should do this, but any good herdsman should know how it is done and be able to do it. Drugs administered by the mouth have not proven a satisfactory remedy for the retention of the afterbirth.

After the calf is born see that it is able to suck and obtain the colostrum or first milk. After the first day the calf and dam can be separated and the former allowed four or five quarts of its mother's milk per day. This should soon be increased to six quarts and then to eight quarts, later to be gradually substituted by skim-milk. The nature of the calf will govern the amount of milk to be fed; over-feeding will soon result in indigestion and diarrhoea. Scours is a common disease in the calf herd. To prevent it, keep the stables clean, wash thoroughly and air in the sun all pails used in feeding, keep all utensils, in which milk is stored, sweet and clean, and feed the milk at the same temperature at which it is drawn from the dam. A little lime water in the milk is a good corrective.

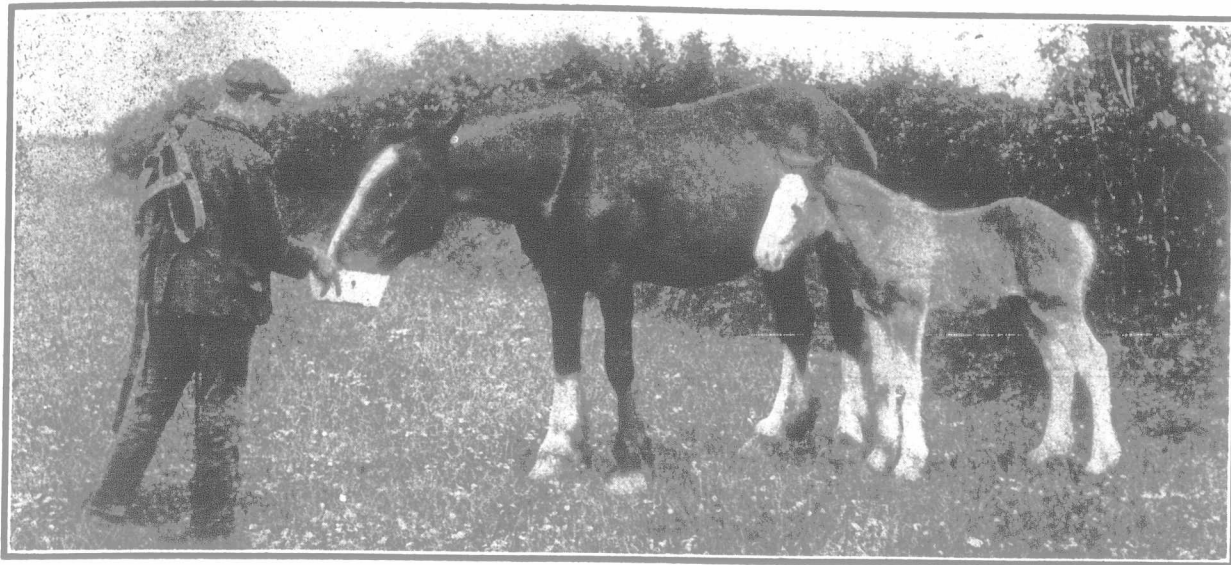
## Yeanning Time in the Sheepfold.

It has always been the custom for good shepherds to give their flocks special and unstinted care at lambing time. In this country sheep are maintained primarily for the lambs they produce, wool being a secondary product. Market quotations show plainly what one lamb lost will mean when the revenue for the year is totalled up, and the good shepherd this year, as in years gone by, should not spare himself when yearling time comes. In preparation, however, for a first season it is well to see that doorways are large enough, and that there is ample room for the flock at the trough and feed rack; crowding means stillborn lambs. Oats, a little bran, and good clover or alfalfa hay make a splendid ration, but don't forget frequent saltings and a constant supply of water. As the period approaches when the lambs are expected, trim away all locks of wool from around the udder of the ewe so the lamb will find no obstacles in the way. Preparation for parturition in ewes is indicated by a swelling of the organs, uneasiness, desire for separation from the flock, and bleating. When these symptoms are discernible put the ewe in a pen by herself, if possible, and prevent drafts, which are injurious to the young. Assistance during parturition is not often necessary if the flock has had access to free range and plenty of exercise. We know of one man, a veterinarian by profession, who keeps a flock of about 100 ewes. They have a large range all winter, and are fed out-doors on the clean, hard ground. While these ewes are dropping their lambs quite successfully during the spring, usually after a little grass has started, their owner is out over the country taking the lambs from farmers' ewes that have been closely confined all winter and allowed to become weak and run down. However, in the flock of ordinary size there is always a ewe or two that experiences difficulty during labor. The presentation may be wrong or the foetus dead. Do not be too eager to assist nature, but circumstances will indicate to the experienced man when additional help is in order. When preparing to assist, disinfect the hands and anoint them well with carbolized oil and wash again before attending to a second ewe. As soon as the lamb is born remove the mucous from its mouth and nostrils. Weak lambs should be assisted to suck even if the dam must be held in a sitting posture. A chilled or weak lamb can often be revived by dipping it into real warm water and then wiping dry or rolling it up with hot-water bottles. A small pen is a necessity at times to make ewes own their lambs and nourish them. Further information with regard to ewes at lambing time will be given in this department before the yeanning season arrives. Watch for it.

## Bidding for a Good Pig Crop.

What has been written previously in this article applies in a broad sense to the swine herd. Exercise, laxative feed and all-round good treatment prior to parturition will mean more pigs and less trouble. Most of the vices to which sows become addicted after farrowing can be prevented altogether by caring for them properly before the young are born, and immediately afterwards. Mineral matter should be available to the sows at all times. This can be supplied in the form of wood ashes, salt, copperas, Glauber's salts, charcoal, bone meal and sulphur. Two or three of these placed in separate boxes makes a very suitable way of feeding it, but a mixture of sulphur, wood ashes, charcoal, bone meal and salt is also good. Brood sows should be obliged to rustle about the straw stack or in some convenient out-door yard; they should not be too thin or too fat, and above all they should be well exercised. Place the in-pig sow in her farrowing pen plenty of time prior to parturition to allow her to become acquainted with the surroundings. Supply enough but not too much litter, and construct a fender about the pen to protect the young pigs. This fender consists of a small pole or a piece of 2 x 4-inch scantling set out from the wall, about 8 inches above the floor. When the sow lies down the young pigs take refuge behind the fender. Uneasiness on the part of the sow indicates approaching parturition and in the majority of cases she will prepare her bed 6 to 12 hours before farrowing. It is well to be on hand, but it is unwise to volunteer assistance unless it is absolutely necessary. Warm slop is all that should be fed for a day or two. Cooling

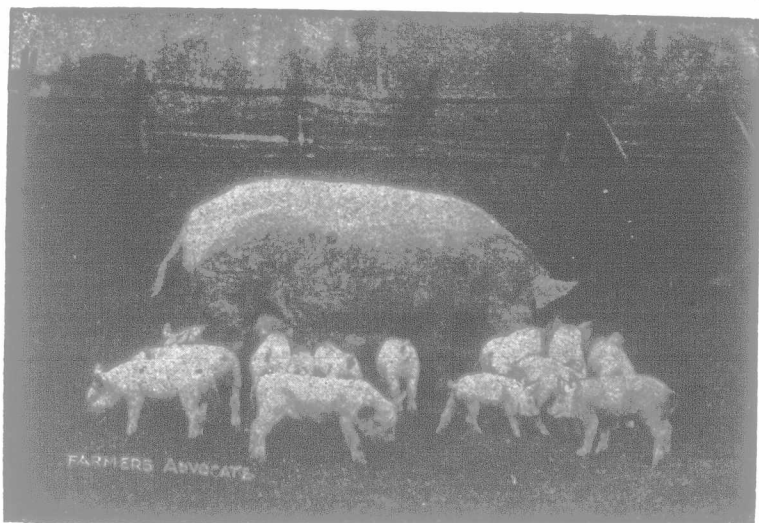
# What We Look for in the Springtime.



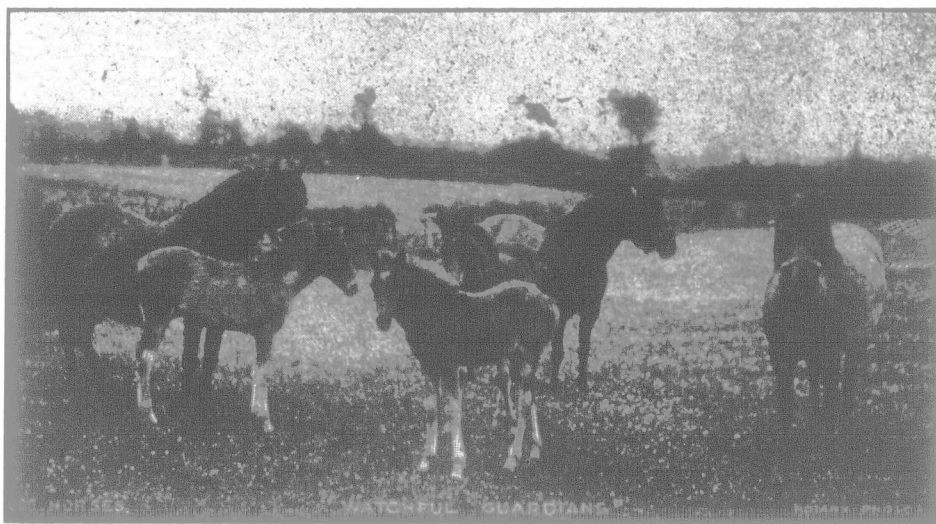
Turn the Mare and Foal to Pasture for a couple of Weeks if Possible.



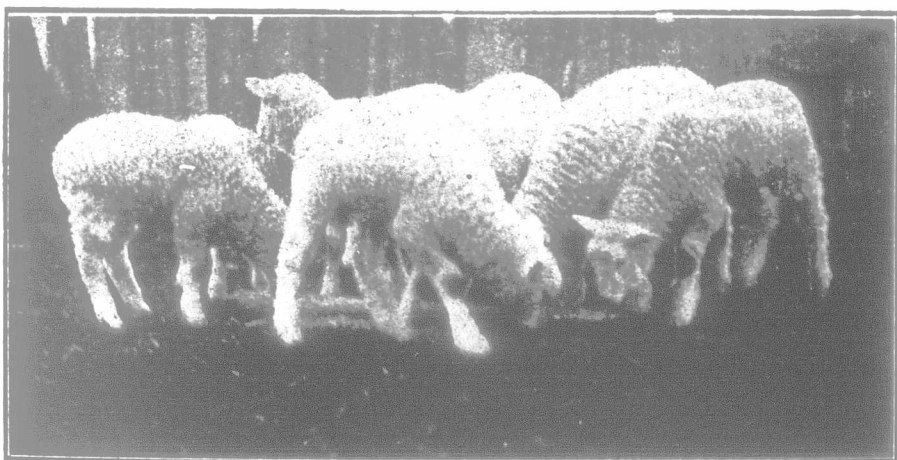
Blood will Tell.



A Family of Unfashionable Size.



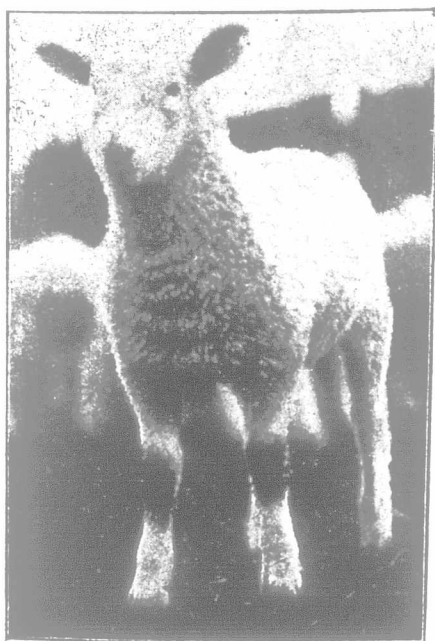
No Family Quarrels Here.



Young Lambs Soon Learn What a Trough is For.



Expecting Something to Happen.



An Aristocratic Young Leicester.



The Farm Flock in Springtime.

ed in 24 hours  
person should  
know how it  
istered by the  
remedy for the  
  
able to such  
After the first  
nd the former  
milk per day  
arts and then  
ubstituted by  
rn the amount  
result in in-  
mmon disease  
stables clean  
pails used in  
stored, sweet  
temperature  
le lime water  
  
epfold.  
od shepherds  
re at lambing  
ned primarily  
a secondary  
ly what one  
r the year is  
year, as in  
when year is  
or a first  
large enigh,  
at the rough  
ams. Oats,  
hay make a  
saltings and  
d approaches  
all locks of  
the lamb will  
or parturition  
organs, un-  
flock, and  
cernible put  
and prevent  
Assistance  
if the flock  
of exercise  
y profession,  
they have a  
loors on the  
are dropping  
ring, usually  
is out over  
ewes that  
allowed to  
the flock of  
at experien-  
ion may be  
liger to assist  
experienced  
en preparing  
them well  
attending to  
remove the  
ams should  
be held in a  
an often be  
er and then  
ter bottles  
e ewes own  
information  
be given in  
on arrives  
  
rop.  
this article  
Exercise,  
nt prior to  
uble. Most  
ter farrow-  
y for them  
mediately  
available to  
in the form  
s, charcoal,  
ese placed  
of feeding  
, charcoal,  
ows should  
or in some  
e too thin  
exercised.  
n plenty of  
become ac-  
nough but  
about the  
er consists  
ing set out  
or. When  
ge behind  
v indicates  
f cases she  
farrowing,  
volunteer  
Warm  
Cooling

laxative feed is best to allay fever, but the herdsman must decide for himself when to thicken the slop. As a general thing a sow should not be brought to full feed before two or three weeks. However, this must be determined by the milk flow and condition of the dam generally. A good rule to bear in mind is that it is more dangerous to overfeed than to underfeed at this time; that warmth, sunlight and fresh air are indispensable. High feeding, especially of a sow kept in close confinement, is likely to result in a very serious ailment of the pigs commonly known as "thumps". The successful stockman is he who can see the beginning of trouble. The beginning of trouble is shown in the droppings. These should be observed daily. At the first indication of constipation, feed more sparingly on cool and slightly laxative feeds. If diarrhoea manifests itself, see to it that the feed supplied and the troughs are clean, sweet and in every way wholesome. At the end of a week after parturition the ration of a brood sow may consist of a medium thick slop of ground oats fed in connection with succulent pasturage, or vegetables or succulent plants supplied by hand. The amount of the ration should be gauged by the requirements of each litter.

### Tankage as a Feed for Young Pigs.

In a bulletin entitled "Suggestions on Feeding Stock", published recently by the Ontario Department of Agriculture, Prof. G. E. Day, of the Ontario Agricultural College, presents some useful facts relative to feeds, their composition and place in the feed lot. Like all publications of this kind it has come to light too late to be of the most service to stockmen. They should have had it last November. By November next it will have been forgotten. Of course, the authors of these bulletins are not to blame in all cases. The King's Printer needs speeding up.

With reference to tankage as a feed Prof. Day writes: "Tankage is a prepared by-product from the large abattoirs and is coming rapidly into prominence, especially as a feed for hogs. It shows to best advantage when fed with other feeds which are poor in protein, such as corn, and it also plays an important part in supplying young pigs with a liberal amount of protein, especially when skim-milk is not available. As a substitute for skim-milk for young pigs it has given pretty satisfactory results, and possibly comes nearer to taking the place of skim-milk than any other product on the market. Owing to the high percentage of protein in tankage, it is necessary to feed it with care or there will be waste of protein. When feeding tankage to young pigs it is seldom advisable to feed more than one pound tankage to nine pounds meal. It will be noticed that tankage varies in its percentage of protein and the price varies accordingly. When older pigs are fed on mixed grain, tankage may not prove profitable, but it will show up to best advantage with young pigs or with pigs of any kind which are being fed on corn. In certain tests at this College tankage at \$50 per ton proved more economical for pigs than skim-milk at 10 cents per cwt."

### Developing Young Pigs in Winter.

EDITOR "THE FARMER'S ADVOCATE":

Kindly give me some advice with regard to raising young pigs in winter. I have a bunch which I am trying to develop but I am making very slow progress. My pig pen is not very warm so I moved the pigs out of the pen into one I made around the straw stack, but they do not seem to thrive as they should. Their feed consists of milk and shorts. Why do these pigs not do better? Please tell me how to care for small pigs in winter.

Middlesex Co., Ont.

A. B.

Ans.—If we knew the age of these pigs we could discuss the problem a little more intelligently, but we shall assume that they were fall farrowed and about three or four months old at the present time. It is true that pigs, especially small ones do not thrive so well in cold weather as in warm, and the past months have been exceptionally cold. While it is well to have them out where they can get some exercise, their sleeping quarters should be dry and well ventilated. Particularly through the month of March this year should farmers pay attention to this phase of the matter, for pigs that have been closely confined all winter in pens, poorly ventilated, are quite likely to be somewhat rundown, and this condition, through the dampness which usually prevails in March and early April, is likely to be aggravated into cases of crippling or other troublesome ailments. Expensive piggeries are all right, but the inexpensive building, properly constructed or remodeled, will serve the purpose very well indeed. Freedom from drafts, dry sleeping quarters with plenty of litter and good ventilation are the essentials to health. An old out-building can often be made into a suitable piggery by putting in a straw loft to absorb moisture and a shaft up to and through the ridgeboard to carry off impure air. This, of course, will necessitate some inlet for pure air. Plenty of glass to admit sunlight to all parts of the pen is also a great improvement. The pigs referred to in this query may do all right in the quarters they now have, but we make these few suggestions re housing in case it is thought advisable to improve the building from which they were removed.

Winter feeding is a very important factor in the maintenance of health in swine. While shorts and milk cannot be improved upon as part of the ration we would advise augmenting them with finely-ground oats and a few pulped roots. Clover leaves or good clover hay, steamed for twenty-four hours in a water-

tight box, makes a good form of roughage to feed. Bulky, laxative feeds, in reasonable quantities, help to keep young pigs thrifty and to ward off indigestion and crippling. Young swine in winter should not be too highly fed, but they should be well nourished and allowed to exercise. Variety in the ration is also advisable. Grain is very high this season but so is the price of hogs or pork. Make up a mixture of wood ashes, bone meal, charcoal, salt and sulphur; place this combination of ingredients before them so it will be accessible at all times. Keep their sleeping quarters dry and ventilated, allow them to get mineral matter such as just suggested, make or allow them to take exercise, and give them plenty of wholesome feed. With this treatment young pigs should thrive.

### Fundamentals in Successful Breeding.

In concluding an address before the annual convention of the Live Stock Breeders of British Columbia, held recently in Victoria, Prof. J. A. McLean of the University of B. C., remarked: "A man must love live stock. The man who raises his hand or his voice in harshness with his stock is not a breeder or a stockman. For success in breeding, too much patience is demanded; too much hard work is required, and too many disappointments are in store for any man to withstand whose whole heart is not in the work. The man must feel that he would rather work with horses, or sheep, or cattle, than at any other work. If that is not true of him he had better go at once to the counting house." Speaking with reference to constructive breeding, Prof. McLean commended the practice of inbreeding with fewer limitations and guarded sentences than we have heard for some time. He pointed out the dangers ahead where this system is adopted; nevertheless, he recommended it to the careful breeder who knew his stock, and had an ideal in mind. In this regard he said: "The study of many pedigrees and of the constructive work of good breeders reveals a uniformity of design. When a man attains in his herd an individual possessed of the type of productive capacity desired, his great problem is how best to conserve, reproduce and fix that type in his herd. Later he will want to excel it. Though it may appear to be contrary to the usual teaching, yet we find the general practice is to concentrate the blood, eliminate wide variations and fix the type by inbreeding. Inbreeding is not in itself a source of merit in those herds where it is practiced, it is only the method of ensuring the perpetuation of that merit. It is a means of fixing characteristics and in some cases of intensifying them. If animals are constitutionally at fault, or have inherent systemic weaknesses, despite their special merits, inbreeding should not be followed, and its use under such circumstances will only emphasize the weaknesses of the stock and their own. In itself it is without blame. Philip Dauncey, England's great early breeder of Jerseys, began with a few good cows and a splendid bull. He did not buy another bull for twenty years. He then bought another excellent bull and for twenty more years never went outside his herd. At that time his herd was dispersed, and from it came those beautiful, large sturdy, St. Lambert Jerseys, that for beauty, size and production are still the dream of the best Jersey breeders. So that of itself we need not fear inbreeding, but we must know our stock and we must have a type worth fixing."

The speaker endeavored to impress upon beginners that if a man would do work that is either lasting or valuable to stock breeding, he must needs have a definite ideal in mind towards which he is incessantly striving. He may have to make some changes in that ideal, but the fewer that are necessary the more fortunate he is. If he is working with dairy cows there must be certain factors of size, style, form and production enter into the composition of his ideal. These should govern all his purchases and particularly in the acquisition of sires. The man who is working without an ideal is as unfortunate as a mariner without a compass, and if he really does achieve anything it is his good fortune. The breeder must at the same time be an accurate observer and a critical judge; he must be able to detect faults in form or function; discover their cause, and anticipate their effects. The breeder is his own best friend when he will be frank with himself and, finding a serious defect, discard the faulty animal and avoid the source of the error. Frequently a man has to reverse his judgment regarding a sire, but will delay in doing so. Delays are costly. If one has the wrong sire the sooner the owner discards him and forgets the initial cost, the quicker he will recover from the bad investment. Beyond this every breeder should know the history of the breed. He should know the type of the early or foundation stock. He should know by what means improvement has been brought about, and the conditions under which his breed has been developed. A lack of such knowledge frequently results in breeders working at cross purposes to the forces which have led up to the foundation upon which they are trying to build. Growing out of this knowledge of the breed and supplementary to it develops a knowledge of the families within the breed. These are almost invariably based upon individuals which have been possessed of superior merits themselves and which have been prepotent. Families cannot be founded on animals that in themselves simply are great; neither can desirable families be founded upon inferior individuals. But from great individuals which were prepotent have sprung the fruits of our breeders' labors—superiority throughout the herd. To attain this end one should never cease in

widening his first-hand knowledge of his breed. A study of photographs and of the current literature is very valuable. Ring-side contemplation at the best shows, if rightly indulged in, can scarcely be overdone; but even better is a personal visit to as many good herds as are within reach, where the stock can be seen in working condition, and can be studied with the blankets and halters off.

The speaker emphasized the importance of good feeding and said that the general farmer, the man who keeps grade cattle and on whom this nation depends for its live-stock products, as a rule underfeeds his stock. He will buy a good sire, but he fails to develop him. He fails to feed the progeny of that sire, and then finds fault with the animal, the breed, and the breeder on the basis of fraudulence. He is not aware that the improvement in all our types of live stock was made through and was intimately associated with an improved agriculture, which meant more and better feed for live stock. An animal may have inherent qualities of growth and production, but the only way they can ever be discovered is by furnishing the feed necessary for their development.

Prof. McLean urged the breeders in attendance to do what they could to promote the pure-bred industry in the Province of British Columbia, explaining to them it was their duty and at the same time a source of profit

### Hog Cholera Prevention.

Hog cholera is still the great scourge of the swine industry in the United States, and this country is not without the disease by any means. It would pay farmers and raisers of swine to guard more closely against it. Following are the means of prevention and treatment recommended by the United States Bureau of Animal Industry:

"To keep hog cholera from reaching your herd locate your hog lots and pastures away from streams and public highways, and do not allow your hogs to run on free range or highways nor to have access to canals or irrigation ditches.

"Do not visit your neighbor's farm nor allow him to visit you if he has hog cholera on his premises.

"Do not drive into hog lots after driving on public highways.

"Do not use hog lots for yarding wagons and farm implements.

"Do not place newly-purchased stock, stock procured or borrowed for breeding purposes, or stock exhibited at country fairs immediately with your herd. Keep such stock quarantined in separate pens for at least two weeks, and use care in feeding and attending stock to prevent carrying infection from these to other pens.

"Burn to ashes or cover with quicklime and bury under four feet of earth all dead animals and the viscera removed from animals at butchering time, because they attract buzzards, dogs, etc., which are liable to carry hog-cholera infection.

"If hog cholera appears in the neighborhood confine your dog and encourage your neighbor to do the same. Mange, lice and worms lower the vitality of hogs, rendering them more susceptible to disease.

"If hog cholera appears in your herd have all hogs treated immediately with anti-hog-cholera serum, after which they should be kept on a light diet, with pure drinking water, and confined to limited quarters that should be cleaned and sprayed three times a week with one quart of compound cresol solution to thirty parts of water, until the disease has abated in the herd.

"To obtain the best results the serum must be administered as soon as the disease is detected in the herd. Be sure that the temperature of all hogs is taken. A temperature above 104 degrees F. in ordinary weather and when the animal is not excited indicates infection, and such hogs require an increased dose of serum.

"To rid premises of infection remove all manure and mix it thoroughly with quicklime.

"Burn all litter, rubbish, and old hog troughs. "After the premises are thoroughly cleaned, spray walls, floors and other surfaces, including remaining hog troughs, etc., with a disinfectant (one part compound cresol solution to thirty parts water). Where hog houses are small, turn them over, exposing interior to sunlight. Clean premises, properly exposed to sunlight, will not retain infection any great length of time.

"Wallow holes and cesspools should be filled in, drained, or fenced off.

"All runs underneath buildings should be cleaned and disinfected and then boarded up to keep hogs out.

"Destroy hogs that do not fully recover, as they may be carriers of cholera infection."

The matter of treatment for the disease does not rest with the farmer at all in Canada. Outbreaks should be reported immediately to the Health of Animals Branch, Ottawa. That Department will take the case in hand at once, but they do not make a practice of treating with serum. The recommendations of the Bureau of Animal Industry are herewith given for two purposes: First to acquaint hog raisers with preventive measures and, second, to give them some idea of how the disease is handled in the United States. We should not get too enthusiastic over the serum treatment for while it has been productive of some good in the United States it has not been an unqualified success.

Remember, that while feed is high and scarce, live stock and live-stock products command exceedingly high prices. Don't skimp the herd or flock if the feed is available.

# THE FARM.

## Sandy Discusses "The Guid Auld Days."

EDITOR "THE FARMER'S ADVOCATE":

We're havin' an unco' rough winter hereabouts, an' the farmers are beginnin' tae wonder gin there's tae be onything in the way o' wark done at all before spring. There's wood an' hay an' grain waitin' tae be hauled, but na sooner does it quit stormin' frae the east than it starts blowin' frae the west, wi' an occasional breeze frae the north tae keep the temperature doon an' hae things consistent like. The "auldest inhabitant" has gone intae his den for the winter, sae I havena' had a chance tae ask him gin he remembers onything like this in his young days. Na doot he wad tell me aboot "the winter o' the deep snaw" that the auld folk experienced a short time aifter they had cam' oot here frae "bonnie Scotland." I'm wonderin' gin a guid mony o' them werena' wishin' themselves back again, when they got their first taste o' oor "bracin' Canadian climate." That year they had sae muckle snaw, that I spoke aboot, they must hae been weel nigh discouraged. The crops had no' been vera guid, an' ye may be sure they were a' wishin' for a mild winter sae that their wee bit o' straw an' hay wad last oot till spring, an' they wad be able tae get their stock on tae the grass wi'oot ower muckle hard-ship. But auld Nature made na allowance for them, an' they had a bad time o' it. The snaw wis that deep that ye couldna' see a fence, except maybe an extra lang picket here an' there. There wis no sic a thing as waterin' the coos an' horses in the stables in those days an' the track tae the water-hole soon got sae high that when by ony chance a coo got aff it intae the snaw it wis a fight for life tae get back again. They say live stock need exercise. Weel, they got it in those days. Na doot it made them hardy an' able tae stand the lack o' feed an' care that they had tae pit up wi'. That winter I'm speaking aboot, feed wis sae scarce that mony a farmer had tae gang tae the bush an' cut doon the trees an' draw hame the branches for his coos tae eat. It wis a case o' that or starvation. An' they say that the cattle did unco' weel on it—those that got eneuch tae satisfy their appetites, that is. Talk aboot the "guid auld days." I dinna' want tae gang back tae them, onyway. It wis the queer style o' farmin' we had, when ye come tae think aboot it. The stables were generally sae cauld that they had tae be cleaned oot wi' the help o' an axe, an' the majority o' farmers had the habit o' throwin' the manure in a pile at the door, that got pretty high before spring. It made a great tobaggan slide for the coos when they were driven intae the stable at nicht. They were generally left oot all day tae pick up what they could aboot the yard, an' besides, it made the stable easier tae clean. They were fastened in the auld-fashioned wooden stanchions, unco' like the pillory that they used tae pit criminals in lang ago. I mind one time when I wis a young chap gaein' oot tae the barn in the mornin' an' findin' that the coos, in reachin' for some straw or something, had pushed the hale row o' stanchions clean over, an' a' the bossies were, as ye might say, standin' on their heids. I wisna' lang gettin' help an' gettin' them oot o' their fix, but it wis a close call for some o' them. One auld coo never got the twist oot o' her neck tae the day o' her death. I can remember weel how I used tae hae tae carry a' the straw across the yard in ma arms, for the coo-stable and the barn werena' vera close together, as they generally are nooadays. An' sometimes on a windy day there was mair straw went up in the air than got tae the coos. I mind gettin' sae mad sometimes that I wad fling awa' what little I had left an' gang back tae the barn for anither armful. Na doot they thocht it wad be too handy tae hae the barn an' stable together, when they were daein' the buildin'. There wisna' muckly Yankee invention aboot some o' the auld pioneers. I heard a chap say once that it wis na wonder they were strong for they were always carryin' something. They didna' save themselves muckle, that's a fact. I mind o' seein' an auld neebor once tryin' tae load a couple o' logs on his sleigh tae tak' them tae the saw-mill. An' ye may believe me or no, but he had the logs in a hollow an' his sleigh on a hill alongside, an' he wis havin' a hard time o' it, ye can depend on that. There wis lots o' help in those days, for the families were big, as a rule, an' they didna' hae to plan how one mon wis tae dae three men's wark, as some farmers have tae do to-day.

I ken there is something tae be said for the days o' auld lang syne, wi' a' their drawbacks. Na doot the people were mair sociable then, as is natural tae a newly settled country. It wis an unco' lonesome place they'd come tae, an' they felt the need o' the society o' their friends an' neebors. They didna' hae the telephone or the rural mail, sae what communication they had wi' ane anither wis carried on at short range; which has its advantages, as ye ken. I canna' imagine what ane o' the young chaps o' forty or feefy years back wad hae said gin ye were tae hae asked him tae spend the evening wi' his best girl over the telephone. He'd na doot tell ye that the usefulness o' these new inventions wis a wee bit limited in certain circumstances.

Hooever, I'm no' goin' tae vote for a return o' the "guid auld days." Gin they were ahead o' the present days in ony respect it is because we are no' makin' the best use o' oor advantages. We should learn mair in ten years o' the twentieth century than oor ancestors could in a life-time o' the nineteenth. We're the "heirs of all the ages," as they say, an' besides that, we hae whatever knowledge we could dig up for ourselves, or the rest o' the present generation hae discovered for us. An' knowledge is like money. The mair ye have the

mair ye can get. Ilka thing ye learn opens the door for a dozen ither things. There's na limit tae the increase o' wisdom ony mair than there is tae the increase o' the money that ye hae oot at interest. What's mair, it isn't likely ye'll ever lose it, while as for the money, there's na doot but, sooner or later, ye'll hae to hand it over tae yer nephew or somebody for safe-keepin'.

But that's why I'm glad tae be alive an' weel the noo instead o' endin' my days in the lang ago when "ignorance was bliss," as the sayin' goes. It's better tae ken that ye dinna' ken onything than tae no' ken onything, an' no' ken that ye dinna' ken. We're just aboot at the end o' what ye might call the nine days' stage, when we are beginnin' tae get oor eyes opened tae the things o' the world we inhabit, an' we are gettin' a wee glimpse o' the possibilities an' opportunities that are before us an' the generations that are tae come.

I'll be thinkin' sometimes that I'd like unco well tae stay aroond for the next hundred years or sae an' see what's gaein' tae come tae this auld world in the way o' progress an' development. Maybe I'll tak' a look in, once in a while, gin there's ony chance. It wis juist this mornin' that I heard ma niece Jennie singin' an auld song that I used tae ken when I wis a young chap; an' it's as guid to-day as it wis then, when Jennie sings it, onyway. It starts aff like this:

"It's a bonnie, bonnie warl' that we're livin' in the noo,  
An' bricht an' sunny is the land that we are passin' through."

"That's the tune, Jennie," says I, "stick tae that an' ye'll get oot o' life aboot a' there is in it." "Oh, Uncle Sandy," says she, "are ye no' glad we were na' born a hundred years back. We'd be deid noo," says she.

SANDY FRASER.

## Tapping the Maple to Secure Canada's National Product.

As the March winds begin to be tempered by "Old Sol" and the snow on the Southern slopes disappears there is hustle and bustle in many Canadian homes. At the first signal of "Sap's running" no time must be lost in tapping the trees and putting the camp in order. A few days' delay at the beginning of the season may mean a considerable loss. Within the next few weeks the first harvest of 1917 from Canadian soil will be garnered. It is estimated that the maple industry is carried on by about 55,000 individuals. In a sense, it is a harvest without man having previously sown.

and sugar is reaped from comparatively few of them. There are reasons; labor is scarce and although the maple harvest takes place before the spring work on the land commences, many farmers consider that their time can be better occupied getting in readiness for seeding. Then, too, the equipment necessary to manufacture Canada's national product amounts to a considerable sum. Buckets, kettles, etc., in use a few years ago when help was more plentiful, have passed their period of usefulness and have been relegated to the scrap heap. The price of the manufactured product has not been commensurate with the cost of manufacturing, when labor, interest on investment, etc., are considered. As with everything else, there are good and bad years, and practically as much time is involved harvesting a small crop as with a large. It is in the thickly-wooded districts that the bulk of the syrup is made. A permanent camp is erected and equipment purchased to handle conveniently the sap from thousands of trees. The small wood lot however, will produce an annual cash revenue besides furnishing fuel. It is estimated that less than one-quarter of the sugar maples are tapped, and yet the demand for pure maple products is practically three times greater than the output. It is claimed that the industry has a yearly cash value of \$2,000,000 at the present time, but it is believed possible for Canadian farmers to further increase their bank account by \$4,000,000 every year from the maple woods alone. For a number of years adulterated maple products were placed on the market, but legislation has largely stopped this, and the knowledge that a pure article is obtainable has been responsible for the increased de-



Tapping the Trees.

The winged seeds of the maple tree, falling on virgin soil years ago, took root and have been tenderly nourished by Nature, resulting in the maple groves throughout Old Ontario, and solid blocks of sugar maple woods in Quebec, New Brunswick and Nova Scotia. This harvest of maple syrup and sugar is essentially Canada's national product. With the exception of sugar maples growing on the border States of Maine, Vermont and New Hampshire, Canada possesses the world's supply of maple products. The value of the maple tree was well known to the aborigines of this country and it has gained rather than lost in favor with the passing years.

A large proportion of the production of maple products is in the Province of Quebec, although there are large numbers of sugar maples growing in the other three Provinces previously mentioned. On most farms, even in the older settled districts of Ontario, there is a small sugar bush left but a revenue in the form of syrup

mand of the past few years. The exclusive flavor of the maple product will ever ensure a ready market. For the ten years, 1850-60, the production of maple sugar was estimated at 135,000,000 pounds, and reached 225,000,000 pounds for the ten years from 1880 to 1890, but the amount fell back to 196,000,000 pounds from 1900 to 1910. It is claimed that systematic adulteration was responsible for the decrease in the amount of sugar manufactured. The United States affords an excellent market for maple products, and statistics show that a very large per cent. of maple sugar exported for a period previous to 1912 went to that country. Great Britain, France, South America, Australia and New Zealand now import maple sugar and maple syrup from Canada. This gives some idea of the extent of the industry and of the demand for the manufactured products. Each year sees improvements made in the quality of both syrup and sugar

placed on the market. The improved quality tends to increase the demand.

It is within the recollection of many to-day when maple sugar was used for cooking purposes, sweetening tea, coffee, etc., and took the place of chocolates and other sweets so much in demand at the present time. It was a pure, wholesome product, manufactured on the farm where it was used, but the saccharine substance of the beet and cane has largely replaced maple sugar as a culinary substance. The cheapness of the beet and cane sugar in the past gave them the preference, but under present prices it might be economical and prudent to return to the product of the maple. The majority of people relish maple syrup, and to a certain degree it will take the place of fruit. When syrup is made on a farm, the actual cost per gallon is not seriously considered, and a large amount is stored in the larder for use during the year. However, when it comes to purchasing it at \$1.50 or \$1.75 per gallon, a very small quantity is secured. With the present price of cane and beet sugar and the average price of fruit, it will be found that maple syrup, at the prices previously mentioned, is about as economical as preserves. There is greater reason this season than ever before to utilize home-produced products. The man who has a maple grove on his farm might profitably exploit it during the last of March and the first part of April, if for nothing else than to secure products for home consumption. It is possible that the demand for these products will be keen this season, as it is claimed that contracts for the coming season's syrup and sugar crop are already being closed at prices in advance of those prevalent in the past.

**Tapping the Tree.**

The maple trees may be tapped year after year without apparent injury. It depends on the season as to the proper time for tapping. Some years the weather moderates considerably earlier than others and the flow of saps dependent on increased temperature which causes the sap to rise. A tree located on a southern slope will start to run earlier in the season than one located on a northerly slope, but it is usually noticed that it is also the first to stop. Some trees will yield a larger flow of sap than others. The type of hard maple counted on to be the most profitable sap producer is one that is fairly large, heavily branched, and covered with black bark. It will also be noticed that more sap will usually be secured from a tree growing on gravelly soil than from the same type of tree located on heavy soil, although the latter may produce stronger sap. It is not absolutely essential that the tree be tapped on the south side every year. By tapping on different sides, it gives the bark a chance to heal. A good, live part of the bark, preferably over a large root if one is visible, should be selected for tapping. By use of an axe the rough part of the bark can be removed and using a half-inch or nine-sixteenths-inch bit a hole is bored from one and one-quarter to one and one-half inches into the tree. It is not necessary to go deeper than this in order to secure the sap, as it flows in the outer layers of the tree. It is a mistake to bore a big hole. It is doubtful if any more sap is secured than from a smaller hole, and it takes longer for the wound to heal.

In the olden days, tapping was not done so carefully as it is to-day. Little thought was given for the trees, as they were numerous. A conical spile is driven into the hole and can be made secure enough to permit hanging the pail on it. Care should be taken to have the pails hang level, and to fasten them so they will not tip from side to side. Carelessness in these regards results in a large waste of sap. When the weather is favorable the maple gives of its sap freely, and it is not uncommon to go to the woods in the morning and find a large percentage of the buckets overflowing, partly due to the buckets not hanging level and partly from too small buckets being used. In the modern sugar bush where the highest quality sugar and syrup is manufactured, the sap buckets are covered with a lid to prevent leaves, snow, rainwater, and dirt, getting into them.

It is rather a laborious job gathering the sap and conveying it to the camp if the ground is any way rough or the snow deep. Milk cans or barrels placed on a low sleigh are convenient, and where the ground is level a large threshing tank is sometimes used, although it is not serviceable when the ground gets soft. Some have a small tank built and fastened to a sleigh. It is provided with double strainers at the top and has a tap at the bottom so that the sap can be run directly into the receiving tank at the camp. If building the camp for the first time, endeavor to locate it on the side of a hill, so the sap may be run by gravitation from the gathering tank to the storage tank and from there to the boiling room. The size of the sugar camp will depend somewhat on the size of the evaporator, but a building 12 feet wide and 20 feet long proves quite satisfactory. It is necessary to leave an opening in the ridge of the roof to allow the steam to escape. Some build an arch and use a large, flat-bottomed pan for boiling down the sap. However, the continuous evaporator is the most convenient and is designed to make the highest quality product. If only a few trees are tapped

gallon of standard syrup per tree is considered to be a good run. Reducing thirty-two gallons to one necessitates a large amount of boiling. A good deal of fuel is used which constitutes a large factor in the cost of making syrup. Whatever method is used for boiling down, the sap should be strained carefully to remove all the leaves and dirt. With the evaporator, an automatic feed keeps the sap in the first pan at the proper height, and the process from sap to syrup is continuous. From the first pan of the evaporator the sap is siphoned into another compartment and from there siphoned to the finishing pan, from which the golden-colored syrup is drawn off and strained through a felt filter. The fire and the automatic valve may be regulated to suit the operator, and it is possible to look after the gathering of sap while the process of boiling down continues. With the kettle or open pan close attention is required, and the man who looks after the boiling has little time to gather the sap. While a cleaner, brighter-colored product can be made with the evaporator at possibly a saving in regard to fuel, the lack of this up-to-date equipment should not deter anyone, who has a few trees, from tapping them. Many have made a few gallons of syrup for home use by doing the boiling on the cook stove. It would not take very much time once a day to gather the sap from two or three dozen trees, and, if the men were busy the women folk could look after the boiling, provided it is done at the house.

With the evaporator system there is little need for cleansing the syrup, but where the sap is boiled in the open there is a certain amount of sediment which should be removed. The cleansing is done by placing cool syrup in a small pan and heating it until it reaches blood heat. Two cups of milk are then added to every five gallons of syrup and the whole heated to a boiling point. The heat curdles the milk and the impurities in the syrup attach themselves to the curdled milk, which rises to the surface just before the boiling point is reached and may be skimmed off. The white of egg is also used for cleansing purposes. Felt or flannel cloth should be used to strain the syrup through. In order to secure standard-quality syrup, it is advisable to use a syrup thermometer. When it registers 219 degrees Fahrenheit the syrup is supposed to have been boiled sufficiently. If this is followed from day to day a uniform product is secured. The hydrometer may also be used to determine the point at which syrup has reached the proper consistency. With standard hot syrup, the hydrometer will settle to 30 1/2 degrees, and to 35 1/2 degrees when the syrup is cold. The more the sap is boiled the less the quantity of syrup. Some people take advantage of this and place on the market a thin syrup. By use of the hydrometer it is possible to determine if it is standard or not. Standard syrup is also supposed to weigh 13 pounds 2 ounces to the gallon. Very thin syrup is liable to spoil; in any case containers should be thoroughly cleaned before syrup is put into them, as maple syrup has been known to turn sour.

There is a large demand for maple sugar. This product is not difficult to make after the standard syrup has been taken off. To make the sugar, the syrup is boiled until it reaches a stage when it will granulate when cool. This state may be ascertained by pouring a little in cold water, or on snow. If a thermometer is handy it may be used, and when it registers 242 degrees F. the sugar is ready to be removed from the fire and should be poured into moulds before it becomes too cold. It will require about one gallon of syrup to make nine pounds of sugar.

With proper care sugar-camp equipment will last a long time. Care should be taken to thoroughly clean all utensils in the spring and store them in an absolutely dry place for the summer. Tin buckets and pans soon rust out unless they are kept perfectly dry. A coat of paint may be applied to the outside of the pails, or buckets in order to ward off the ravages of rust and to save considerable labor in cleaning. Maple syrup is a delicacy made in Canada. It can be manufactured on any farm where a few sugar-maple trees are growing. True, it requires considerable labor and time to make a few gallons of syrup or pounds of sugar, but it is usually worth the effort to have a few jars of syrup in the larder.



"Sugaring Off."

the ordinary iron kettles may be used for boiling the sap. They will require a little more attention than when using an evaporator and the product will hardly be as clear.

**From Sap to Syrup.**

It is estimated that it will take about thirty-two gallons of sap to make one gallon of syrup, and it depends largely on the season as to how much syrup can be made per tree. Some years it is considerably more than others, but, taking it on an average, one-half

**Automobiles, Farm Machinery and Farm Motors.**

**Cold Weather Suggestions.**

Quite a number of minor accidents have happened recently, owing to the difficulties incident to travelling over snow drifts, ice, slush, road ruts and water. Every winter is, of course, made up of varying weather conditions, and so the manipulation of an automobile requires an inexhaustible supply of self-confidence. Go slow. This is the principle injunction. Do not, under any circumstances that are at all dangerous, hesitate to stop and start over again. If your car is skidding, slacken the momentum until the condition is relieved. Do not allow the skidding to continue until some peril presents itself. Remember that it is always well to look over the chains on the tires, and make certain that all the links are in an excellent state of repair. The loss of even one chain, in a critical moment, may prove extremely disastrous. Above everything else, remember that it never pays to become nervous or excited.

When the mercury endeavors to get out of the bottom of the thermometer, all glass has a tendency to become extremely brittle, and furthermore, every metal joint

stiffens up to no inconsiderable degree. It is therefore advisable to handle your windshield with extreme care. Do not attempt to push out any section of it, by pressing on the glass itself. Pounding or jerking very often cracks the glass on a windshield when the air is crisp between zero and freezing.

A great many automobile owners do not realize that dry cells are much more inactive in winter than in summer. The proportion of efficiency is about two as to three. If you are using five dry cells in the warm season, you had better add two or three more for winter service.

A great many agriculturists, in fact a large proportion of them, store their cars away during the cold months and frequently make use of idle time to effect certain repairs. If you should have occasion to run your engine, or to use gasoline for any purpose in your garage, it is well to bear in mind that sooner or later some fire may develop. We would recommend that you keep in a handy place, a mixture of about ten pounds of bicarbonate of soda and twelve pounds of common saw-dust. The latter must not necessarily be wet,

but should not contain chips or shavings. Water is no good in cases of gasoline fires, as it only spreads the flames. With bicarbonate of soda and sawdust, the oxygen in the air is excluded, the heat of the flame generates carbonic acid gas, and the burning ceases in a short time.

If you have done your own overhauling and have not entrusted this very necessary work to a repair man, it is desirable, when the job on the motor is finished to give it a thorough test. Under these circumstances, some improvised method of cooling is essential. Just make a note of this. That a five-gallon can placed on a table or other wooden stand, and provided with suitable hose connections, will do the work of the regulation radiator. The connections can be effected without any trouble at all. Then the cooling goes on after the fashion of the ordinary thermo-siphon system. That is, the water heats, rises and drops into the can again, cools and again begins its circuit.

Perhaps some farmers have put their cars away in barns or stables for the winter months. A steady temperature does not affect the paint and varnish on an

MARCI

automol  
so. You  
should a  
near pile  
and the

I  
comes  
to brush  
raise the  
A top t  
rapidly  
to clean  
castle s  
articles  
windows

Brak  
than in  
addition  
ground.  
look wel  
no one s  
Then to  
look at y  
of them  
Some ex  
out with  
the fact  
road in p  
rear tire  
of the hi  
differenc  
to the br  
not grip  
you wish  
suggest j  
wheels ca  
motor, th  
When yo  
action up  
the other  
soon be  
answer to  
more tha

Some ex  
out with  
the fact  
road in p  
rear tire  
of the hi  
differenc  
to the br  
not grip  
you wish  
suggest j  
wheels ca  
motor, th  
When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

When yo  
action up  
the other  
soon be  
answer to  
more tha

automobile, but constant changes are very apt to do so. You must avoid extremes of heat and cold. Farmers should also remember that autos should not be stored near piles of refuse or manure, as the air becomes poisoned and the body finish soon shows disastrous effects.

If you are driving in the winter time and your car comes into the garage covered with snow, do not fail to brush the top as best you can by folding it back. Then raise the top again and allow it to dry in this position. A top that has been folded when damp, deteriorates rapidly and will soon crack and discolor. The best way to clean a top that has become stained, is by means of castile soap and a scrubbing brush. These two simple articles are just as useful in brightening the celluloid windows.

Brakes are much more freely used in the winter time than in the summer because the roads present so many additional obstacles, when snow and ice are upon the ground. We would therefore caution our readers to look well to the brakes. This advice is timely, because no one should ever forget the principle "Safety First". Then too, there is another consideration. If you will look at your rear tires, you will doubtless find that one of them is wearing much more rapidly than the other. Some experts argue that the right rear casing wears out with greater speed than the left rear tire because of the fact that motorists pull out to the right side of the road in passing other vehicles, and thus give the right rear tire rough usage upon the unimproved section of the highway. The greatest reason, however, for any difference in wear upon the rear tires, can be traced to the brakes not being equalized. One brake drum may not grip in exactly the same manner as the other. If you wish to properly inspect the brakes, we would suggest jacking up the rear end of the car so that the wheels can run free from the ground. Then start your motor, throwing in the clutch, and spin the rear wheels. When you apply the foot brake you can readily see the action upon each of the rear wheels. If one stops and the other revolves, the difficulty is easily located and can soon be rectified, and you will immediately secure the answer to your question as to why one tire is wearing more than the other.

AUTO.

### The Disposal of Sewage From Rural Dwellings.

The amount of interest now being taken by rural people in sanitation about the home and the disposal of sewage, indicates that, in time, conveniences will be installed and one of the disadvantages of country life successfully overcome. With the installation of a water system, modern conveniences, such as bathroom and closet, and ample light, the country home offers all the advantages of urban life, without its disadvantages. Anyone who has a home in the country thus equipped has every reason to be thankful, but there are thousands who, if they would apply themselves to the task, could equip their dwellings without any financial embarrass-

ment to themselves. From time to time articles have appeared in these columns explaining systems and various devices whereby sewage from the farm house may be disposed of and rendered harmless to plant and animal life. When travelling through the country, representatives of this paper often observe these systems installed. Sometimes modifications are made to suit conditions, but the owner or constructor of the small sewage plant is almost always well pleased with his work, and the service it is rendering. In fact, we have never heard anyone complain of the efficiency of the septic tank. So useful and fruitful have been these articles that it was thought advisable to present the facts again to our readers at a time when enquiries are more numerous regarding sewage disposal from country homes and schools than they have ever been since the idea was first introduced. The suggestions and specifications presented in this article are not all new, but they will be new to many, and valuable to those who have any thought of making this improvement about their homes. Usually the installation of a water system precedes the bathroom and septic tank, but it has not been long since this matter was discussed in these pages so we shall confine our remarks only to the disposal of farm sewage.

#### The Septic Tank.

One important factor in the decomposition of solids and the disposal of objectionable sewage is the work of bacteria. These organisms transform solids into liquid form, thus facilitating the emptying of the tanks or receptacles placed to receive the discharge from the house. In any kind of a tank receiving the disposal from the waste pipe in a dwelling and retaining it for some time, bacteria carry on their useful work, and it is this feature that makes the septic tank such an efficient medium in the disposal of sewage under rural conditions.

The septic tank shown in Fig. 1 consists of two compartments, and the last compartment where the valve is placed should not be more than three feet, nor less than two and one-half feet deep. For every occupant of the dwelling there should be at least three cubic feet of space in each compartment, and for every cubic foot of space in one compartment, or in one-half the tank, there should be 13 feet of four-inch field tile laid, such as will be explained later. The soil pipe from the house carries the disposal to the large compartment shown in the illustration. Here, through the efforts of bacteria, decomposition takes place and liquids result which are carried over by an overflow pipe into the second compartment. In this part an automatic valve (c) is installed which trips at the proper time, allowing the liquid to flow out into a line of field tile where percolation takes place and the soil swallows up the effluent. It is necessary to have the tile laid on the level, so one part of the area in which the tile are placed may not become saturated when the upper part is dry. In order to accomplish this the tank should be so located that the bottom of the valve in the second compartment will be on a level with the main tile leading to the system of field tile. An overflow pipe connects

the first and second compartments starting 10 or 12 inches from the bottom of the first. As a safeguard, the opening in the first compartment should be protected by a wire screen, the size of a bucket, with a mesh not exceeding three-quarters of an inch. The soil pipe carry-

ing the sewage to the tank should be connected with the closet, bath and sink and extend upward through the roof. In this case it would serve to carry off excessive gases and emit them into the atmosphere high enough so they would cause no inconvenience. Also, in the second compartment a pipe admits fresh air. This passes freely over the partition, space being left between it and the roof of the tank, and out through the soil pipe. The automatic valve is caulked into a four-inch cast iron bend as ordinarily used by plumbers, and which is securely built into the bottom of the tank during construction.

The system of tiles for distributing the effluent to the soil is illustrated in Fig. 2. The laterals or side drains should be field tile with the joints not too closely made. Sometimes the main drain leading from the valve is made of sewer tile, but in any case the laterals should be field tile. These should not be laid deeper than one foot from the surface and not closer together than two feet in light soil, and a somewhat greater distance in heavy soil. They should be laid on the level for reasons already explained. The tank may be constructed of any material which will be impervious to water. Formerly they were made almost entirely of brick but since the advent of cement, concrete has proved quite serviceable. If this latter material is used care should be taken to wash the surface of the walls with a cement wash and make the structure watertight.

In the operation of a septic tank the sewage enters the first compartment through the soil pipe leading from the house or dwelling. Here bacteria operate upon it

and convert it into a liquid form. It flows slowly over into the second compartment and when it has reached the height where the unlocking valve will be released the whole contents of the second compartment will flow out into the system of field tile. As the tank requires from twelve hours to a day to fill it will be seen that the tile will have ample time to empty themselves into the soil before the second flush takes place. To prevent gases from escaping into the atmosphere, a plank floor should be placed on top of the tank and this covered with a layer of soil. When the effluent enters the soil another type of bacteria attack it there and change it into plant food. Vegetation then takes the matter up where the small organisms have left it and transforms the once objectionable sewage into plants edible for animal or man. There are cases where the discharge from the second compartment may be emptied into a system of field drainage, but this can only take place where the outlet of the drainage system is so located that injurious or objectionable results may not follow. It is not necessary to construct the tank similar in every respect to the one illustrated. Levels, lay of the land, and location of house and tank will govern the type. The capacity however must conform with the rules given.

#### A Septic Tank Without Valves.

In the autumn of 1913 a septic tank, such as illustrated in Fig. 3, was constructed at "Weldwood Farm". The outlet is a field tile which empties into a bush about half a mile away. In order to make the decomposition complete so the discharged material might do no harm when so disposed of, three compartments were made in the tank. The principle involved in this construction is similar to the one already described. The tank was built partly of old bricks, because they were at hand, and cement, but there is no reason why a tank built wholly of concrete would not answer the purpose just as well. The tank itself is 5 feet high, 5 feet wide, and 12 feet long, over all. The partitions are four inches thick; the illustration will give the remaining dimensions. The location of the tank is responsible for its depth. Had it been placed farther down the slope, 2 1/2 feet of this depth could have been dispensed with as it was only added to bring the tank to the surface of the ground. At time of construction, from six to ten individuals occupied the dwelling, but the full capacity of the tank has never been required. The soil pipe leading from the house is of sewer pipe and is laid with a fall of about one foot in eighty, the last tile having a sharp dip into the tank. Between the first and second tank a sewer pipe is laid as indicated in the illustration, one end being lower than the other to avoid the scum which is likely to gather on the tank and to prevent any circulation which would be detrimental to successful decomposition in the second tank. After a time in use the first compartment became air-bound and it was necessary to put in a small ventilator, a piece of two-inch piping being used. An iron pipe with two elbows was procured to lead from the second into the third compartment. This proved rather

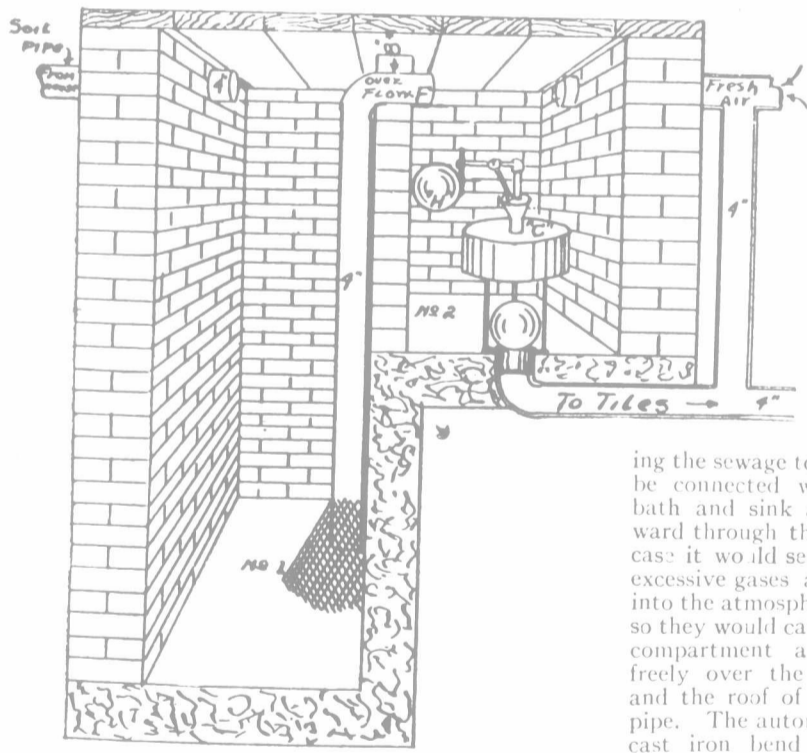


Fig. 1 - Septic Tank with Automatic Valve.

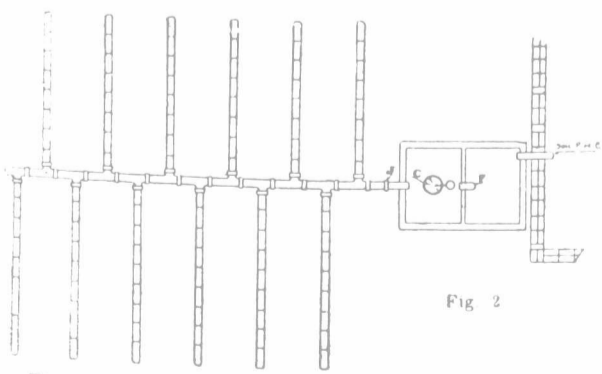


Fig. 2 - System of Field Tile for Septic Tank.

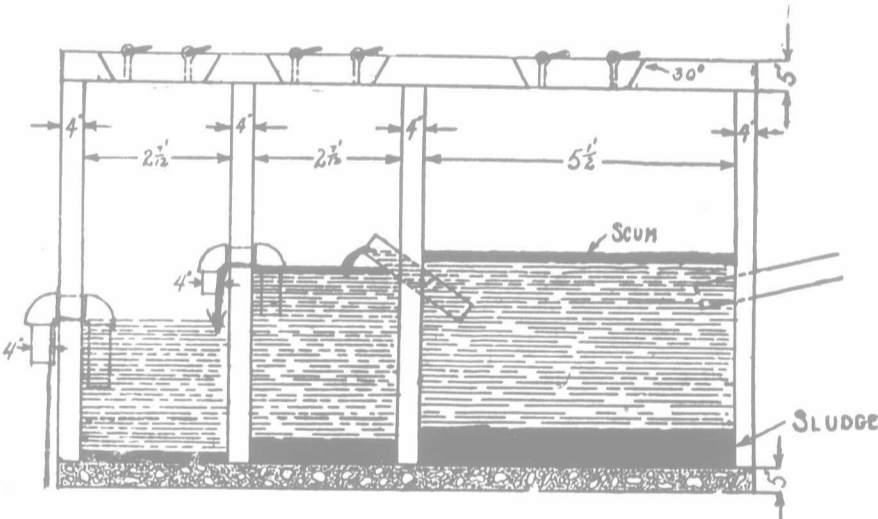


Fig. 3 - Septic Tank with Outlet into Farm Drainage System.

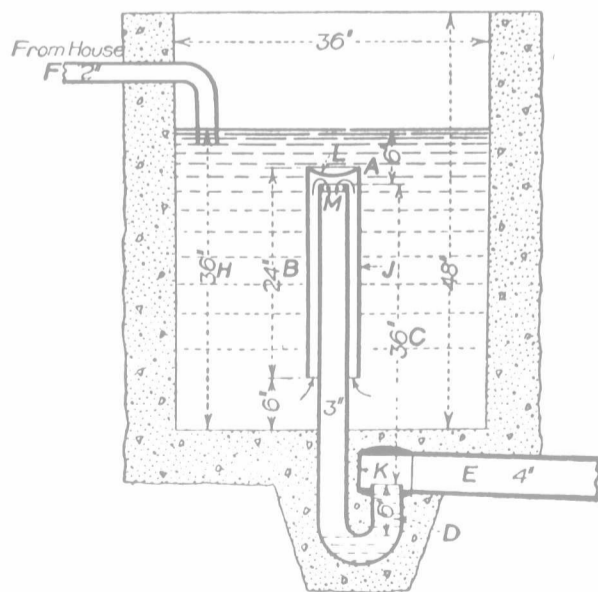


Fig. 4 - Intermittent Syphon for Septic Tank.

expensive and we can see no reason why a sewer pipe could not be used as well to lead from the second to the third part of the tank. The same is true of the last outlet, or the one leading to the field tile. Iron was used in this case but a sewer pipe should be just as serviceable. This tank throughout its period of use has never given any trouble and has been quite satisfactory.

#### Intermittent Siphon for Septic Tank.

In the February 9 issue of "The Metal Worker, Plumber and Steam Fitter", an article appeared explaining a new type of valve which appears very simple and yet capable of doing efficient work. The details of construction of this septic flush tank and siphon to automatically discharge the liquid wastes are contained in the following paragraphs quoted from the article mentioned. Figure No. 4 illustrates the remarks.

"A water supply had been secured for a farmhouse by piping a spring from the hillside above the house. A septic flush tank built for the house is shown here with in section. The tank was made of concrete, 36 in. in diameter and about 48 in. deep. After the excavating in the solid earth had been finished a sheet iron shell was set as a form into the hole and the wall made by filling the cavity around the shell with concrete. This made the wall from 4 to 6 in. thick. Where the 2-in. house pipe F was to enter, a wooden plug wrapped with burlap was built in. This was withdrawn after the concrete had set, thus making the hole.

"The U-tube was set into the central excavation, so that the top open end would be at a height that would bring it 6 in. below the water level, as at A, and the short end of the tube was made of the same length so that A was equal to D. The 4-in. sewer pipe E was then fitted to the short leg of the U-tube and the space around it rammed full of concrete, producing the general section as shown in the sketch. The inverted pipe J, 24 in. in length, was set over the open end. The long leg of this siphon is 36 in., or equal to the distance from the bottom of the inverted pipe J to the top of the overflow from the short end of the U-tube. It is this length C which gives draft to the siphon, and the longer this can be made the stronger will be the pull. To overcome all resistance and have plenty of reserve force, it is best to make the length of this draft leg C equal to and up to twice or three times the lift B, or in this instance 36 in.

#### Design of U-Tube Important.

"Other important features in the design of a siphon for a flush tank are as follows: Make the section K

joining the overflow of the U-tube to the sewer extra large so that the spurting water may fall away rapidly. So important is this point that a patent has been issued on one particular curved top and enlarged connection, to be used for this purpose at K. The siphon operates better where the entrance to the U-tube is made tapering or slightly conical, as shown at M, and the top of the inverted pipe J curves downward, as at L.

"The outside diameter of a 3-in. cast iron pipe is 3.8 in. and the area of a 3-in. pipe is 7 sq. in. The outside area is 11.8 sq. in. and a water passage between J and the U-tube is made equal to the 3-in. pipe, will require the cover pipe J to have an area of  $11.8 + 7 = 18.8$  sq. in. A 5-in. pipe has an area of 19.6 sq. in., so that the cover pipe J must be at least 5 in. in diameter. It is better to make it of 6 in. pipe so as to give extra clearance. The clearance above the top of the closed end of the cover pipe J above the open end of the U-tube should be from 1 to 2 in. This clearance can be made by riveting three 2 in. lugs equally spaced to the top edge of the U-tube and resting the pipe J on them. A tight plank cover should fit the top of the tank.

#### How the Siphon Works.

"The operation of the siphon is as follows: Fill the U-tube with water to the level of the short leg. Then let the tank fill up in the regular way. After the water level rises above the open bottom of J, any further rise will compress the air in J and the long leg of the U-tube. This force will drive the water down the long leg to the level shown in the sketch. When the water level gets to a height so that A equals D, or slightly greater, some of the compressed air in the long leg will blow out of the short leg, siphonic action will begin with a rush, and the tank will be emptied.

"The result will be a heavy flushing of the sewer pipe so as to keep it clean and prevent clogging. Without the flush tank, the long leg of the 4-in. sewer laid on a slight grade to carry the liquid far away into a field or ravine would get clogged from the sediment or solid matter in the slow-running liquid. But with the flush tank the sewer can be kept clean and at the same time only a small water supply need be used. As a general thing, a country water supply begins with the installation of a kitchen sink. Then a bathtub is added, and finally the closet seat is put in. The drainage from such fixtures should have a septic tank."

#### Conclusions.

These three different types of tanks should offer

suggestions to anyone having in mind the installation of a sewage disposal system. In rare cases, as already mentioned, the effluent from the tanks can be emptied into a field system of drainage, but such cases are not common and it is wiser to allow the discharge to percolate into the soil and there, through the services of bacteria, to be transformed into food for vegetation. In this last mentioned type of tank no reference was made to the number of inmates in the dwelling served by it. It should be borne in mind that the larger the tank the less often will it empty or flush. This is a good feature as it permits of a greater degree of decomposition of the solid matter through the action of bacteria and consequently ensures against clogging in the tile and deposition of material that may constitute a nuisance.

#### Poor Gas.

I am asking you to help your friends at getting a standard of not less than 70 per cent. of pure gas to the gallon as the gas we have been getting for the last year has been a very poor sample. We have had to prime the engine three and four times before it would go and then probably it would not go till we pored a tea kettle of boiling water on the carburetor and then cranked some more. I know one man who filled up his tank with coal oil and got just as good results with it as with the gasoline. A neighbor of mine uses coal oil in his gas engine and he says there is no difference between the two as to power.

If we all unite I think we can get a better grade of gas and have a penalty of not less than \$500 for the man who sells anything below 70 per cent. of pure gas to the gallon. The Government should not allow it to be shipped into Canada if it would not test that.

JAS. A. B.

Ans.—On account of the enormous increase in the consumption of gasoline, and because of European war conditions, manufacturers are compelled to cut into heavier distillates than they ever utilized before. Ordinarily good crude oil will produce 25% of 64 gravity gas, but under present conditions, a higher percentage than this must be taken from the oil, and so a product is included that ordinarily would be turned into benzine or coal oil. The Dominion Government has set a standard of 64 degrees gravity on imported gas. The degrees are determined according to the Beaume scale, which is a system of measurement used by oil men. There is no government restriction on the gravity of gas made in Canada.

## Canada's Young Farmers and Future Leaders.

### Would Work 150 Acres Alone.

EDITOR "THE FARMER'S ADVOCATE":

I think a farm of one hundred and fifty acres, with a ten-acre woodlot, the proper size. The reason I choose this size is because I could do all the work myself, except in harvest and haying when a man would be required, but I could trade work with a neighbor who is in the same boat as myself.

The woodlot would be large enough to supply fuel for the house the year round, without decreasing in size, and no cash would have to be expended for coal, as is the case on altogether too many farms this winter. The wood could be cut in lengths and skidded up for the circular saw. This way has become more popular than the "armstrong" way, also your neighbors can exchange work with you, thus saving hiring a man.

Light land is preferable to heavy clay, because it is much easier cultivated, and the wet weather does not hamper seeding operations much. I would grow about forty acres of spring grain, thirty acres of hay, ten acres of corn and roots, and ten to twenty acres of fall wheat. A rotation of pasture, wheat or oats, corn, spring grain again and seed down would be followed, putting the manure on with the corn.

All the grain would be fed to the stock, except the surplus fall wheat, as it gives better returns that way and it goes back to the land in manure.

A gasoline engine is more satisfactory to pump water than is a windmill, and it can be used for many other purposes besides.

About six Shorthorn cows would be kept and the cream sent to the factory. The calves would get the whole milk until three weeks of age; this gives them a good start and eliminates much of the danger from scours. They would be kept until three years old, thus a herd of about twenty-four would be maintained all the time.

Bruce Co., Ont.

J. M. H.

### The Cost of Horse Labor.

EDITOR "THE FARMER'S ADVOCATE":

What does horse labor cost? This depends materially on three circumstances: (1) breeding; (2) character and amount of work exacted; (3) feeder and driver. In the matter of breeding there are the following facts to be considered: (1) conformation or quality; (2) constitution or health; (3) weight and action. These points have much to do with the upkeep of any horse. For instance, we cannot expect the awkward, clumsy horse, which eats and drinks very rapidly, to have the conformation of a horse having clean action. Some horses will eat as long as anything remains in front of them, and when drinking ram their heads down into

the water and gulp it down without a stop from start to finish. I remember in particular a mare owned by my father which did this and she was predisposed to colic. A horse of this class is hard to fatten and hard to keep in thriving condition.

I have read different articles in the "Farmer's Advocate" and in Government agricultural literature on the feeding of stock, and have gleaned from them two principles and have applied these to the feeding of the horses which I worked the past season. Here they are: (1) Don't feed too much hay; (2) Feed only half as much concentrates when idle as when working. I worked three last season, averaging over 1,400 lbs., and during the working period fed them the following ration per day: 3 quarts oats noon and night (approximately 6 lbs.); 3 lbs. corn, morning; 30 lbs. hay per day. Therefore, one week's feed bill per horse would be:

6x6 lbs. oats = 36 lbs. plus 3 lbs. = 39 lbs. at 43c.	
per bushel.....	\$0 49
6x3 lbs. corn = 18 lbs. plus 1½ lbs. = 19½ lbs. at	
74c. per bushel.....	21
7x30 lbs. hay = 210 lbs. at \$15 per ton.....	1.29
	\$1.99

For the corresponding period this year cost would be: oats at 75c. = 81c.; corn at \$1.15 = 46c.; hay at \$15 = \$1.29; total, \$2.56.

This winter's rations are as follows per week:

7 lbs. oats at 75c. per bushel.....	15c.
10 lbs. corn (estimated) at \$1.15 per bushel.....	16c.
35 lbs. hay (estimate) at \$15 per ton.....	26c.
14 bundles corn fodder at .01½c.....	21c.
Total.....	78c.

Estimating the working season to be from April 15 to November 30, there would be 33 working weeks and 19 idle weeks. Therefore the cost per year was:

Work season 33x\$1.99.....	\$65.67
Idle season 19x78c.....	14.82
Total.....	\$80.49

This is using last year's prices for the work season and this winter's prices for the idle season. Estimating an average of 45 hours per week during the work season there were 33 x 45 hours, or 1,485 hours; for the winter season, work hours are 19 x 10 hours, or 190 hours; total, 1,675 hours. Cost of each hour's labor equals \$80.49 divided by 1,675, or nearly 5 cents.

However, as on idle days I cut the grain feed in half, and when figuring charged full amount season through, I think that the price would have been lowered.

Having no pasture made considerable difference in the feed bill. If the team had been composed of three heavy draft mares the feed bill would have been increased 50 per cent., or \$80.49 + \$40.24 = \$120.73. Presuming that each mare raised a colt worth \$75 at the end of the year, the profit on each colt would be \$75.00 - \$40.25 = \$34.75, minus the service fee. If one of the team had been a stallion of the better grade class, valued at \$1,000, and supposing he bred thirty mares at a service fee of \$12, in addition to draft work on the farm, his feed bill would be approximately the same as that of the brood mare—

Income:	
Service fees 30 x \$12.....	\$360.00
Draft labor ¾ of \$120.73.....	80.49
	\$440.49
Cost:	
Feed.....	\$120.73
Insurance, interest and risk per year.....	100.00
	\$220.73

From a novice's figures this looks all right. 'How would it work out on a farm?'

Essex Co., Ont. HUGH CURTIS.  
[Note.—We never heard of anyone getting horse labor done at 5 cents per hour.—EDITOR.]

### The Main Income is From the Dairy.

EDITOR "THE FARMER'S ADVOCATE":

Farm management is the all important problem to be encountered on the farms in the twentieth century. Whether it be an up-to-date farm with comfortably built and conveniently arranged buildings, or one with tumbledown shacks and hard scabble for pasture, it matters not so much, for if the management is not carried to a successful issue, the chances for progression will be small. Giving due regard to the possibilities for unavoidable accidents, the final outcome rests mainly with the manager whether he prove it a success or a failure.

The size of the farm varies with the nature of the proposition, the chance for getting help, and the situation as regards markets or shipping points. In this section where the notion is towards mixed farming, with a strong inclination to specialize in dairying, there should be two men to a farm. On such farms the milking is the greatest hardship, especially if one man has to do it all, but with two men and possibly a maid to help, the work is simplified considerably and the onerous task now becomes a pleasure. Then again, the use of modern



machinery demands at least three or four horses. In fact, the more horses one man can handle at one time, the cheaper will be the cost of production. Think of trying to successfully use modern machinery on a small farm of, say, thirty acres, and make it pay as easily as on a large farm—impossible. The interest on capital, as horses and machinery alone, would be enough to seriously hamper the ordinary small farm, to say nothing about the maintenance and upkeep incumbent to all such equipment.

I should judge a farm of say 200 to 225 acres would suffice to adequately carry out the proposed scheme, but where sheep are kept a few additional acres for pasture could be worked with the same equipment and invariably prove a good investment.

The soil on our farm though at present in a neglected condition, it having been bought only quite recently, is a fairly deep loam, varying in places to a clay loam, with a comparatively porous sub-soil. This we hope, in the course of time and in combination with the stable manure, to bring to a better state of cultivation.

Though at present feeding practically all we grow, we are making a move towards growing pure-bred oats and count on having a certain amount for sale each year. These oats selling for seed, realize a relatively higher price and through this medium we figure on buying more than we grow and thereby increasing the fertility of our soil without practically any real expense.

Being unable to grow alfalfa, we depend entirely on clover and timothy for our better class of roughage. Even clover seems hard to secure year after year, but we believe the oftener we sow it the greater our chance of getting a good crop.

The live stock on a place proves to be the salvation of the farm land, except in some cases where expensive fertilizers are bought, but we hold it is to our interest to buy feed instead and then grow two straws where one formerly grew. Our dairy herd, being practically all pure-bred stock, we have each year a number of good bull calves to offer. These are soon picked up, leaving us a fair margin of profit for our trouble.

Having a fair supply of separator milk, we arrange to feed a few pigs, though we do not depend on making a great deal from them. Hens also come in for a share of milk and we believe it a good place to put it too—probably ahead of pigs and especially if the latter are getting any great quantity.

Our main income then is from the dairy and the sale of live stock, also such products as potatoes, eggs and pork.

P. E. I.

CLOVER LEAF.

Would Make Dairying the Basis.

EDITOR "THE FARMER'S ADVOCATE":

Having lived all my boyhood days on the farm with my father, and being interested in all things pertaining to agriculture, I have often thought how I would manage the farm. Our place consists of one hundred acres, all of which is good working land, with the exception of about ten acres of permanent pasture. The soil, which is a gravelly loam, is suitable for the growing of all grain crops, also ideal for roots, corn and potatoes, the last of which I would plan to plant extensively.

Living as we do on one of the best stone roads in the Province, and reasonably near the city to admit of catering to a whole-milk trade, I would decide on dairying as being the most profitable line for me to follow. Having always worked with pure-bred Holstein cattle, and having a great liking for them, I would plan to have enough of the Black and Whites to supply milk for about four eight-gallon cans daily, which would bring me in well over two thousand dollars a year. This, combined with the proceeds from a few acres of wheat and potatoes, also the sale of pure-bred calves, etc., would make me a good income.

I know, by experience at home, that enough roughage (hay, corn, etc.) can be grown on this land to maintain enough cows to supply this quantity of milk, also have milk over to raise what calves we desired keeping, and to make enough butter for home use. I would expect to have to purchase considerable concentrates. By sowing some land to a soilage crop, together with the permanent pasture and silage, we could manage fine for summer feed.

I would also plan to keep one sow so as to have two litters of pigs to turn off each year. In my own experience I have found that young pigs can be successfully raised, where skim-milk is not available, by adding oil cake to the warm swill or water, and using this in the place of skim-milk. I think it advisable for every farmer to raise enough pork for home consumption at least. One of my chief hobbies would be to raise as much as possible of the foods which we use.

Being a lover of poultry, I think no farm would be completely stocked without its flock of hens, and these should be pure-bred of whatever breed one prefers. I think that hens properly cared for return large dividends on the money invested, not speaking of the luxury of having fresh eggs for breakfast.

As for the horses, which are a necessity on any farm, I would plan to have Clydesdales and think one should have two teams for a farm of this size; also a driver if possible. I think breeding Clydesdales would be good business and would plan to try and raise a colt or two each year.

In speaking of the different breeds of stock I have just spoken of the breeds that I admire, and I well know that "what is one man's meat is another man's poison," so think each man has a right to his own preferences. I have expressed enough views for a boy.

Wentworth Co., Ont.

"JACK".

Beef Cattle Make Less Work.

EDITOR "THE FARMER'S ADVOCATE":

How to manage the farm is a problem that faces the majority of farmers to-day. This topic could not be discussed at a more opportune time than now. I work a one-hundred-and-seventy-five-acre farm; how to manage it with the least work and get good results is what I am thinking about, as there is little or no help available. I have come to the conclusion that I will pasture more and crop less, use wide implements and a three-horse team as usual.

The soil is rather mixed, part being clay-loam, other parts a sandy loam, while there is a field of mostly black muck, which I find excellent for corn. I sow about ten acres of wheat, selecting a piece of clover sod whenever possible, and aim to sow it about September 10. I try to get the plowing all done, or as much as possible, in the fall for oats and corn, as it grows better crops than spring plowing and gives a good chance to keep ahead with the work for the year. I sow about twenty acres of oats as soon as the land is dry enough to work. I seed the wheat land with clover and timothy early in the spring, also the oat land at time of sowing.

Next is repairing fences before the stock is turned out to pasture. I turn the stock out to pasture about May 10. Then comes corn planting time. If the field is grassy I give it a run with the disk, right after seeding, to keep it clean till it is time to get it ready to sow; I say sow, as I always sow with drill three feet six inches apart, about May 24.

Then there is the garden. I plow it in the spring as it is easier to keep clean than when plowed in the fall. It is a nice piece of sandy land. I plant a few early potatoes about May 1, and the other seeds right after corn planting. I plant the late potatoes about June 10 and get better results than when planted earlier. The corn is up and ready to cultivate for the next few weeks, then I cut weeds and hoe and cultivate corn. Now, it is time to start haying, July 1; there are thirty-five acres to cut. I use a hay fork to unload the hay and slings for the sheaves. I try to cut just enough hay each day to keep us drawing in the next, but not more than we can draw in each day. If there is a little too much ready for one day, I will leave two or three loads without mowing, and a load on the wagon which is mowed away next morning before the dew is off. Then I start and cut down more hay while the boy is raking. When we get that done we start drawing in, and in this way with the help of a boy I took off the crop, just having a man five days.

I manage the harvest in the same way, with the exception of cutting which is all done before we start drawing in. I try to manage the work so as to keep everything going, and in this way save much time which is very important in war time, with the scarcity of labor and high wages. I have 100 acres for pasture.

I have beef cattle for the main line of farming, but I practice mixed farming as I think it pays best, for if one line fails you have something else to help you out. Take last year for instance, the man who was depending on his grain crop is the man behind, while the man with some stock for sale had a fair year. I'd keep pure-bred beef cattle, rather than the dairy breeds, as it does not require so much labor to raise and care for them as I let the calves do the milking, which returns a fair profit. I just milk two cows, which keeps us in butter and some to sell; one freshens in the autumn and the other in the spring. I keep one-pure-bred sow which raises two litters a year.

I keep a driver and three work horses, weighing about fourteen hundred pounds each; one of the team being a brood mare. I always break the colts as it pays for they will do a lot of work while growing into money, thus reducing the cost of horse power. I also keep fifty hens.

Elgin Co., Ont.

J. D. G.

Systems of Feeding which Have Given Results with Dairy Cows.

Theoretically a cow in full flow of milk should be fed on a certain class of feeds which are palatable, easily digested, and in which protein and carbohydrates bear a definite relationship. No animal can be fed economically if the ration is not somewhere near balanced; much less the dairy cow. If a stockman is feeding for beef he uses feeds which are known to be high in fat-producing material and that are assimilated by the animal. The dairy cow requires a certain amount of fat-producing feed but she must have a larger quantity of material rich in protein than is necessary for a fattening animal. It is impossible for a manufacturer to make woolen goods out of cotton, so it is impossible for the dairy cow to manufacture milk from feeds which do not contain the material found in milk. A certain amount of the feed consumed goes to sustain the body and it is practically the same whether the cow is producing a large or small flow of milk. It is estimated that about fifty per cent. of the feed consumed is used for this purpose; over this amount goes to produce milk or flesh on the animal body. A great mistake made by some dairymen is underfeeding their best cows. It is the heavy-milking cow that suffers every time. When a cow has capacity to produce seventy-five pounds of milk a day, but is only fed sufficient to produce forty pounds, there is a considerable loss to the dairyman owing to the shortage of feed. It is somewhat difficult to determine the exact amount to feed a cow as it varies with the individual. This necessitates the

Prefers a Loamy Soil.

EDITOR "THE FARMER'S ADVOCATE":

The size of a farm I should want would be one not too large, but what the hired help could be boarded with the proprietor's family comfortably, and not have to have separate boarding houses.

The nature of soil I should want would be of a loamy description, easily worked and free from stone. If possible have some low-lying land, for in a dry season I would not have such a bad shortage of feed. The market would be the greatest factor governing the line of farming. If near a large city market, gardening and dairying would be the principal lines. If near a creamery where butter is made, I would follow partly dairying, raising all good calves, the best heifer calves to keep up the number of cows. I would select those from the best cows; the rest that were worth raising going for beef as soon as in good condition for market, weighing from 1,000 to 1,200 lbs. In this way the cream goes to the factory, the skim-milk raises the calves (supplemented with a little meal), the surplus milk goes to the pigs. Hereby you have three profitable sources of income. The type of stock for this kind of farming would be a dual-purpose breed, the Shorthorn for instance.

I think a flock of sheep would be a profitable addition to the farm. As regards horses, I would have only enough to do the work, one for driving and perhaps a mare to raise colts from.

Hens are a good source of income, if handled rightly, hatching early chickens so as to have the pullets lay in the winter when eggs are high in price. Pure-bred stock are admirable, I think, if it is possible to get them. All kinds of hay, grain, root crops (preferably turnips) and corn for silage would be grown. These can be used to advantage in both dairying and beef raising.

The only way in which roads would govern the line of farming would be in the hauling of cream or milk to the factory. Bad roads would make beef raising the line of farming to be followed there, either by raising from calves or buying feeders and finishing them off in the stable or on pasture. The amount of help or good pasture obtainable would affect this. I know of no way in which the community would affect to any great extent how I should farm.

Compton Co., Que.

FARMER'S SON.

THE DAIRY.

It Pays to Test the Cows.

In order to build up a high-producing herd it is necessary to weed out the boarders. Official and semi-official testing has gone a long way towards building up efficient dairy herds. It is difficult to state just what the value of testing has been to dairymen of this country. That cows with records in advanced registry command a higher price than those not tested, is shown by the results of a sale held in New York State, when ninety-six animals were offered for sale. Only five had advanced registry records and they sold for an average of \$1,945. Twelve were the progeny of advanced registry dams, and they realized an average of \$376. Forty had no records and they brought an average of \$154. There were thirty-nine, the progeny of cows without records, which averaged only \$107. This is a vast difference and it is seldom that it is so marked. However, following the recent sales in Ontario, the cows with records, or the progeny of tested cows, were a ready sale at considerably higher prices than the untested animals.

feeder making a study of each animal in his stable. The cow which only produces thirty pounds of milk does not require the same amount of feed as one producing seventy pounds, but if both are fed alike there is a waste in the one case and in the other the animal is not permitted to produce to a maximum owing to lack of raw material. There is a certain relationship between the milk produced and the amount of concentrates necessary, which serves as a guide, and works out fairly satisfactory in practice. It has been found that for every four or five pounds of milk one pound of comparatively rich concentrates is required. Besides this the animal should have all the roughage which she will consume. There is a vast difference in the quality of roughage and for a dairy cow, silage, roots and well-cured legume hay fills the bill the most satisfactorily. If the cow secures a considerable amount of protein from the roughage it is not so essential that she be fed heavily on high-priced concentrates.

It is generally conceded that the roughages can be grown more economically than the concentrates. Thus it will be seen that the dairyman should endeavor to grow all the roughage consumed by his herd and the aim should be to have plenty of legume hay. If he has, then it will not be so necessary to expend money on concentrates which cannot be produced on the farm. No hard and fast ration can be laid down, as certain farms will grow one kind of feed more advantageously than another. One crop may yield heavily one year

ENDED 1866

installation, as already be emptied, cases are not to percolate bacteria, to In this last made to the l by it. It the tank the good feature sition of the ia and con- tile and de- nuisance.

at getting a e gas to the he last year d to prime ould go and a tea kettle ank some tank with the l in his gas between the

er grade of 500 for the of pure gas ot allow it est that.

A. B.

ease in the ropean war o cut into fore. Ord- 64 gravity percentage o a product nto benzine has set a gas. The ume scale, y oil men. he gravity

ence in the hree heavy ncreased uming that end of the 00-\$40.25 the team valued at t a service arm, his hat of the

\$363.00

80.49

\$440.49

\$120.73

100.00

\$220.73

ht. How

CURTIS.

ing horse

Dairy.

problem to a century, mfortably one with asture, it- ot carried sion will es for un- ts mainly ccess or a

are of the situation is section, with a re should milking is has to do help, the uous task of modern

and another crop fail. This may necessitate the dairyman combining his feeds in different proportions than he would had he had a normal crop. The price of the different feeds must also be taken into consideration, if the stock would be fed economically. There are a number of feeds on the market which are similar in composition but vary in price. The dairyman should choose those which serve his purpose best. When feeding mixed hay, silage and roots, substances rich in protein should be combined in the ration. These may be found in bran, oats, cotton seed, oil cake, brewers' grains, etc. If the roughage part of the ration consists largely of silage and alfalfa hay, some of the proteins can be dropped and possibly a little cornmeal used.

Several dairymen were written to recently in order to find out the kinds and amounts of feed being fed this winter. The replies show that while all did not feed the same kind of ration, practically all fed a fair amount of the highly nitrogenous concentrates and there is more or less of a definite relationship between the kind and amount of feeds consumed and the flow of milk. Some of the lessons which the conditions of the past year impressed upon dairymen are also enumerated.

#### One Pound of Concentrate to Five pounds of Milk.

W. C. Shearer, of Oxford County, has a herd of eleven Holstein cows in milk, which have been giving him very satisfactory returns both in yield of milk and per cent. of fat. These cows are well looked after both in the way of stabling and feed. Mr. Shearer believes in feeding as near a balanced ration as he can. Experience has taught him that in order to secure a large flow of milk it is necessary to feed highly nitrogenous substances and to give the cows a variety of feeds. The roughage this past winter consists of a mixture of two parts silage, one part well-cured clover and one part oat straw, cut finely. This material is mixed once a day and is allowed to heat slightly before it is fed. The roughage is fed twice daily, and two small feeds of alfalfa hay are given besides the silage mixture. The cows are watered three times daily and it is estimated that they drink about fifty pounds each. Morning and night they are watered in the stable, and are turned out in the yard at noon when the weather is at all fine. The concentrate part of the ration consists of a mixture of cotton-seed meal, oil-cake meal and wheat bran. A cow in full milk is fed one pound of a mixture of two and one-half pounds of cotton seed, three pounds of oil-cake, and four and one-half pounds of bran to every five pounds of milk produced. This proportion has been found to give profitable results. Cows that are dry are fed a little cotton seed and oil cake. Mr. Shearer believes in feeding the farrow cow quite heavily so that she will be in good flesh at the time of freshening. Observation has shown that the cow in low flesh when she freshens will never give as high a quantity of milk during the lactation as one which is well fed. It is poor economy to permit the cow not in milk to subsist on roughage alone, unless that roughage is largely of good silage and high-quality legume hay.

On this farm the calves from the best cows are raised. They are fed on new milk for the first four weeks, after that they are gradually put on skim-milk, which they are fed until five months of age. After the calves are a month old, good clean, clover hay is given them to pick at, and a little bran, rolled oats and oil cake is placed within reach. Care is taken to clean the mangers every day. On this ration thrifty calves are raised. When they pass the five-months mark they are put on a yearling's ration.

The past season was rather a trying one for dairymen. It was cold and wet in the spring, followed by prolonged drought which burned up the pastures and greatly reduced the milk flow from the herd which was not fed some form of green feed to supplement the pastures. In this district the need of summer silo or soiling crops to supplement the pasture was forcibly impressed upon dairymen, and it is claimed that many are planning to erect an extra silo next summer in order to avoid being caught with lack of feed another season.

#### 9,000 Pounds of 4.2 per cent. Milk.

R. R. Ness, of Howick, Quebec, has a herd of 150 Ayrshire cows, which produce on an average of 9,000 pounds of 4.2 per cent. milk in a year. This is an exceptionally high yield for so large a herd, and it requires special care and extra good feeding of the right kind of material to keep production up to this high standard. A cow that is giving a fair quantity of milk gets from 30 to 40 pounds of good silage per day and all the clover hay she will consume. Water boxes are built in the stable so that the cows can drink all they want when they want it. In this way the temperature of the water is some what tempered, and there is practically no danger of the cow getting a chill from drinking too much. The concentrates fed this herd consist of sugar-beet meal, bran, oil cake and ground oats. A cow that is in full milk is fed daily 5 pounds of beet meal, 3 pounds of bran, 2 pounds of oil cake and 3 pounds of ground oats. As the lactation period advances the flow of milk is naturally decreased somewhat, and the meal ration is reduced to 4 pounds of beet meal, 2 pounds of bran, 1½ pounds of oil cake and 2 pounds of ground oats. For economical feeding the concentrates are governed by production. The farrow cows are fed silage and a small amount of beet meal and ground oats. If oil cake is reasonable in price, about one pound per day is all that is fed. Mr. Ness has been receiving \$2.40 per hundred pounds of milk this winter, and even at this high price he claims that it is not paying owing to the high price of all kinds of feed. The price of the concentrates fluctuates a good deal, consequently the feeder is more or less working in the dark.

Calves are raised for breeding purposes and are pailed new milk until they are a month old, after

which they receive skim-milk up until they are six months old. Roots, sugar-beet meal, ground oats, bran, and clover hay are given the calves as soon as they will eat them. This ration is found to be exceptionally satisfactory for rearing the young animals.

#### Produces Milk for \$1.10 per 100 Pounds.

A herd of 25 Jerseys, owned by F. H. Silcox, of Elgin County, gives an average yearly production of 7,500 pounds of 5 per cent. milk. The herd has been brought to this average by careful breeding and selection and feeding material which gives the animal every opportunity to produce a large flow of milk. The daily roughage ration consists of 40 pounds of silage, 5 pounds of oat chaff, and all the clover hay an animal will eat. No definite weight can be given for the hay, as some cows consume considerably more than others. This herd is watered outdoors twice a day. Oil cake, rolled oats, shorts and bran comprise the concentrates fed, and the rule followed on this dairy farm is one pound of a mixture of the above feeds for every four pounds of milk produced. However, the amount is slightly varied to suit the individual. If the cow is thin, a little more than one pound is fed, while one that tends to put on flesh has her grain ration reduced. The dry cow receives the same amount of roughage as the milker, and sufficient concentrates are fed to have the cow in good flesh before freshening. Mr. Silcox considers that this is very important. A cow that is dry during the summer is put on the best pasture, and it is generally found that she will flesh up without any additional feed. Without including interest on investment or depreciation in value of buildings, stock, etc., Mr. Silcox figures out that it costs him \$1.10 to produce one hundred pounds of milk. He arrives at this conclusion by figuring that his herd consumes sixty cents' worth of the concentrates mentioned and forty cents' worth of roughage for every hundred pounds of milk produced, and the labor is figured at ten cents per hundred.

New milk is fed the calves the first five or six weeks and then skim-milk is gradually substituted, to which is added flaxseed meal. From eight to twelve pounds of milk are fed twice per day after the calves



Grace Pledge De Kol, 11751.

Butter in 7 days, 25.77 lbs.; milk in 1 day 9.0 lbs.; milk in 7 days, 637.5 lbs.; milk in 1 year, 19,980.5.

are a few months old. Only a tablespoonful of flax meal is fed at the start, but it is gradually increased until a cupful is fed to each calf. A handful of equal parts rolled oats and cornmeal is fed the calves as soon as they will take it.

Mr. Silcox writes that the season of 1916 was the worst year in his fifteen years' farm experience and claims that a continuation of years like the past would discourage him from farming. Lessons which the past year taught were that the man who seeds down a large acreage of his farm every year generally has a supply of feed. Tile draining pays; it enables crops to be sown at the proper time, and tends to hold the moisture during the growing season. It was clearly demonstrated that it paid to get the seed in the ground just as soon as the ground was anyway fit; in fact, some gain that was sown last year before the soil was what might be called in good condition gave heavier crops than that which was put in later. He claims that the past season has been a great stimulant to tile draining in his district and that larger and more outlets are being put in. The ribbing up of land is being practiced and greater interest is being taken in annual pasture crops.

#### Winter Dairying More Profitable than Summer Dairying.

As a general thing the average Shorthorn cow is not expected to give a very large flow of milk, but a herd of seven grade Shorthorns, owned by R. Robertson, of Brant County, has an average milk record of 7,300 pounds to their credit. This is a very good yield, especially, when we consider that two of the number were heifers in their first lactation. The milk from this herd has an average test of 3.8 per cent. butter-fat. All the corn fodder the cows will clean up is fed once daily. Hay is fed twice a day and straw is fed the last thing at night. In the early part of the season one-half bushel of white turnips were fed daily, but later on they were substituted by mangels. This herd is only watered once

a day during the winter and they have to go to a pond for their drink at that. Mr. Robertson feeds bran, cotton-seed meal and oat feed. This latter he purchased from the oatmeal mills at about \$32 per ton. He aims at feeding three pounds of oat feed, two pounds of bran, and two pounds of cotton-seed meal daily to each cow in full milk. The cow which is not milking gets neither bran nor cotton seed; otherwise she is fed the same as a cow in milk, except that the amount of roots is slightly reduced. It is figured that for feed alone it costs \$1.40 to produce one hundred pounds of milk. Mr. Robertson sells milk at \$2.00 per cwt., and if interest on investment was considered, it is clearly seen that he would not receive very big wages for labor entailed in looking after the dairy herd.

As whole milk is sold from this farm, there is no skim-milk with which to feed the calves. However, a number are raised each year and the method followed is to feed about 6 ounces of calf meal to a small quantity of new milk. If skim-milk were available the proportion would be 6 ounces of calf meal to 4 quarts of milk. After the calves have taken their drink, about three quarts of a mixture of crushed oats and bran are put in the pail for them to pick at.

Owing to the scarcity of help it is believed to be more profitable to have the cows freshen in the fall than in the spring, so that the large flow of milk is during the winter when other work is slack. Mr. Robertson claims that if sufficient could be received for the milk to make it more profitable, the cow is a good medium through which to market the rough feed grown on the farm and yet maintain the soil fertility. Dairymen in that vicinity realize that milk is the cheapest food at present, and an effort is being made to have milk prices increased so that dairying will be more profitable. There is an increasing number of farmers aiming at having the heavy milking season in the winter. However, there are a few who are going out of dairying to a certain extent in order to reduce the work during the summer.

#### Alfalfa Hay Aids in Reducing grain Ration.

Dr. Cline, Middlesex County, has a herd of 45 Holsteins which are giving very good returns. Weighing and testing are not followed at present, consequently

no accurate figures are available as to the exact average production. The daily ration of roughage consists of 40 pounds of silage, 25 pounds of a mixture of alfalfa and clover hay, and 10 pounds of pulped roots per cow. This herd has water before them all the time. A cow giving a large flow of milk is fed 8 pounds of a mixture of barley, oats and corn. This amount is gradually reduced as the cow advances in lactation. The cows that are dry receive no concentrates, but are fed the same roughage as the cows in milk. It is estimated that on the feeds mentioned 100 pounds of milk is produced on every dollar's worth of feed. This is considerably lower

than estimates given by a number of dairymen. The calves are fed whole milk for a short time, then skim-milk and a mixture of flax-seed meal, rolled oats, corn chop, alfalfa and fine hay. They do very well on this feed. The fat of the milk which is removed by the separator is partially made up by the flax-seed meal and corn chop.

For a considerable time Dr. Cline has had an idea that there was little money in growing oats. With the experience of the past year he is now convinced that the oat crop is a losing game for the dairymen, and suggests growing more corn, clover and roots. He is also a firm believer in alfalfa and sweet clover as a farm crop. Of course alfalfa will not grow on all farms, but where it has not proved a satisfactory crop sweet clover can be grown. On account of the shortage of grain and the high price of same, the herd has been fed heavily on alfalfa and red clover. With good silage and roots added to the hay a minimum amount of grain can be fed with satisfactory results to the average herd. If records are being made then it is essential that the cows be fed quite heavily on grain.

#### \$101.85—Average Gross Returns for a herd of 25 Cows.

A herd of 27 grade Shorthorns, which included seven two-year-old heifers and three three-year-olds, owned by Wm. Anderson, Middlesex County, produced an average of 5,758 pounds of milk in 1916. The average per cent. of fat was 3.85. The test varied from 3.3 in June to 4.4 in November. One dollar and seventy-seven cents was the average price received for 100 pounds of milk. This figures out to \$101.85 per cow for the year. In 1915, when milk was selling at \$1.51 per cwt. the cows gave a return of \$93 per head. The herd runs on ordinary pasture during the summer, but when the grass becomes short, grain is fed in the stable. The winter feed consists of timothy hay in the morning, straw at noon, and alfalfa hay at night. The grain part of the ration consists of two parts of shorts, one of

wheat bran and one of cornmeal, mixed and fed three times per day, each cow receiving about two quarts of the mixture at a feed. The dry cows only get one quart of concentrates twice a day, but receive the same roughage as the cows in milk.

The calves which are raised are fed new milk for a couple of weeks, then skim-milk is gradually added. A little oil-cake meal is also fed with the skim-milk. As soon as the calves will eat, dry oats and hay are fed. The past season demonstrated that if possible it is advisable to grow a big crop of corn.

From the foregoing it will be seen that legume hay and silage constitute the bulk of the rough feed in the ration, and in each case an endeavor was made to regulate the amount of grain according to the milk flow. One dairyman aimed at one pound of grain to four of milk, while another one feeds one pound of grain to five of milk. In many cases the individual cows in the herd are studied in order that feeding may be done to the best advantage. This necessitates weighing and testing the milk. In this way the dairyman knows exactly where he is at. There is a considerable difference in the estimates of the cost of producing milk. This variation may be due to slightly different methods of figuring up the cost. Some figure in the interest on investment, depreciation, labor, etc., consequently the cost is higher, but nearer the actual mark than those who figure only the feed. The more expensive the land, buildings, and stock, the greater the interest amounts to. Expensive buildings are an asset to the farm in many ways and yet they have not the earning power in comparison with a less portentous, yet efficient, barn or stable. The returns, after paying for the feed consumed do not by any means give the net profit from a dairy herd; labor, interest, depreciation, etc., mount up almost to the price of feed, and in some cases exceed it. These must be considered together with the feed, before a net profit can be shown. The way to greater profits is through producing more of what the farm will produce best and feeding that to cows that have capacity for large production. The characteristics of every cow in the herd should be known. The raising of calves is rather a vexed question with some dairymen, especially those who dispose of whole milk. Where skim-milk is available the problem is less difficult. Rolled oats, oil cake and good legume hay are used largely with skim-milk for raising calves of all breeds. It is essential that the mangers and pens be kept clean. The calf must be kept thrifty and steadily gaining from the time it is dropped until maturity. Different systems of feeding may be followed with equally satisfactory results.

**Large Crowds Attend the Huntingdon Dairymen's Convention.**

The thirty-fifth annual Convention of the Huntingdon Dairymen's Association was held in Ormstown, Quebec, the last week in February. The Convention was largely attended and the sessions were very interesting. Prof. H. Barton, Macdonald College, gave an address on farm management, in which he emphasized the fact that the tiller of the soil should study how to get more out of his land without impoverishing it. A study should be made of the crops grown on the farm and an endeavor made to produce those that will grow best, and, if feed had to be purchased, buy that which could not be grown economically at home. Prof. Barton also discussed the horse industry and claimed that while there was evidently a fight on between the horse and tractor power, farmers could do something to help the horse and also themselves by giving the horse a greater place in farm work. Production may be cheapened by the use of efficient horse power. Labor and machinery is a bigger factor in the cost of a gallon of milk than is land. The speaker believed that more horses could be used to advantage on many farms, especially in the preparing of the ground for spring seeding. The soil must be cultivated and put in good tilth if a maximum crop is to be received. Prof. E. O. Fippin, of Cornell College of Agriculture, Ithaca, N. Y., gave an address on underdrainage and soil tillage, in which he pointed out the great benefit accruing from the use of farm drainage. Among other speakers on the occasion, were: J. A. Robb, Valleyfield, and Andrew Philip, Huntingdon. The board of directors elected for the ensuing year were: A. Asept, Valleyfield; Neil Sangster, Ormstown; D. A. McCormick, Allan's Corner; John McDougal, Ormstown; Hector Gordon, Howick; M. M. McNaughton, Huntingdon; D. Pringle, Huntingdon; G. Bustard, Vicars; R. T. Brownlee, Hemmingford, and George Tennant, of St. Louis de Gonzague. The board of directors elected D. H. Brown, of Beith, as President; R. R. Ness, Howick, Vice President; and W. F. Stephen, Huntingdon, Sec.-Treasurer.

**HORTICULTURE.**

**Light Crops and Their Causes.**

At the Fruit Growers' Convention held recently in Toronto, Prof. W. T. Macoun, Dominion Horticulturist, Ottawa, read an interesting and very carefully prepared paper on "Light Crops and Their Causes." Space will not permit of its full reproduction here, but we shall endeavor to set forth a few of the points mentioned. The speaker at the outset declared that he could not assure anyone good crops every year by following certain methods, as there are certain conditions such as the weather, which are beyond our control; and while we may by the use of fire pots ward off frost at the critical time, practically no means has yet been devised

of preventing rain or making very cool weather warm, or of causing rain in time of drought, these being important factors in fruit production. The season previous to the light crop may have an important bearing on that crop. It is not yet fully understood as to what are the climatic conditions most favorable to the development of fruit buds, but it is known that most of the fruit buds are formed in June or July of the year before the crop. If the trees therefore are defoliated by caterpillars or apple scab, or foliage injured by other insects or diseases, it should not require any great effort to believe that there could not be the same development of fruit buds as if the leaves of the tree were all healthy and remained on the tree all summer. Nor is it hard to believe that even if buds develop sufficiently to form flowers that the buds might not be in a vigorous enough condition to ensure the setting of the fruit. Before taking up the subject in detail, Prof. Macoun gave a list of some of the things which affect the setting of fruit. They are: (1) The condition of the trees and the weather the previous year. (2) Winter injury to fruit buds. (3) Temperature and humidity at the blossoming season. (4) Pollination. (5) Soil moisture immediately after the blooming season. (6) Fertilizers. (7) Diseases. (8) Insects. (9) Thinning. (10) Summer Pruning. (11) Spray injury.

In regard to the season previous to the crop, and the condition of the trees at that time, Prof. Macoun made reference to experiments carried on at Ithaca, New York, showing the importance of having vigorous spurs, which cannot be obtained without good foliage. The figures from this source showed that the largest fruit spurs set the largest proportion of fruit; that the largest number of flowers in a cluster was on the largest spurs. They also showed that the largest conducting tissues or channels, through which the sap flows were in the largest spurs, making it evident that the spurs through which there could be the best flow of sap set the largest number of fruit. Not only is it important to have the large fruit spurs, with good sap-conducting tissue, but it is important to have an abundance of moisture available in the soil when the trees are in bloom and the fruit is setting.

**Winter Injury to Fruit Buds.**

Comparatively little is known in regard to winter injury of fruit buds, though light crops of peaches are often rightly attributed to weather conditions, and there is evidence to show that the fruit buds of such hardy fruits as apples and pears may be badly injured even though the tree is not killed back. The winter of 1910-11 was a very severe one in Montana and the Agricultural Experiment Station there made a special study of the fruit buds of apples and pears and found a large percentage killed. When the buds thawed out there were very high winds which apparently prevented the sap, which had been withdrawn from the cells into the intercellular spaces during freezing, from returning, as the high winds evaporated it. There were 98 per cent. of the buds of Whitney Crab killed and 94 per cent. of Transcendent Crab killed. In the spring the leaves pushed out from the fruit spurs but no blossoms developed. The cause of light peach crops can often be traced to sudden changes of weather in winter, when the temperature goes considerably above freezing and then suddenly there is a hard freeze.

**Unfavorable Weather in Spring.**

Perhaps one of the commonest causes of short crops in some places is unfavorable weather at the blossoming season, low temperature and rain making very unfavorable conditions for the setting of fruit. Quoting from Bulletin 299 of the New York Agricultural Experiment Station, the speaker related how late frosts ruined the fruit crop in Western New York in 1889, 1890, 1895 and 1902. Several crops between 1884 and 1903 were seriously damaged by killing frosts, and fruits were injured at blossoming time by frosts in thirteen years out of twenty-five under consideration. Wet weather almost wholly prevented the setting of fruit in New York in seven different years between 1881 and 1901. Rain is mentioned as one of the causes of the poor setting of fruit in seven different years between 1888 and 1905. Another quotation from the Bulletin mentioned reads as follows: "Rain, and the cold and wind, which usually accompany it at blossoming time, caused the loss of more fruit than any other climatic agencies. The damage is done in several ways. The most obvious injury is the washing of the pollen from the anthers. The secretion of the stigmas is also washed away, or becomes so diluted that the pollen does not germinate. It is probable that the chill and rainy weather decreases the vitality of the pollen and an excess of moisture often causes pollen grains to swell and burst. Rain also prevents bees and insects from carrying pollen."

F. Adams, of the Botanical Division at Ottawa, found by experiment that there was only slight germination of apple pollen, and the pollen tube only partially developed, at a temperature of 40 to 44.3 degrees F., and the most favorable temperature for the germination and development was from 69.8 degrees F. to 73.6 degrees F. Prof. Sandsten, of the Wisconsin Experiment Station, found the best temperature for the germination of apple pollen to be 75.2 degrees F., while Prof. Kraus, of Oregon, states that 65 degrees to 83 degrees F. may be considered most suitable for the majority of tree-fruit pollen. It will thus be seen that should the temperature run pretty regularly below 70 degrees F. during the blossoming season, fertilization is not likely to be good. Extensive experimental work has shown that not only is moderately warm weather necessary during the blooming period but that bright sunny weather is desirable also, and a long spell of cool, wet weather,

beginning when the flowers are opening, is very unfavorable to pollination.

In addition to the cool, wet weather, unfavorable to the germination of pollen, and unfavorable to fertilization, there may be frost. Fruit blossoms in bud will stand more frost than when they are fully opened. When the petals fall less frost will cause injury than when the trees are in full bloom. From 5 to 7 degrees F. of frost are likely to cause severe injury to apples when in full bloom, and after the bloom has fallen, from 4 to 5 degrees may do much harm. Much depends on the length of time the flowers are frozen, and on the weather following the freeze. If the flowers have been injured by frost an examination after the petals are open, if the frost occurs when they are in bud, will reveal the centre of the flower or pistil discolored or brownish. The fruit will not set when flowers are injured in this way. The frost may, however, come after fertilization has taken place when the fruit may set.

Reference was made by Prof. Macoun to orchard heaters, which have been used on the Experimental Farm at Ottawa. These fire pots have produced results, and they made considerable difference in the temperature inside and outside of the area in which they were used.

**Cross Pollination.**

Experiments have shown at Ottawa that a large proportion of varieties of apples are self-sterile, or practically so, and need pollen of another variety to ensure the setting of fruit. In 1915, for instance, of 29 varieties tested only 5 varieties set any fruit at all, and only one was decidedly self-fertile, whereas when 13 of the same varieties were cross-pollinated only two failed to set fruit. Most of the pollination of apple blossoms is done by insects. Hence it will be readily seen that if the weather is unfavorable for insects to work, fertilization is not likely to be good. Some varieties of apples though self-sterile in one place do not appear to be so in another, and this is being studied in order to learn the cause. From observations at Ottawa, Prof. Macoun was led to believe that the stamens, which bear the pollen, mature quicker in high temperatures than the pistil; hence pollen of a variety might be shed before the stigma was ready. The pollen and pistils of some varieties may mature at different temperatures to others. To be sure of the best condition for cross-pollination it is desirable to have varieties beginning to bloom at the same time in the same orchards, and preferably have the rows alternating or say two rows of one variety to four of another, so that in case there is only a limited time when conditions are favorable for insects to work they will lose the least amount of time in pollinating.

**The June Drop.**

Comparatively little is known yet as to the cause of the June drop of apples, which in some years is very heavy. This may be due to only partial fertilization, the pollen tube having germinated but failed to fertilize the ovary. It may be due to unfavorable weather, or soil conditions which check the growth of the trees, causing a certain proportion of the fruit to drop.

**Soil Moisture at Blooming Time.**

The importance of a good supply of moisture in the soil when the fruit is setting was noticed at Ottawa in 1911, when there was a very hot, dry time from the blossoming season until well on into the summer, and a relatively small crop set. It is important to plow a cover crop under early, and start cultivation early in order to conserve moisture at that critical season of the year, in case there should be a dry time later.

**Fertilizers.**

Little was said in regard to the value of fertilizers in obtaining good crops, as the results from the use of fertilizers might be quite marked in one orchard, while in another where the soil was somewhat different it might be difficult to find any marked advantage in their use, but when it is known what kind of plant food the soil really needs the results may be quite striking.

**Other Factors.**

With regard to injurious insects and diseases, the speaker said: "I shall refrain from saying much about the loss of crops, by fruit not setting, due to apple scab and other diseases and insects. The loss is doubtless very heavy, particularly in some seasons."

With reference to thinning and pruning, Prof. Macoun remarked: "So far as I have been able to find, no marked difference in the crop has been obtained by thinning, or methods of pruning in previous years, although no doubt they have some influence."

In connection with spray injury, it was stated that drenching the trees with very strong, or improperly made spray mixtures, may cause such injury that the fruit will not set well. It is desirable to use the materials and formulas which have been tested and found satisfactory.

**Results at Ottawa.**

At the Experimental Farm at Ottawa records have been kept of the yields in gallons of each individual tree in the orchard since 1898, or for nineteen consecutive seasons. Very complete records have been kept with regard to the date and amount of bloom, temperatures, sunshine, rainfall, etc. In the eighteen seasons from 1899 to 1916 inclusive, there has been a relatively light crop of some varieties every alternate year; there being one exception in the year 1905. This would seem to prove that most varieties are alternate bearers but on consulting the records there appear to be good reasons for most of the light crops in most of the years. Thus, in 1899 the maximum temperatures ranged between 58 degrees and 61 degrees, when the

flowers were opening, and it rained on four consecutive days. In 1901 the maximum temperatures were below 60, and it remained at that for four consecutive days during the blooming period. In 1903 the weather was excessively hot during the blooming time, the temperatures ranging from 82 to 91 on six consecutive days, and the ground was very dry. The exception to the regularly alternate off-year came in 1905, when there was a good crop generally, but it was found that the maximum temperatures ranged between 70 and 80 degrees most of the time, being quite favorable for pollination. In the year 1907 the bloom was very late and the maximum temperatures ranged from 57 degrees to 67 degrees in the first and second week in June when the trees were in bloom, and beginning in May and ending June 10 there were sixteen consecutive days when it either rained or was cloudy. In 1909 while the maximum temperatures were above 70 in most of the blooming season and the weather clear, the blooming season was late and weather was unfavorable for growth in June, which may have prevented the fruit from developing. In 1911 it was very hot and dry in the blooming season. Maximum records of successive days, beginning May 18, being 86, 82, 92, 94, 94 and 87 degrees. It was an early blooming season in 1913, but when the flowers began to open the temperature fell and between May 8 and May 22, when most of the bloom was, there were nine days when it was below 60 and frost was reported on four nights. In 1915 the maximum temperatures ranged from 49 to 67. On four days it was below 60; once it went up to 77 during the blooming period. Frost was recorded on one night. This was an unfavorable season for the setting of fruit in many places in Ontario. The years 1900, 1902, 1904, 1905, 1906, 1908, 1910, 1912, 1914, and 1916 were all favorable for the setting of fruit; the temperature being sufficiently high but not exceptionally high, and the weather being clear most of the time.

Prof. Macoun's deduction from the foregoing data was: "It will be seen that the alternate bearing, which at first glance might be thought to be due entirely to heredity or constitution is really a coincidence and that it was caused mainly by the approximate alternate favorable and unfavorable weather conditions at blooming time, or possibly during the previous winter. It is true that the bloom has not been so heavy in these off years, but there is usually some bloom, and in a season favorable for pollination fair crops have been attained when the bloom was relatively light." A quotation from the summary of observations made at the Woburn Fruit Experiment Station in England bore out Prof. Macoun's conclusions in this connection.

While practically every alternate spring at Ottawa has been unfavorable, yet good crops have been obtained fairly regularly from some varieties. The reason for this given was, that a large proportion of the varieties now grown at Ottawa are very hardy, and the flowers probably are able to withstand adverse climatic conditions better than the more tender sorts.

#### Advice to Planters.

For the man who intends planting an orchard the following advice was given:

Plant on a slope where there will be a good circulation of air, avoiding pockets and flat land where frost will settle. In blooming time the temperature on the slope may be ten degrees higher than that on the level, and even if there is no frost, the temperature on the level may not be high enough to ensure the germination of pollen and fertilization.

Plant at least some of the hardiest varieties of apples, so that these may be depended upon in unfavorable seasons to give a medium to good crop.

Plant varieties which have the same blooming season alternately, say two rows of one and four of another.

Keep bees to aid in pollination, so that the greatest advantage may be obtained from a short favorable period in a generally unfavorable blooming season.

When trees are old enough to begin to crowd, prune severely to admit sunlight and air, or take out some trees altogether.

Spray thoroughly every year to reduce to a minimum the loss from injurious insects and fungous diseases and ensure good foliage and a good development of fruit buds.

Begin to cultivate as early in the spring as possible to conserve moisture where there is any danger of too little moisture in a dry time.

Keep up the fertility of the soil. Trees with insufficient available plant food will not set as much fruit as those with a regular and good supply.

## POULTRY.

### The Making of an Egg.

EDITOR "THE FARMER'S ADVOCATE":

If a pair of fowls produced ten fowls, five males and five females, in one year, and if these five pairs each produced likewise five pairs the second year, and if this rate of multiplication continued for fifteen years, there would be produced 61,035,156,250 fowls. This rate of multiplication is normal and the result gives some idea of the stupendous power of reproduction, which is a process whereby new though similar individuals are generated from parent forms, thus ensuring the perpetuation of the species.

In most of the higher forms of life, including the fowl, the mode of reproduction is complex. The organism is composed of many cells, varying in kind and structure,

one group of cells forming one kind of tissue and another group of cells another kind of tissue. Each variety of tissue is especially fitted for performing one function, such as reproduction by the reproductive tissue. This reproductive tissue exists in the form of definite organs and these give rise to the formation of germ cells. There are two kinds of germ cells formed, egg cells in the female ovary and sperm cells in the male testis. Among fowls and other higher forms of animal life one group of individuals form egg cells only and such individuals are called females, while another group form sperm cells only and these are called males.

In order that reproduction may proceed, to give rise to new individuals, there must be a union of an egg cell and a sperm cell, and the product resulting from this union is a fertilized egg cell. The process involved in the union of the egg cell and the sperm cell is known as fertilization. The fertilized egg cell gives rise to a new individual and thus the reproductive life cycle among fowls becomes completed.

It is generally understood that "like tends to beget like" in all forms of life. It is never expected that the egg of the turkey would develop into a gosling or that the egg of the chicken would develop into anything other than a chicken. This conception of specific organization was not always held, for Aristotle believed that eels were generated from mud and slime. The writer well remembers that when a lad he used to pull the hairs from a horse's tail and place them in water in the belief that they would generate into small snakes. The belief that living material might be generated from non-living material gradually became restricted however, until through the demonstrations of Pasteur and Tyndall it was shown that even the lowest forms of life developed only from pre-existing similar forms.

Which came first, the hen or the egg? Doubtless the great majority to whom this question is put will state that the hen came first, arguing that the hen was necessary to produce the egg. We shall see. The body of the fowl is composed of two kinds of cells, the body-cells and the germ-cells, the egg is the germ-cell while the hen herself comprises the body-cells. It is quite natural to assume that it is by means of the egg that the hen is enabled to reproduce herself. This is the old conception of the relation between successive generations, which is that the hen produced the egg in order that a chick might be generated. The egg was considered the medium of development. Such is not the case, however, for we have already noted that before a chick can be generated there must be an egg; that is, the egg is responsible for the development of the chick. The egg came first. The answer to the question is well stated by Samuel Butler: "It is not to say that the hen produced another hen through the medium of an egg, but to say that a hen is merely an egg's way of producing another egg."

It is not intended, however, that this article should be a discussion of biological problems but rather a discussion on the manner in which eggs are produced. The hen has been called a manufacturer, because she takes the raw products—grains and other foods, and makes them into the finished products—flesh and eggs. The foods are changed into new materials which are absorbed into the body; some of these new materials are used to carry on the various functions of the body, some are used to keep the body warm, some are used to build up the tissues and to keep them in repair and some are used to make eggs. The organs of the fowl used in making eggs are the reproductive organs, the ovary and the oviduct.

The ovary functions in the formation of the egg cells and these pass through the oviduct where various substances are secreted before the egg is laid. Although both right and left ovaries are formed in the embryo, the left ovary alone functions in the adult since the right ovary degenerates and dies in the early life of the chick. The ovary is attached to the wall of the body-cavity and lies in front of the left kidney. The oviduct is a large coiled tube, about two feet long, extending from the region of the ovary to the cloaca. Throughout its length the oviduct is attached to the wall of the body-cavity. It is divided into five main parts, the funnel, the albumen secreting portion, the isthmus, the uterus and the vagina.

In the ovary the egg-cells first appear as very small bodies called oocytes, and if a hen were killed while in a laying condition there would appear in the ovary a large number of oocytes of different sizes, looking much like a cluster of grapes. There appears to be a far larger number of oocytes in the ovary than ever develop into eggs. In an examination of fifteen hens, Pearl found from 914 to 3,605 visible oocytes present, and with the aid of a microscope, 13,476 were found in one ovary.

Each oocyte is enclosed in a lining called a follicle and as the oocyte increases in size a white streak appears on one side of the follicle. This white streak is called the stigmata. On the completion of growth the oocyte becomes an ovum. When the ovum reaches the size of the follicle it escapes from the ovary through the rupture of the follicle along the stigmata. The purpose of the stigmata, therefore, is to allow the ovum to escape from the ovary to the oviduct.

The ovum of the fowl is comparatively large and is round in shape; it becomes the yolk in a fully-formed egg. Although the ovum is so large it is a single cell, the yolk-mass being composed of a large number of spheres which serve as nutrition for the embryo.

At the time the ovum escapes from the follicle it is enclosed in a lining called the vitelline membrane and upon escaping the ovum is grasped by the funnel of the oviduct. During its passage down the oviduct it rotates in circles and is surrounded by layers of albumen secreted by the glands of the oviduct.

While the egg is in the albumen secreting portion of the oviduct a special layer of albumen is secreted which

adheres closely to the vitelline membrane of the egg and at each end of the egg it appears in a twisted form like a strand. These strands of albumen are the chalazae and they may be seen in a fresh egg if broken out of the shell.

The ovum is forced down the oviduct through peristaltic action and more albumen is secreted. The further down the oviduct the egg passes the thinner the albumen becomes until the albumen last secreted is quite watery.

As the egg passes through the isthmus of the oviduct two linings are secreted which enclose the albumen and the yolk; these linings are called the shell-membranes.

From the isthmus the egg passes through the uterus where more albumen, which passes through the shell-membranes, is secreted. There is also secreted in the uterus the shell and this completes the formation of the egg. Upon being completely formed the egg leaves the oviduct and is laid. The time required for the passage of the egg through the oviduct is generally from twenty-one to twenty-seven hours.

Maedonald College, Que.

M. A. JULL.

## FARM BULLETIN.

### Why not Elect Farmer Representatives.

EDITOR "THE FARMER'S ADVOCATE":

In a recent editorial you have asked a very pertinent and essentially startling question: "Why do audiences composed, at least partly, of farmers swallow in silence such insulting slush?"

Who can answer your question? I cannot; but I will put another: Why do farmers send men of other professions to represent them in legislative bodies? Recently there was a bye-election in a rural Ontario constituency, in which a farmer ran against a lawyer. The lawyer was elected. Possibly the farmer voters did right in this particular case. I do not know; but I do know that there are relatively few farmers in the Ontario Legislature; and I have a fairly well-defined opinion that under such circumstances Ontario farmers will not—cannot—get their just due. We need not question the good intentions of our lawyer representatives; we need only recognize that they cannot rightly understand the real needs of agriculture, and that they are liable to prescribe the very worst treatment for any social diseases which may exist. How long will our farmers be content to "go back and sit down" and take their medicine quietly? How long will they allow the "other fellow" to decide their questions for them? Industrially the farmer pays what he is asked for commodities that he buys, and takes what he is offered for what he has to sell. Politically he lets the "other fellow" do his thinking and deciding for him, and consequently has no say in railway rates or a hundred other questions which vitally affect his interests. Surely there is much truth, and very unpleasant truth to us, in the following statement of a recent writer:

"The tiller of the soil is, politically, an ass. From time immemorial he has been the human ox. He has bowed his neck to the yoke. He has borne the labor burden of the race. He has been driven in the furrow. He has at all times produced food and raiment in great quantities. Out of this he has been permitted to retain food, raiment, and shelter for himself and his family. The remainder of his production, and much the greater part thereof, has been taken from him without his receiving any adequate return therefor."

Were this generally believed and understood we should not need to ask the questions at the beginning of this letter.

Brant Co., Ont.

W. C. GOOD.

### The Lambton County Stock Sale.

The initial sale of the Lambton County Live Stock Breeders' Association was held at Petrolia, on Wednesday, February 28. A few horses were offered as well as Shorthorn, Angus and Holstein cattle. It was thought desirable, at a late date, to hold a sale this spring and consequently the breeders did not have their stock in as good fit as though they had been preparing for it a longer time in advance. Some of the cattle were too thin to offer for sale, but it is the seller not the buyer who suffers on such occasions. Those who attended the sale made purchases worth the money. Better fitted stock and a larger sale-ring will, no doubt, be the outcome of the experience of February 28. The breeders of pure-bred live stock and the Executive of the Association have good reason to feel confident regarding the success of future sales, while buyers can look forward to the next event as a good place to buy cattle. The men behind this sale are in earnest, and deserve the support of every breeder of pure-bred stock in the county of Lambton, and of the buying public.

Two good Clydesdale mares sold for \$265 and \$255, respectively, while one young Shire stallion changed hands at \$320. A real good Shorthorn bull, almost one year old, came to light in Royal Marquis, bred and contributed by Murray Leach, Petrolia. Angus Stonehouse, Wyoming, procured him for \$165. He was the best bull offered, and the transaction constituted one of the best bargains of the day. Another young Shorthorn bull, proud Sultan, went to A. C. Edwards, Petrolia, at \$150. Robt. Stonehouse, Wyoming, took Kelso's Beauty, a Shorthorn cow and her two-months-old calf, at \$180. Cynthia Grey, a yearling Shorthorn heifer, changed hands at \$130. The Aberdeen-Angus cattle were sold at fair prices, but the Holsteins, when a little better fitted, can be turned over again at a profit. Capt. T. E. Robson, London, was auctioneer.

# Five Hundred Farmers Attend the U. F. O. Convention.

Launched three years ago, the United Farmers of Ontario movement was convened in its third annual meeting in St. James' Parish Hall, Toronto, last week. At the inception of this movement "The Farmer's Advocate" put forth some constructive criticism which it was hoped would aid in placing the big co-operative organization in this Province on a proper basis. Some changes have been made and the movement is growing. There were over five hundred club members and delegates at the Convention this year, a larger number than on previous occasions. Farmers over the Province have followed the movement since its genesis with a great deal of interest. It is no small task for any group of organizers to induce Ontario farmers, with their diversified interests, to throw in their lot together and carry out the principle of equal opportunities for all. It has not been continuous smooth sailing for the company, nor can it be for some years. Most of those who attempt such work must learn through experience, and experience comes of making mistakes as well as of doing things properly. It was gratifying to those who have been connected with the movement that the third annual Convention showed unmistakable signs of growth and development of co-operation generally. Of the movement we might very well use the words of Wellington, when he spoke of the progress in the Peninsular war: "Generally forward, sometimes backward, but often zig-zag." So has been the progress of the United Farmers of Ontario, but we must emphasize the fact that the progress has been generally forward, and with its development changes should come which, provided farmers and Farmers' Clubs stand behind it, should mean for Ontario what the Grain Growers' and United Farmers' movements have meant for prairie agriculture in Western Canada. The greatest need at the present time is big men, who have time and ability to manage and carry on the affairs of a big organization. Most of the men are farmers busy with other work and as the business grows it brings added difficulties which require the entire time of more men.

### A Square Deal For Every Farmer.

President R. H. Halbert, of the U. F. O., emphasized education, organization and legislation as the three methods by which farmers hope to get a square deal, and to place agriculture in its proper position in the economic and social life of the nation. The chief asset of this country was its soil. Our manufacturers depend upon the farm for raw material and a place to sell their products. When farmers succeed, all business in the country advances accordingly, and no nation can develop properly without a vigorous rural life. Mr. Halbert believed that the only man to solve the farmer's problem was the farmer himself, and not the Government or any urban dwellers. He urged the elimination of waste in marketing through linking up the U. F. O. and the United Farmers' Co-operative Company. At the present time drones take a tremendous toll on all goods between the producer and the consumer. Farmers should not allow anything to stand in the way of accomplishing their ends through co-operation in this Province, a movement which is yet in the kindergarten stage. The President asked for support and loyal support, else the movement must fail. In Mr. Halbert's opinion corporations and bonused industries rule Canada to-day more autocratically than the plutocrats of Germany and Russia rule those countries. He closed his address with the following words: "Eternal vigilance is the price of liberty."

### Over 8,000 Members.

According to Secretary J. J. Morrison's report, five district conventions were held during the year, besides 97 meetings which resulted in 74 club organizations. At the present time the U. F. O. has 200 club organizations with over 8,000 members in forty-three counties. Oxford County leads with sixteen local clubs, Wellington is second and Dufferin third. The largest club in the Province is a lusty youngster of two-months' standing and over 120 members, located at Whitevale, in Ontario County. This club has done over \$10,000 worth of business in the two months it has been running. The number of clubs holding stock in the United Farmers' Co-operative company is 130. Mr. Morrison stated that district conventions would be continued in 1917, more special meetings would be held and he appealed to the young men to stand behind the movement and give it their best effort to make it a success.

### The Canadian Council of Agriculture.

Roderick McKenzie, Secretary of the Canadian Council of Agriculture, outlined the work of that organization and dwelt on the importance of co-ordination of the different co-operative and other agricultural organizations in Canada. The Canadian Council of Agriculture took form in 1909, and was held together until last October but without sufficient funds to make its work effectual. Last July the different organizations, commercial and educational, joined hands, and at a meeting in Winnipeg were enabled to appoint a permanent secretary and authorize the opening of permanent offices. The United Farmers of Ontario and the United Farmers' Co-operative Company, Ltd., in this Province, together with the Grain Growers' Associations and the United Farmers of the Prairie Provinces, are members of this organization and week before last the United Farmers were organized in British Columbia. Mr. McKenzie stated that it was the farmers' own fault if they did not get a square deal, and party politics got a severe blow in his address, as they did in several other addresses at the Convention. One-half the Cana-

## Read These From the Farmers' Convention.

Canada has a scientific system of corruption.

Elections are a straight business proposition.

Education, organization and legislation will ensure a square deal for the farmer.

Canada's chief asset is the soil.

Who will solve the farmer's problem but the farmer himself.

Drones exact a tremendous toll between the producer and the consumer.

Unless co-operation is supported it will fail.

The U. F. O. has over 8,000 members.

One half Canada's population is on the farm.

So long as legislation is enacted by men who have the viewpoint of the city, so long will the farmer not get a square deal.

There are 14 farmer members of the Canadian Parliament out of a total of over 200.

Farmers are too modest.

In the West they have a retail dealer for every eleven farmers.

The Canadian people have paid \$30,000 per mile to build railways, and someone else operates them.

The Canadian railways are taxed at two mills on the dollar, while Canadian farmers are taxed at eight mills.

In Canada we have no statesmen, just politicians.

Groups of large capitalists have become very intimate with Governments.

On the prairie both political parties fear the farmer, else they love him very much.

Farmers of Ontario have a disease of the brain called partyism.

The biggest enemies Canada has to face are our own politicians.

We are ruled and legislated for by the big interests and the legal fraternity.

Trade and commerce dominate and control government.

Individualism has passed away; socialism must come.

The farmers' movement in the West and in Ontario has 50,000 members.

Farmers are capable of doing their own business.

Can a party man think?

dian population is on the farms and it is conceded on all sides that the farm population of Canada produce the wealth of the country. Mr. McKenzie held that agriculture was not properly represented in our Houses of Parliament, for instance at Ottawa the representatives include 78 lawyers, 19 manufacturers, 10 financiers, 28 merchants, 14 farmers and 61 other professions. The basic industry of this great new country is represented by 14 M. P's. out of a total of upwards of 200. Can the farmer get a square deal? Canada's legislation has been enacted and administered by representatives of the urban population, men whose environment and education and training have been all along the line of capital. So long as legislation is enacted by men who have the city viewpoint, the farmer can never get a square deal. All that was asked was that the farmer get a fair representation in proportion to the number of electors engaged in agricultural work. "Farmers are too modest," said Mr. McKenzie, "and it is the party, not the electors who put the man in the field. We must get away from this idea that we are Grits and Tories. For too long the farmer has been taught that his business was to grow crops for someone else to market." Mr. McKenzie stated that there was a retail dealer for every 11 farmers in the three Prairie Provinces. He was against tariff taxation.

### Nationalization of Railways.

H. J. Pettypiece, of Forest, Ontario, gave an interesting address on the nationalization of railways. Our railways are public highways and should belong to the people. Of 53 countries, outside of the United States and Canada, 51 have state-owned railways. The people of Canada, according to Mr. Pettypiece, have contributed \$1,017,000,000 toward the construction and maintenance of our railroads, or \$30,000 per mile, a sum more than half the entire railway capital of Canada. In New Zealand railways were built at a total cost of \$38,000 per mile. The money spent by the people of Canada to help the railroads would have built 2,000,000 miles of good roads at \$500 per mile. If this had been done, said Mr. Pettypiece, what would you think of allowing someone to erect a toll-gate every few miles and collect toll? Mr. Pettypiece stated that the railway tax in this country was less than two mills on the dollar, while the taxation on farm land was eight mills. He compared, also, taxation on the C. P. R. in Canada and in the United States, which he placed at \$86 per mile in Canada and \$500 per mile in the United States, and with the Grand Trunk he placed the tax at \$100 per mile in Canada and \$1,200 per mile in the United States. He also showed where the United States got a great deal more in taxes from their half of the Sarnia tunnel than did Canada. He

stated that more taxes were paid in on the 8,000 miles of railways in the State of Michigan than were paid on the 35,000 miles in Canada, while it cost the railways in this country 73 cents to earn a dollar and it cost 72 cents in the United States. He complained that our railroads were not distributed properly and argued that they should be handled by the nation much as the postal service is handled. Mr. Pettypiece made the statement that the upwards of 200 members at Ottawa have no more to say regarding our railway legislation than would a township council in any part of the Dominion, holding that the magnates do sufficient lobbying to get what they want.

### Income Tax.

Gordon Waldron, the United Farmers' Company's solicitor gave a short talk on the graduated income-tax, emphasizing the importance of laying taxes so as not to destroy industry. Taxation has fallen too heavily on the farmer and he blamed this for a large part of the decrease in rural population which had reached 167,000 in the last five years. He was not prepared to make any hard and fast ruling re income taxation.

Colonel Fraser, of Brant County, was announced to speak on the tariff, but he addressed the meeting on almost everything else but the assigned subject. "In Canada," he said, "we have no statesmen; they are all politicians, and elections are a straight business proposition." For years we have fought issues between Ontario and Quebec to blind the people from other important questions. We have a most scientific system of corruption. Getting down to the subject for a few minutes at the close of his address, he stated that the higher you put the tariff the less revenue you raise, citing as an example the revenue of 1914 which was in the neighborhood of \$114,000,000 and which decreased in 1915, after an increase of seven and one-half per cent in tariff, to \$97,000,000.

### Publicity of Campaign Funds.

W. C. Good, of Paris, gave a short talk in which he urged that some means be brought about to give publicity to the party campaign funds. No donor has any objection to publicity being given to his donations to laudable enterprises, such as the Red Cross, Patriotic fund, etc., but few men would care to have their names connected with large amounts of money paid into the campaign fund. The more a man gives the party, the less desire he has to have his name and the amount published. There is something sinister about the entire question of campaign fund contributions. Rapid changes of industry have been made in a short period and large aggregations of the controllers of capital have become intimately acquainted with Governments. Through this, farming interests have been vitally affected, and the general condition of the morals of public life has been lowered. Large contributions to campaign funds are given with the purpose of securing legislation favorable to the industry represented by the contribution. Mr. Good held that it was a form of bribery, and that farmers' interests were sacrificed by a process of wholesale theft which results from this system. This issue must be brought to the front and farmers must unite and suggest something of a constructive nature. The speaker advocated direct legislation and advised those present to watch the legislation passed in the United States, with regard to publicity of campaign funds.

### The Initiative and Referendum.

Direct legislation through the initiative and referendum, was the subject discussed by F. E. Ellis, B. S. A., who stated that aristocracy based on wealth is nothing more nor less than a plutocracy. He asked that farmers be elected to the legislatures and believed that the initiative and referendum would undermine partyism, lead to a more intelligent study of the public questions of the day and disentangle the various issues brought on. Switzerland is the mother of direct legislation and members of Parliament there have practically a life tenure of office. In that country nationalization of railways is complete. Switzerland has the best regulated telegraph, telephone and postal systems in the world. California and Oregon have introduced the initiative and referendum system, which puts the business of the country in the hands of the people and ensures representative Government.

### A Message From Alberta.

It was a treat to listen to H. W. Wood, President of the United Farmers of Alberta, an organization which recently held its ninth annual convention. He brought greetings from the sister organization in the Western Province and believed that by the time the U. F. O. held its ninth annual meeting there would not be a hall in Toronto large enough to hold the delegates. The great dominant influence in the affairs of civilization and the ruling influence he believed was trade and commerce. He traced the development of trade and commerce from the days of the savage to the present time when it dominates the affairs of the human race. In his opinion, trade and commerce has always led ethical development, and at the present time controls our system of Government. The men who control trade and commerce also control our politicians. Up to the beginning of the last century the race was developed entirely on the basis of competitive effort, and that competitive effort was along the lines of individualism. At the beginning of last century a gradual change had its inception, followed by rapid development in trade and commerce. The classes became mobilized in what the

speaker called "class co-operation", when small groups of men with the most money began to work together; farming being the basic industry, it was difficult to get farmers organized. Organized industry gradually shifted the burden to the farmer, but now the time is coming when farmers as a class will be the dominant influence in the commercial classes of the country as they should be. Nature is working out her laws on us. Individualism has passed away; socialism must come. Organization will enable the farmer to effectively deal with the problems in the field of trade and commerce, and every industry will get a reward exactly commensurate with the services rendered. The next development will be higher than class mobilization; it will be all classes working one with the other to serve humanity. Then each industry will not get more than its share; the strong, cunning and selfish will not be able to take advantage of the weak. The co-operative system must be used to supply the wants of man. Civilization depends on the solution of that problem. We have reached the height of barbarism. If we can change the system we will have changed barbarism to civilization. The competitive system has been responsible for it all. All classes working together will solve the problem and save civilization.

C. Rice-Jones, manager of the Alberta Farmers' Elevator Company, in a short address advised against a third party, which he believed would cause the organization to fall to pieces. He made the statement that party newspapers support party and not the honest politician, and asked those present to give their support to independent newspapers and to members who try to do what is right. He drew attention to the power of the farmers' movement which now has over 50,000 members in the three Prairie Provinces and Ontario.

**The Electors to Blame.**

T. A. Crerar, President of the Grain Growers' Grain Company, stated that the manufacturer had had the best of it. We have paid, in this country 16 or 18 million dollars in steel bounties; we have subsidized railways; we have assisted in building up manufacturing industries, but at the present time politics are at a low ebb. There has been a lack of public conscience in this new country. Mr. Crerar expressed sympathy with the members of Parliament, because in his opinion if our politicians are of an indifferent order it is our own fault. The elector is himself to blame, because an indifferent electorate means indifferent members and unsatisfactory legislation. In Mr. Crerar's opinion the degree of service a man renders to the community is the real measure of his worth. We must raise the standard of public thinking, and he was pleased to state that farmers have judged questions, large public questions, on the merit of right and wrong. His address was one of the best of the Convention and he urged loyalty to the organization and to humanity.

The financial statement of the U. F. O. showed net earnings over expenses to be \$858.94 for the year. During the meeting it was proposed that the Province be divided into nine districts, each to have a special man whose duty it was to look after the affairs of the organization in that district. The Secretary advised that the division be made according to railway lines. The matter was left with the directorate.

It was decided that membership fees to clubs should be paid in advance rather than twice a year, as formerly. Exception was taken to a Bill now before the Ontario Legislature to amend the Companies' Act. This will be covered in an account of the Resolutions.

The proposed national farmers' platform, which was adopted by the organizations in the West, and which includes the following items, was passed, the only change made being in clauses two and three relating to the reciprocity agreement and these were accepted

by the Convention, with the further demand of a referendum on the subject.

**The Tariff.**

Be it resolved that the Canadian Council of Agriculture, representing the organized farmers of Canada, urges that as a means of bringing about much needed reforms and at the same time reducing the high cost of living, now proving such a burden on the people of Canada, our tariff laws should be amended as follows.—

1.—By reducing the customs duty on goods imported from Great Britain to one-half the rates charged under the general tariff, and that further gradual, uniform reductions be made in the remaining tariff on British imports that will ensure complete free trade between Great Britain and Canada in five years.

2.—That the Reciprocity Agreement of 1911, which still remains on the United States statute books, be accepted by the Parliament of Canada.

3.—That all food stuffs not included in the Reciprocity Agreement be placed on the free list.

4.—That agricultural implements, farm machinery, vehicles, fertilizer, coal, lumber, cement, illuminating fuel and lubricating oils be placed on the free list.

5.—That the customs tariff on all the necessities of life be materially reduced.

6.—That all tariff concessions granted to other countries be immediately extended to Great Britain.

**Taxation for Revenue.**

As these tariff reductions will very considerably reduce the national revenue derived from that source, the Canadian Council of Agriculture would recommend that in order to provide the necessary additional revenue for carrying on the government of the country and for the prosecution of the war to a successful conclusion, direct taxation be imposed in the following manner.—

1.—By a direct tax on unimproved land values, including all natural resources.

2.—By a sharply graduated income tax upon all incomes over \$4,000 a year.

3.—By a heavy graduated inheritance tax on large estates.

4.—By a gradual income tax on the profits of corporations over ten per cent.

**Other Reforms.**

The Canadian Council of Agriculture desires to endorse also the following policies as in the best interests of the people of Canada.—

1.—The nationalization of all railway, telegraph and express companies.

2.—That no more natural resources be alienated from the crown, but brought into use only under short term leases, in which the interests of the public shall be properly safeguarded, such leases to be granted only by public auction.

3.—Direct legislation, including the initiative and referendum and the right of recall.

4.—Publicity of political campaign fund contributions and expenditures both before and after elections.

5.—The abolition of the patronage system.

6.—Full provincial autonomy in liquor legislation, including manufacture, export and import.

7.—That the extension of the franchise to women in any province shall automatically admit them to the federal franchise.

**Resolutions.**

Among the resolutions passed were the following: Whereas, it has been widely stated that some change in Canada's relation to the Empire has been rendered necessary by our participation in the present war; and whereas there are many indications that this question will assume definite shape in the near future; and where-

as the destiny of the Canadian people will be profoundly affected by any change which may take place;

Therefore, be it resolved that, in the opinion of this convention, the whole question should be fully and freely laid before the Canadian people, before Canada is in any way committed in this matter, and that we hereby ask the Canadian Council of Agriculture to transmit this resolution to the Canadian Government.

Whereas we have reason to believe that the agitation for the admission of oleomargarine originates not with the consumer but with those whose purpose is shown by the extraordinary difficulty which has been experienced elsewhere in preventing the sale of oleomargarine as butter; be it therefore resolved that until such time as the consumer shall clearly indicate his demand for it and the Government give absolute assurance that it can prevent deception the present restrictions against the admission and manufacture of oleomargarine be maintained.

Another suggested that the government and all interested in the rural problem devote more time to investigation to ascertain the revenues and expenditures of a large number of typical farms.

The meeting protested against any move for the conscription of men in this war unless a similar movement toward the conscription of wealth is included.

A further resolution asked that Canadian apples be allowed into Great Britain on an equal basis with citrus fruits.

**Officers.**

Officers elected.—President, R. H. Halbert, Melancthon; 1st Vice-President, E. C. Drury, Barrie; 2nd Vice-President, W. C. Good, Paris. Secretary-Treasurer, J. J. Morrison, Arthur; Directors: E. A. Van Allen, Aultsville; L. H. Blatchford, Embro; W. H. Hunter, Varney; T. H. Adams, Essex; Peter Porter, Burford.

**A Half Million Business.**

At the conclusion of the U. F. O. convention the annual meeting of the United Farmers Co-operative Company was held at the same place. President John Pritchard, in his address pointed out that it was difficult for men on the land to get away to attend to business. However, a very satisfactory year's work had been done in the company. The 1916 business ran over \$500,000, including live stock handled. The company has 183 stock holders. Mr. Pritchard stated that city women were spending more time in play houses than were farm women and showed the need for thrift and saving.

The auditor's statement, which was passed, showed a balance of earnings over expenditures of \$4,015.77. Total earnings according to this statement were \$11,884.39, and total expenditures \$7,868.62 showing substantial growth from last year.

Readers often ask why "The Farmer's Advocate" does not publish as much about the Company meeting as about the U. F. O. meeting. The Company meeting is a business meeting and members of the press, wisely or unwisely, are supposed to be absent.

It was decided to change the constitution so as to elect nine in place of thirteen directors as formerly, and have these all elected annually in place of three dropping out each year. Owing to certain differences on the Board regarding matters of policy the entire Board resigned and new elections for all the offices were carried out with the following result. Directors: C. W. Gurney, W. C. Good, J. J. Morrison, E. C. Drury, R. H. Halbert, W. McRae, Guelph; E. Lick, Oshawa; B. C. Tucker, Harold; E. A. Van Allen, Aultsville. B. C. Tucker was afterwards elected President and Elmer Lick, Vice-President. C. W. Gurney was re-appointed manager and J. J. Morrison, Secretary.

**Toronto, Montreal, Buffalo, and Other Leading Markets**

**Toronto.**

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, March 5, were 119 cars, comprising 2,228 cattle, 143 calves, 965 hogs, and 108 sheep and lambs. Slow market; all butchers' 10c. to 25c. lower; choice cows and bulls steady; all others 10c. to 15c. lower; sheep, lambs and calves steady; hogs, fed and watered, \$15.25.

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

	City	Union	Total
Cars	58	327	385
Cattle	542	3,446	3,988
Calves	48	561	609
Hogs	524	10,452	10,976
Sheep	282	334	616
Horses	28	208	236

The total receipts of live stock at the two markets for the corresponding week of 1916 were:

	City	Union	Total
Cars	45	393	438
Cattle	633	4,211	4,844
Calves	86	603	749
Hogs	570	5,362	5,932
Sheep	88	465	553
Horses	384	2,356	2,740

The combined receipts of live stock at the two markets for the past week show a decrease of 53 carloads, 856 cattle, 140 calves, and 2,504 horses, and an increase of 5,044 hogs and 63 sheep and lambs, compared with the corresponding week of 1916.

Trade in live stock opened in Toronto on Monday, last week, with 1,849 cattle of all grades on sale. All classes were steady to strong, and medium to good butchers' selling from 10 to 20c. higher. The highest price paid was \$11.75 for two steers, 1,350 lbs. each. One lot of 17 steers average weight 1,400 lbs. sold at \$11.25. Another lot of 18 steers, 1,222 lbs. each brought \$11.20 per cwt., while there was a large number of steers and heifers that sold at from \$10.75 to \$11.00. Cows were in strong demand as were also bulls at the previous week's prices. Choice cows sold at from \$8.70 to \$9.25 and four extra choice sold at \$10.00 per cwt. Choice bulls sold at from \$9.50 to \$10.00; one extra choice bull, 2,200 lbs. sold at \$10.65 per cwt. For the balance of the week trade remained steady without change in price. Although the runs were very light they were plenty large to meet the demand. Canners and cutters were steady through the week at \$5.00 to \$5.75. Trade in milkers and springers was somewhat improved especially for best cows, which sold at

from \$85.00 to \$105.00 a few real choice cows selling at from \$110.00 to \$125.00 each. The number of stockers and feeders arriving on the market was not large but trade was steady through the week. There is a demand for good to choice animals. Feeders, 800 to 900 lbs., sold at \$8.75 to \$9.25; a few real choice brought \$9.25 to \$9.50; stockers, 700 to 800 lbs., sold at \$8.25 to \$8.75; and common steers and heifers, 500 to 600 lbs., at \$6.00 to \$7.50. Very little if any change took place in the sheep and lamb trade, both selling steady at prices as quoted below. Common barnyard lambs of inferior quality were hard to dispose of at satisfactory prices. Trade in calves was steady until Wednesday when they were slow, draggy and from 50c. to \$1.00 lower in price. Thursday they were again slow and another 50 cents lower. Best veal selling at from 12½c. to 13½c. per lb., and very few at the latter price. Hogs on Monday, Tuesday and Wednesday were steady at \$15.00 fed and watered, and \$15.25 weighed off cars. On Thursday they were stronger and from 10c. to 25c. higher. The market closed with fed and watered selling at \$15.10 to \$15.25, and weighed off cars at \$15.35 to \$15.40.

Live Stock Quotations: Heavy steers, choice, \$10.75 to \$11.25; good, \$10.50 to \$10.75. Butcher steers and heifers,

choice, \$10.50 to \$11.00; good, \$9.75 to \$10.25; medium, \$9.25 to \$9.50; common, \$8.50 to \$9.00. Cows, choice, \$8.75 to \$9.25; good, \$8.00 to \$8.50; medium, \$7.25 to \$7.75; common, \$6.25 to \$6.75. Canners and cutters, \$5.00 to \$5.75. Bulls, choice, \$9.50 to \$10; good, \$8.75 to \$9.25; medium, \$8.00 to \$8.50; common, \$6.50 to \$7.50. Stockers and feeders, best, \$8.50 to \$9.25; medium, \$7.50 to \$8.25; common, \$6.75 to \$7.25. Milkers and springers, best, \$85 to \$105; medium, \$65.00 to \$75.00; common, \$50.00 to \$60.00. Lambs, choice, 14c. to 15c. per lb.; culls, 9c. to 12c. per lb.; Sheep, light, 10c. to 11c. per lb.; heavy, 8½c. to 9½c. per lb. Calves, choice, 12½c. to 13½c. per lb.; medium, 9c. to 11c. per lb.; grass and common, 6c. to 7½c. per lb.; heavy fat, 7½c. to 9c. per lb. Hogs, fed and watered, \$15.10 to \$15.25; weighed off cars, \$15.35 to \$15.40.

Less \$2.50 off sows, \$4 to \$5 off stags, \$1 to \$2 off light hogs, one-half of one per cent. government condemnation loss. Hogs weighing 150 lbs. and under are called light.

**Breadstuffs.**

Wheat.—Ontario, according to freights outside, No. 2 winter, new, in car lots \$1.76 to \$1.78; No. 3 winter, new, \$1.74 to \$1.76. Manitoba wheat (track, bay ports)—No. 1 northern, new, \$2.00; No.

2 northern, \$1.96 3/4; No. 3 northern, \$1.91 1/2; old crop trading 4c. above new crop.

Oats.—Manitoba, all rail, delivered en-route; No. 2 C. W., 72c. to 73c.; No. 3 C. W., 70c. to 71c.; Extra No. 1 feed, 70c. to 71c.; No. 1 feed, 69c. to 70c. Ontario oats, according to freights outside, No. 2, white, 63c. to 65c. nominal; No. 3, 62c. to 64c., nominal.

Peas, according to freights outside, No. 2, \$2.45.

Barley, according to freights outside, malting, \$1.21 to \$1.23.

Buckwheat, according to freights outside, nominal, \$1.28.

Rye, according to freights outside, No. 2, \$1.40 to \$1.42.

American corn (track, Toronto), No. 3, yellow, \$1.15, subject to embargo.

Flour.—Ontario winter, \$7.35 to \$7.45, in bags, track, Toronto—prompt shipment, \$7 bulk, seaboard, export grade. Manitoba flour, first patents, in jute bags, \$9.50; second patents, \$9; strong bakers', \$8.60.

Hay and Millfeed.

Hay, extra No. 2, per ton, \$12; mixed, per ton, \$9 to \$11.

Straw.—Car lots, per ton, \$9.

Bran.—Per ton, \$38; shorts, \$42; feed flour, per bag, \$2.70 to \$2.80.

Country Produce.

Butter.—Butter remained stationary in price on the wholesales during the past week. Creamery, fresh-made pound squares, selling at 44c. to 46c. per lb.; creamery solids, 40c. to 41c. per lb.; dairy, 35c. to 40c. per lb.

Eggs.—The bottom fell out of the egg market during the past week; the prices declining materially—New laid eggs in cartons selling at 45c. per dozen and case lots at 43c. to 44c. per dozen. The cold storage varieties being practically off the market.

Beans.—Beans also firmed in price prime white, selling at \$6 per bushel and Limas at 10 1/2c. to 11c. per lb.

Cheese.—June, per lb., 26c.; twins, 26 1/2c.

Honey.—6-lb. tins selling at 12c. per lb.; glass jars, \$1 to \$2 per dozen; combs, \$2.50 to \$3 per dozen.

Poultry.—Live-weight prices, chickens, 20c. per lb.; ducks, 18c. per lb.; fowl, 4 lbs. and over, 22c. per lb.; fowl, under 4 lbs., 17c. per lb.; squabs, dressed, \$3.50 to \$4 per dozen.

Hides and Skins.

City hides, flat, 20c.; country hides, cured, 20c.; country hides, part cured, 18c.; country hides, green, 17 1/2c.; calf skins, 25c.; kip skins, 20c.; sheep skins, city, \$2.50 to \$3.50; sheep skins, country, \$1.50 to \$3; lamb skins and pelts, \$1.50 to \$2; horse hair, per lb., 38c.; horse hides No. 1, \$6 to \$7; No. 2, \$5 to \$6; wool washed, 45c. to 50c. per lb.; wool, rejections, 35c. to 38c. per lb.; wool unwashed, 37c. to 40c. per lb.; tallow, No. 1, cake per lb., 9c. to 10c.; tallow, solids, 8c. to 9c. per lb.

Wholesale Fruits and Vegetables.

Potatoes weakened on the wholesale market during the past week, when New Brunswick Delawares declined to \$4.50 per bag, and Ontarios to \$3.75 to \$4 per bag. Westerns going at \$4 to \$4.50 per bag.

Sweet potatoes were quite firm selling at \$2.50 to \$2.75 per hamper.

Turnips advanced and now sell at \$1 to \$1.25 per bag.

Carrots and parsnips remained quite firm at \$2 to \$2.25 and \$2.25 to \$2.50 per bag, respectively. Beets selling at \$2 to \$2.25 per bag.

Florida cabbage was received and sold at \$3.75 to \$4 per hamper.

California cauliflower of good quality was offered and proved a ready sale at \$4 to \$4.25 per case.

Another car of outside grown Florida tomatoes came in during the week and sold quickly at \$6 to \$6.50 per six basket crate.

Hot-house tomatoes were shipped in in small lots, selling at 30c. per lb. for No. 1's, and 25c. per lb. for No. 2's. Navel oranges were very firm in price at \$3.25 to \$4 per case.

Grapefruit also—the Floridas selling at \$4 to \$4.50 per case. Cubans at \$3 to \$3.50 per case.

Lemons advanced slightly; Californias selling at \$1.25 per case and Messinas at \$4 per case.

Bananas also advanced selling at \$2.25 to \$2.50 per bunch.

Apples are becoming scarce, the boxed varieties selling at \$2.60 to \$2.85 per

box, and barrels at \$4 to \$8 per bbl., according to grade and varieties.

Montreal.

Offerings of live stock on the local market were no more than sufficient to meet the somewhat reduced demand being experienced during the Lenten period and as a consequence, prices continued around previous quotations. The market was moderately firm in tone and consumers pretty well abandoned the idea that they might make purchases at lower prices, for some time to come. Sales of good steers took place at 10 1/4c. to 10 1/2c. per lb. Fair quality was 9 1/4c. to 9 3/4c. per lb., and common were 8 1/4c. to 9c. per lb. Butchers' cows brought all the way from 7 1/4c. to 8 1/2c. per lb., and bulls 1c. more than cows. Choice stock of any kind was difficult to obtain. Supplies of sheep and lambs were light and prices firm and trade quiet. Lambs brought as high as 13 1/4c. to 14c. per lb., and sheep from 9 1/4c. to 10c. per lb. Calves brought 11c. to 12 1/2c. per lb., for milk fed, and from 6c. to 8c. per lb. for common stock. Hogs were none too plentiful and brought firm prices. Demand from packers was steady and choice selected lots sold at 15 1/2c. and good at 15 1/4c. per lb. weighed off cars.

Horses.—There was a small demand for horses, although carters are beginning to make preparations for the spring opening. Meantime the roads continue very poor and this is calling for the use of an increasing number of horses. Prices continue unchanged.

Poultry.—Compared with the price of meats, poultry was not out of line, although prices were higher than usual at the time of year. Turkeys were quoted at 26c. to 30c. per lb. for choicest, while chickens ranged from 22c. to 25c. for best, but some ordinary stock could be had down to 18c. or 20c. Fowl ranged from 15c. to 20c. and geese at slightly more than these figures. Ducks 19c. to 23c. per lb.

Dressed Hogs.—Trade in dressed hogs was not very active, but the tone of the market continued quite firm nevertheless, and sales of abattoir-killed fresh hogs were being made at 21c. to 21 1/2c. per lb., while country-dressed hogs were 20c. to 20 1/2c. per lb. for lights.

Potatoes.—There have been very few developments in this market recently and in the absence of increased supplies, prices continued very firm. Green Mountains were quoted at 3.50 per 80 lbs., ex-store, in a wholesale way while Quebecs were \$3 to \$3.25.

Honey and Maple Syrup.—This market held steady all the way round with pure maple syrup in 8-lb. tins, selling at 95c.; in 10-lb. tins at \$1.10, and in 13-lb. tins at \$1.25 to \$1.50. Maple sugar was 16c. per lb. Honey was unchanged, at 15c. for white clover comb; 12c. to 12 1/2c. for white extracted and brown clover comb, and 11c. for brown extracted. Buckwheat honey sold at 10c.

Eggs.—The tendency of prices in the egg market is now downward. There are increased offerings of both Canadian and American fresh laid eggs, and as a consequence prices declined. Canadian fresh were 53c. to 54c. per dozen, with American fresh 50c. to 52c. per dozen. No. 1 selected stock was 45c. and No. 1 candled 42c. per dozen.

Butter.—The market for butter showed a firm tone, the time not having yet arrived for the new make. Finest fall creamery was quoted at 43c. to 44c. per lb., with fine qualities 1c. less. Winter creamery was 40 1/2c. to 41c. per lb., with undergrades about 1c. less. Dairy butter ranged from 36c. to 38c. per lb., according to quality.

Cheese.—Finest Western cheese was still quoted at 26c. to 26 1/2c. per lb., and finest Easterns at 25c. to 25 1/2c., with winter-made goods selling at 22c. to 24c. Some receipts of the latter were being reported.

Grain.—Very little change took place during the past week in the grain markets. No. 2 Canadian Western oats were changing hands at 75c. to 76c. per bushel, while No. 3 Canadian Western were 73c. to 74c. per bushel and extra No. 1 feed also 73c. to 74c. per bushel, with No. 2 feed, 71c. to 72c. per bushel, ex-store. Manitoba feed barley was quoted at \$1.22 per bushel, ex-track.

Flour.—The market was unchanged last week, with Manitoba first patents selling at \$9.60, seconds at \$9.10, and strong bakers' at \$8.90 per barrel, in

bags; Ontario 90% patents were \$8.50 to \$8.80 per barrel in wood, and \$4.10 to \$4.25 per bag.

Mill Feed.—Supplies were very light and prices advanced sharply, bran going up to \$28 per ton, in mixed car lots, with shorts at \$40, middlings at \$42, mixed mouille \$45 and pure grain mouille at \$40 to \$50 per ton in bags.

Baled Hay.—For the first time since last fall, the price of hay has changed. The quotation was 50c. up, at \$13.50 to \$14 for No. 2; \$12 to \$12.50 for No. 3 and \$11 to \$11.50 for clover mixed, ex-track.

Hay Seed.—Supplies of all kinds of hay seed this spring are more liberal than those of a year ago and as a consequence, prices are generally lower. In the case of timothy and red clover the range was \$2 per cwt. lower than a year ago. Timothy was quoted at \$7 to \$12 per cwt., covering Government standards No's 1, 2 and 3, while red clover was \$20 to \$25 and alsike \$16 to \$25. Demand was very active.

Hides.—Prices were unchanged, with beef hides quoted at 25c., 24c. and 23c.; calf, 38c. and 36c. and very firm. Lamb, \$3.90 each; horse \$7.50.

Buffalo.

Cattle.—Prices were advanced on shipping cattle last week at Buffalo, by reason of a strong outside demand, the advance showing a dime to fifteen cents over the previous week. On good to choice kinds of butchering cattle the market looked strong, while the balance of the offerings moved at about steady prices. Best shipping steers the past week, of which there were around twenty loads, sold from \$11 to \$11.50, while the best handy-weight steers showed a range of from \$10.25 to \$10.75, the latter price taking steers averaging around 1,130 lbs. On fat heifers very few were of the desirable kinds, best here ranging from \$9 to \$9.35, but sellers reported that thick, heavy, fat heifers would sell up to ten cents and better. On bulls, fancy ones sold up to \$9 to \$9.25. Stockers and feeders showed a general range of from \$7 to \$8.50. Milk cows and springers were about steady and more were wanted. It is being talked in live-stock circles that there is a probability of an embargo being placed on live stock out of Canada, in case the war continues, around May first, so that it would be well for all Canadian shippers to keep advised, especially those who contemplate shipping to Buffalo around about that time. Demand at present is strong for the better kinds of shipping steers, the East taking these readily. Not enough stockers and feeders are coming to meet the demand. Receipts last week were 4,075 head, as against 4,675 for the previous week, and 3,675 for the corresponding period last year.

Shipping Steers.—Choice to prime natives, \$11 to \$11.50; fair to good, \$10.60 to \$11; plain, \$10 to \$10.50; very coarse and common, \$9.50 to \$9.75; best heavy Canadians, \$10.75 to \$11; fair to good, \$9.75 to \$10.50; common and plain, \$9 to \$9.50.

Butchering Steers.—Choice heavy, \$10.75 to \$11.50; fair to good, \$9.75 to \$10.50; best handy, \$10.25 to \$10.60; fair to good, \$9.50 to \$10; light and common, \$8 to \$9; yearlings, prime, \$11 to \$11.50; fair to good, \$10 to \$10.75.

Cows and Heifers.—Best heavy heifers, \$9 to \$9.25; best butchering heifers, \$8.50 to \$9; fair butchering heifers, \$7.75 to \$8.25; light and common, \$6.50 to \$7.50; best heavy fat cows, \$7.50 to \$8.50; good butchering cows, \$6.75 to \$7.25; medium to fair, \$5.75 to \$6.50; cutters, \$5.25 to \$5.50; canners, \$4.50 to \$5.

Bulls.—Best heavy, \$8.50 to \$9.25; good butchering, \$7.75 to \$8.25.

Stockers and Feeders.—Best feeders, \$7.50 to \$8.50; common to fair, \$6.25 to \$7; best stockers, \$7 to \$7.50; common to good, \$6 to \$7.

Milchers and Springers.—Good to best, in small lots, \$90 to \$110; in carloads, \$75 to \$85.

Hogs.—Prices last week jumped to the highest level since the Civil War. The week opened with a \$13.85 top, and bulk selling at \$13.65, and the next few days prices were advanced, Friday, which was the high day, the market on better weight grades opened at \$14.25, and before the day was out buyers got some down to \$14.10. Pigs jumped from \$12.25 on Monday to \$13 on Friday. Roughs sold up to the \$13 mark, and stags went from \$11 down. For last week receipts were

14,200 head, as against 20,916 head for the week before, and 25,200 head for the same week a year ago.

Sheep and Lambs.—Trade in the lamb department last week was on the slow and draggy order, especially on the over-weight kind. Orders for lambs, as a rule, called for kinds weighing not over 82 to 83 pounds, and anything above this line had to sell from fifteen to a quarter under top quotations. Monday one load brought \$14.70, but buyers got the bulk at \$14.60; Tuesday, the spread was from \$14.35 to \$14.75, as to weight; Wednesday top was \$14.65, with others ranging down to \$14.35; Thursday sales were made from \$14.40 to \$14.65, and Friday top was \$14.75, bulk went at \$14.65, and anything the least bit weighty was hard to land above \$14.50. Culls were steady all week, ranging from \$14 down. Sheep were very scarce. Top for yearlings was \$13.50, wether sheep were quoted up to \$12.50, and ewes from \$12 down. For last week receipts were 17,000 head, as against 15,207 head for the week previous, and 16,850 head for the same week a year ago.

Calves.—Market the first half of last week was slow and draggy, and prices struck the lowest level for a long time back, buyers getting tippy kinds down to \$12.75. Thursday a little more strength was noted in the trade, and Friday, under a very urgent demand, top veals were jumped 50 to 75 cents, bulk selling at \$13.50, with some up to \$13.75. Cull range was from \$11 down, generally. Receipts last week were 2,250 head, as against 2,831 head for the week before, and 2,400 head for the same week a year ago.

Chicago.

Cattle.—Market steady. Beeves, \$8 to \$12; stockers and feeders, \$6.40 to \$9.25; cows and heifers, \$5.30 to \$10.30; calves, \$8 to \$11.25.

Hogs.—Market strong; 25c. higher. Light, \$13 to \$13.80; mixed, \$13.35 to \$13.85; heavy, \$13.35 to \$13.90; rough, \$13.35 to \$13.50; pigs, \$10.25 to \$12.35.

Sheep and Lambs.—Market steady; lambs, native, \$12 to \$14.50.

Cheese Markets.

New York, specials, 26 1/2c.; fancy, 26c. to 26 1/2c.; Montreal, finest westerns, 26 1/2c.; finest easterns, 25 1/2c.

Gossip.

In the advertisement of the Wm. Rennie Co., Limited, which appears in another column of this issue, the following was inadvertently omitted. "Pakro" seedtape, "you plant it by the yard," 2 pkts. for 25c.

There is a neat little folder just like that called The Zenoleum Medicine Chest, containing the condensed wisdom of many poultry breeders and agricultural college experts on the subject of poultry diseases, their symptoms and cure. If you will send your name and address to the Zenner Disinfectant Co., 332 Sandwich St. East, Windsor, Ont., a copy will be mailed to you free of cost.

Sale Dates.

March 9.—W. J. Abernethy, Beeton, Ont.; Shorthorns, Oxford Down sheep.

March 13.—L. Summerfeldt & Son, Unionville, Ont.; Holsteins.

March 14.—W. B. Poole, R. R., Ingersoll, Ont.; Holsteins.

March 14.—Menie District Ayrshire Breeders' Club, Campbellford, Ont.; Ayrshires.

March 14.—Hugh Mackay, Lot 35, Con. 7, West Nissouri; Shorthorns.

March 15.—Elias Snyder, Burgessville, Ont.; Holsteins.

March 15.—Union Stock Yards, Toronto, Ont.; Horses.

March 21.—Jacob Leuzler, Bright, Ont.; Holsteins.

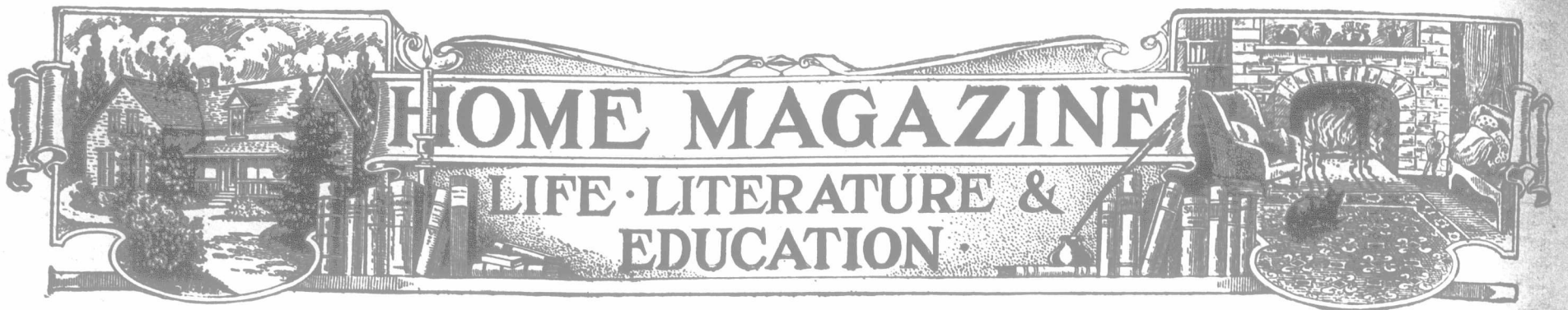
March 26 and 27.—J. Lloyd-Jones, Burford; Shropshires, Southdowns and Jerseys.

March 28.—Oxford District Holstein Breeders' Club, Woodstock, Ont.; Holsteins.

March 28.—Western Ontario Consignment Sale Co., London, Ont.; Shorthorns.

April 4.—Belleville District Holstein Breeders' Club, Belleville; Holsteins.

April 5.—Southern Counties Ayrshire Breeders' Club, Woodstock, Ont.; Ayrshires.



### Magpies in Picardy.

The magpies in Picardy  
Are more than I can tell,  
They flicker down the dusty roads  
And cast a magic spell  
On the men who march through Picardy  
Through Picardy to hell.

(The blackbird flies with panic,  
The swallow goes like light,  
The finches move like ladies,  
The owl floats by at night;  
But the great and flashing magpie  
He flies as artists might.)

A magpie in Picardy  
Told me secret things—  
Of the music in white feathers,  
And the sunlight that sings  
And dances in deep shadows—  
He told me with his wings.

(The hawk is cruel and rigid,  
He watches from a height;  
The rook is slow and somber,  
The robin loves to fight;  
But the great and flashing magpie  
He flies as lovers might.)

He told me that in Picardy,  
An age ago or more,  
While all his fathers still were eggs,  
These dusty highways bore  
Brown, singing soldiers marching out  
Through Picardy to war.

He said that still though chaos  
Works on the ancient plain,  
And two things have altered not  
Since first the world began—  
The beauty of the wild green earth  
And the bravery of man.

(For the sparrow flies unthinking  
And quarrels in his flight,  
The heron trails his legs behind,  
The lark goes out of sight;  
But the great and flashing magpie  
He flies as poets might.)  
—Westminster Gazette.

### Among the Books.

#### My Home in the Field of Honor.

BY FRANCIS WILSON HUARD.  
(McClelland, Goodchild & Stewart Pub. Co., Toronto. \$1.35 net.)

One of the most interesting war-books that have yet appeared is *My Home in the Field of Honor*, by Francis Wilson Huard, daughter of the American actor, Francis Wilson, and wife of M. Huard, a French artist.

When the war broke out she was in the Huard home, the Chateau de Villiers, twenty miles from Soissons, in the very heart of the country over which Von Kluck's army rolled on its ill-starred way to Paris, and her book tells, with startling and artistic clearness the striking incidents of the stormy weeks that followed, intermingled with the little domestic incidents that help to make the narrative so interesting and so human.

In reading, one can see the villagers and the servants of the great Chateau as they hear first of the proclamation of war, then of the assassination of Jaures, the great socialist leader, then of the rapid mobilization of the troops. Almost immediately comes the summons to the men to join the forces, and not only the men but also the horses, for they too are requisitioned and have to be sent up to help in the nation's defence. But one, of five, comes back to the Chateau, old "Caesar", too old to be taken, but who proves most invaluable to the hurried flight which almost immediately follows.

Madame Huard, left alone with her servants, determines to turn the place into a Red Cross Hospital, and so stands her ground as the long lines of refugees pass the door, first the Belgians, then the French from Soissons, from Charly but four miles away, and other neighboring villages.

Finally comes a telephone message that the Germans have reached the Chateau-Thierry, seven miles away, and that there is no time to lose. Then follows a hurried packing—for there must be no waiting for the Uhlans—and so the little party sets out, Madame, two or three maids, two boys scarcely of military age, with old Caesar vainly pulling the wagon.

The account of the two weeks that follow is as interesting as any tale of fiction. There are humorous incidents and tragic incidents, and finally, when the great Marne battle is over and the Germans go back over the ground which they had invaded, the little party returns over a sickening battlefield to find the Chateau almost ruined, its valuables looted, disgusting filth everywhere, and German graves on the lawn. Inscriptions scrawled on the walls and papers left behind show that the great home had been used by Von Kluck and his staff as headquarters.

The good Madame is almost sick over the wreck, but soon sees to it that the place is cleaned up and speedily converted, once more, into an Emergency Hospital.

As an illustration of the character of the book, which has been very daintily illustrated by M. Huard himself, who has been made official Painter of the War to the Sixth Army of France, we may quote the portion that tells of the Chateau's first sight of the Belgian refugees, so soon to be followed by the refugees of Northern France:



French-Canadian Soldiers Direct from the Trenches.  
Two of the men have received decorations. Underwood & Underwood.

That night I was awakened, says Madame Huard, by the low rumbling of heavy carts on the road in front of the Chateau. Fancying that perhaps it was artillery on its way to the front, I put on my dressing-gown and went as far as the gate. There in the pale moonlight I beheld a long stream of carriages and wagons of every description, piled high with household goods, and filled with women and children. The men walked beside the horses to prevent collision, for as far as eye could see, the lamentable *cortège* extended down the hill.

What did this mean?  
"Who are you?" I called to one of the men as they passed.  
"Belgians—refugees."

Refugees! My mind flew back to descriptions of the French Revolution and the Reign of Terror, when so many people fled for their lives! What nonsense! Were we not in the twentieth century? Wasn't there a Peace Palace at The Hague? My thoughts became muddled.

Opening the gate, I went out and accosted another man.

"Won't you come in and rest?"  
"No, we can't. We must make our twenty miles by dawn—and rest during the heat of the day."

"But why do you leave home?"  
"Because the savages burned us out!"  
Bah, the man must be dreaming!

I turned back and addressed myself to another.  
"What's your hurry?" I queried  
"They're on our heels!" came the reply. Surely this one was madder than the other! A third did not deign to reply, sturdily marching ahead, his eyes fixed on the road in front of him.

On top of a farm cart half filled with hay I saw the prostrate form of a woman with two others kneeling beside her ministering to her wants. In the trap that followed was the most sorrowful group of old men and middle-aged women I ever hope to see. All were sobbing. Beside them rode two big boys on bicycles. I stopped one of them.

"What's the matter with her?" I questioned, pointing to the woman on the cart.

"She's crazy."  
"Crazy?"  
"Yes, lost her mind."

"How, when, where?"  
"Two days ago, when we left X. (Try as I may, I cannot recall the name of the little Belgian town he mentioned.) She was ill in bed with a fever when the Germans set fire to the place—hardly giving us time to hoist her on the cart.

told them we would abandon all but the most necessary farm work and minister to the wants of the refugees. By eight o'clock they had peeled and prepared vegetables enough to fill two huge copper pots, and the soup was set to boil. And still the long line of heavy vehicles followed one another down the road: moving vans, delivery wagons, huge drays, and even little three-wheeled carts drawn by dogs, rolled on towards the south. When asked where they were going, most of the people replied, "Straight ahead of us, *a la grace de Dieu*."

By the morning the heat had grown intolerable, and a splendid looking man got down from a cart and came towards me. Might he turn his party into the drive and rest a bit in the shade?

Two long heavy drays each drawn by a pair of the handsomest big bay horses with creamy manes that I have ever seen, pulled up in the courtyard. Impromptu seats had been arranged in the wagons and from these climbed down some twenty or thirty old women, children and men, worn out by the fatigue, anxiety and want of sleep.

They had food, plenty of it, bought on the way from village dealers who had not yet been seized with panic and shut up shop. So I told them that instead of building individual fires they might cook their noonday meal on my huge range. They might also use my kitchen utensils and china, if they would wash up, and thus save unpacking their own. Apparently this was unheard-of generosity and I cannot tell you how many times that morning my soul was recommended to the tender protection of the Blessed Virgin.

The meal passed in silence in both rooms, and the "washing up" was done in no time. Then as they all retired to take their naps, the man who had first asked me if they might turn into the Chateau, came into the kitchen and, hat in hand, begged a word or so with me.

He had come not only to express the gratitude of his compatriots, but also his astonishment that I should welcome strangers so cordially.

But why had they come away? That was what interested me.

Because their country was invaded and one by one the towns and villages had been bombarded, looted and burned until little or nothing remained. Because all men under fifty were carried away as hostages or prisoners; because he had seen little children slain, and young girls tortured; because anything was better than falling helpless into the hands of such an enemy.

"Madame, at Charleroi I've seen the blood running in the gutters like rain after a storm—and that not a week ago!"

It was impossible not to believe him. His eye was not that of a coward. He told his story simply; he was almost reticent, and I had even to encourage him at times to make him finish a phrase. Finally I asked him where he intended going, and why so far away? Didn't he think he was safe here?

No—*jamais*! Yesterday in the night they had heard the cannon growing closer and closer. They knew the sound. The Germans were advancing. It was Paris they wanted—and nothing would stop them till they reached their goal.

"Except the French army," I said, with pride.

"God grant you speak the truth, Madame!" But in the meantime he seemed to consider that one was far safer in the way of some gigantic mowing machine than on the path of the German army—He had come to tell me the truth and to warn me that I ought to make ready to leave.

(Madame proves obdurate, and the narrative continues.)

Again he thanked me for all I had



done, caressed my beautiful greyhounds, and left me his card so that we might meet when all was over. Afterwards when I went into the court, I heard someone in the stable with George, and looking in, I saw my friend of a few moments before examining my horse's hoof and telling my boy what would make the sore heal quickly. He was bound to do his best for me!

By five o'clock the stables and grounds were empty, and our friends from Hanzinell had joined the column which had slackened a bit during the heat of the day, but had redoubled in volume since the sun had gone behind the hills.

### Home Work for Girls and Boys.

In December there appeared in the pages of the Ottawa Free Press an article with a heading in three kinds of type, the first of which was, "Potato Growing Contests for Youngsters Show Crops Three or Four Times as Big as Those Grown Throughout the other Parts of This Province,"—and the second "The Great Idea Isn't so much Cultivating Tubers—Cultivating Boys and Girls and Teaching Them Things Worth While." Accompanying the article was a picture somewhat similar to the one that appears with this, and beneath it the explanation, "Mr. R. B. Whyte, Founder of the Boys' Potato-Growing Contests and of the Home Gardening and Canning Contest described in this article."

As a matter of fact the potato-growing contests were started by Mr. Whyte in 1912, the competition then being thrown open to Carleton County only. In the following year a similar competition was given to the boys of Russell County, and in 1915 the girls of Carleton County were admitted to a Home Gardening and Canning Contest.

The whole plan was made as simple, yet as comprehensive as possible, Mr. Whyte himself providing all the money for prizes and publications, and drawing to his assistance in other matters a small but enthusiastic committee which numbered, Mr. L. H. Newman of the Canadian Seed Growers' Association; Mr. W. D. Jackson, Agricultural Representative for the district; Mr. T. Jamieson and Mr. W. Froats, School Inspectors; and Prof. W. T. Macoun, Dominion Horticulturist.

The prizes ranged from \$4 to \$15, and the requirements were, for the potato competition, that each boy should work one-tenth of an acre of land, take an exhibit to the Fall Fair, and submit an essay describing the season's operations. Inspections of the plots were to be made at stated intervals, and the knowledge and working methods of each boy to be thoroughly understood, so that the mere luck of an accidental large crop should not count in the prize-winning. The boys were permitted to choose whatever variety they liked and use their own judgment in regard to methods, but were supplied with a pamphlet written by Prof. Macoun especially for the competitors.

As it was necessary to make some computation in regard to expenses, and so develop business ability in the competitors, each competitor was required to estimate rent on his plot at the rate of \$3 an acre, and had to pay for labor other than his own, when necessary, 20 cents an hour, and for a horse 10 cents an hour. Stable manure was charged for at the rate of \$1.00 a ton. An average price for the potatoes was placed at 60 cents a bushel.

It has been noted that the expenses of the boys during the various years has varied greatly, some spending only about \$4 in a season and others as high as \$10, but often the boy who spent the most had such yields that his expense was justified and he was in line for receiving the prize.

The enthusiasm among the competitors has been very gratifying, and their success quite remarkable. So far the highest yield came from the plot of John R. Thompson of Cumming's Bridge, who in 1914 grew potatoes at the rate of 652½ bushels to the acre. A rate of

over 500 bus. to the acre has been produced on several occasions. Last year—not a good year for potatoes—the average profit of the prize-winners, estimating at 60 cents a bushel, was at the rate of \$64.10 for Carleton Co., and \$82.64 for Russell Co. The yield was 393 bushels to the acre in Carleton and 420 in Russell.

It is interesting to note that last year every boy in the competition except one grew the "Green Mountain" variety. Prof. Macoun, in complimenting them on their choice, mentioned other varieties among the newer kinds which are proving worthy of attention: "Davies' Warrior," "Table Talk," "Dalmeny Regent", and "Dalmeny Hero."

In the Girls' Competition the competitors are required to cultivate 1-20 of an acre in vegetables and small fruits, also to can both fruits and vegetables. A pamphlet is supplied giving directions for both operations.

Every fall the awarding of the prizes is made an occasion. Last year the affair took place in the City Hall, Ottawa, where an applauding audience gave the boys and girls the encouragement of their presence, and listened to the speeches given by various prominent men, among whom were Prof. Macoun, Dr. J. W. Robertson and Hon. Arthur Meighen. Mr. Whyte was chairman of the meeting.

At the close of each season, also, an illustrated report of the season's operations is prepared, showing pictures of the prize-winners and some of their exhibits.

Last year the prize-winners were: Carleton Co.—Donald Brownlee, Harry Wright, Frank Perry, Fred McBride.

Girls.—Gertrude Brownlee, Marjorie Craig, Evelyn Freeman, Ethel Leach, Mildred Graham, Marion Gillespie, Clara Humphries, Vera Roe.

Russell Co.—Walter Hamilton, John Thompson, Willard Presley, Francis Cotton, Richard Clarke, Serson Clarke.

Now, a word of Mr. Whyte himself. He is a well-known wholesale merchant of Ottawa, but is still better known, internationally, as a horticulturist, being known as an authority even in a body so august as the American Pomological Society. He originated the well-known "Herbert" raspberry, and has also specialized in peonies, and his beautiful garden on Sandy Hill, Ottawa, has long been a Mecca, not only for lovers of gardens and flowers everywhere, but for writers on scientific plant and fruit-growing.

Mr. Whyte is one of the most enthusiastic members of the Ontario Horticultural Association, in which he has held many offices.

In these war years, when every inch of land counts, and the help even of boys and girls, it would be well if his enthusiasm were carried into all other districts, and yet, as Mr. Whyte will tell you, his greatest crop is boys and girls. He believes that it is good for them to do a certain amount of manual labor, and to come into contact with growing things in a scientific way. And so his great aim in the work is to provide fit and useful men and women for the future.

## Hope's Quiet Hour

### Upon His Heart.

Aaron shall bear the names of the children of Israel in the breastplate of judgment upon his heart, when he goeth in unto the holy place.—Exodus 28: 29.

"I the Lord, am with thee,  
Be thou not afraid!  
I will help and strengthen,  
Be thou not dismayed!  
Yea, I will uphold thee  
With My own right hand;  
Thou art called and chosen  
In My sight to stand."

\* \* \* \*

"Onward then, and fear not,  
Children of the day!  
For His word shall never,  
Never pass away!"



Mr. R. B. Whyte, Ottawa.

When the Jewish high priest went into the sanctuary of God, he carried upon his heart the names of the children of Israel. The names of the twelve tribes were engraved upon precious stones and set in the breastplate which he wore. In the seventh chapter of the Epistle to the Hebrews we see the type made plain. There we behold the true High Priest, entering into heaven to present before God the Sacrifice once offered on earth. There He exercises His power "to save them to the uttermost that come unto God by Him, seeing He ever liveth to make intercession for them." Aaron carried the names upon his heart—yet it was in outward fashion chiefly. He could not love and pray for each individual. But our High Priest has entered "into heaven itself, now to

appear in the presence of God for us". Do those words, "for us," seem too general to reach individuals? Aaron prayed for the twelve tribes; as we may now pray for England, France, Russia, Belgium, and for our enemies—as Christians are commanded to do. But prayers for individuals are going up like a great cloud of incense. The soldier in the trenches knows that friends at home are praying for him.

The aviator, poised in space, knows that he is not alone. The prayers of those who love him can reach him and uphold him in the dizzy heights above the clouds.

There are so many millions of people to remember, and yet each of us wants to feel sure that the Great High Priest bears the names dearest to us upon His heart, when He makes intercession for His brethren on earth.

A little girl, who loved Bishop Collins of Gibraltar and prayed for him every night, said to her mother: "What I want to know is, do you suppose he still prays for me?"

The mother answered: "I daresay he does sometimes, but you see he has hundreds of other children to pray for, all the people in Spain, and Portugal, and Italy, and all along the Mediterranean coast."

The child was quite distressed and exclaimed: "How awful! poor dear man, he must be kneeling up all night!"

Later they discovered that the Bishop did pray for little Judith—by name—in spite of the demands of his large diocese.

You see how impossible it would be for an earthly high priest to make continual intercession for each man, woman and child. We need One "separate from sinners, and made higher than the heavens," because each one of us wants to lean upon His heart like the beloved disciple.

On that last night, when Jesus sat as a Man in the midst of His friends, the disciples were quarreling among themselves over the question of "which of them should be accounted the greatest." Perhaps they all wanted the coveted place at the table—the seat nearest their Master. The secret of real greatness was explained to them, and then St. Peter was singled out and warned that Satan desired to gain possession of his soul. "But," said his Master and Friend, "I have prayed for thee, that thy faith fail not."

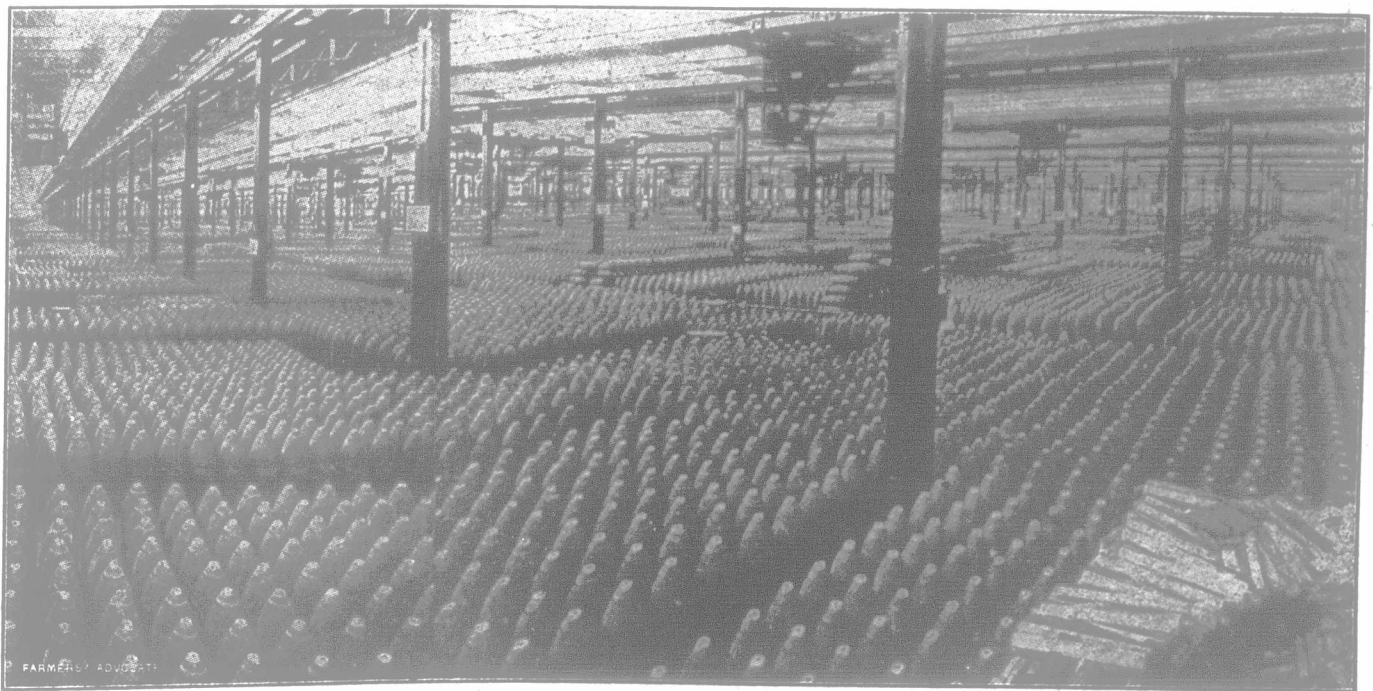
If the effectual fervent prayer of a righteous man—a man subject to like passions as we are—availeth much, how mighty in power must be the special intercession of this Righteous Man, our High Priest, Who is holy, harmless, undefiled and consecrated for evermore.

He prayed for each of the chosen Twelve, but how do we know He prays for us?

We know it because He has said so (St. John 17:20.) Can we imagine that He would say anything that was not true.

Because our Lord prayed for St. Peter He was confident that Satan could not snatch him out of His hand; and that is our ground of confidence to-day.

People are apt to speak very foolishly about prayer. We hear the question contemptuously asked: "How can God answer the prayers of the British



Getting Ready for the Spring Push—One of England's Large Munition Plants.

and the Germans, when both are praying for victory?"

If we pray foolishly—as we often do—God can be trusted to answer in perfect wisdom and love. If our prayers are really offered "in the Name of Jesus," they are placed in His hand. We are entrusting ourselves, those we love, and the cause we love, to His care. We are not demanding that our will shall be done, but saying humbly: "Not my will but Thine." We don't claim God as the God of the Allies—as if He were on our side alone. He is the Father of all men, and His great desire is that all His children may be one family. We dare not demand victory in this terrible war. Shall not the Judge of all the earth do right? But we can, in trustful humility, commit our cause to Him. When Joshua was about to lead his army against Jericho, he had a vision of a man standing with a drawn sword in his hand. Joshua said unto him: "Art thou for us, or for our adversaries?" And he said: "Nay, but as captain of the host of the LORD am I now come."

Joshua must not demand anything from the Divine Captain, but humbly place himself and Israel's cause in His hands. Our Leader loves us, with an individual and personal affection—but He also loves those who are (at present) our enemies. It is His will that peace may be established in righteousness upon the earth. His mighty intercession, for the real spiritual well-being of everyone on the earth, is rising like a great cloud of incense before the throne, and the prayers of all saints ascend up before God with His prevailing prayer (Rev. 8:3,4.)

When Moses stood on the mount, holding aloft the rod of the Lord, Joshua was able to prevail against his foes. When Moses let down his hand Amalek prevailed. To those on the plain—who could not see their leader—it must have seemed as if Moses were doing nothing to help them. Yet he was doing far more than Joshua and all his picked band of warriors.

Our Leader is out of sight, yet He ever liveth to make intercession for us—and His prayer availeth much. We want Peace, and so does He. Is He not the Prince of Peace? But it must be a righteous and lasting peace. Have we no enemies to overcome at home? It has often been said that "Drink is a worse enemy than Germany." Then there is the dreadful curse of impurity, the deadening torpor of selfishness, the love of money which leads to murder and theft, and the lust of power which enslaves the bodies and souls of men.

Victory in the war against sin is our greatest need. Are we—with our Leader

—praying for that?—then God will give us our heart's desire.

"As a King with many crowns He stands, And our names are graven on His hands; As a Priest, with God-uplifted eyes, He offers for us His Sacrifice."

DORA FARNCOMB.

**Sowing and Reaping.**

I dropped a seed in the soft, moist earth, A seed so very small That I asked, as I covered it out of sight, Will it ever grow at all? But I waited and watched from day to day And guarded the spot with care; For I knew if it grew, it would yield a plant Of beauty, sweet and rare.

Sunshine and shadow lent their aid, And the night dews softly fell, Till at last appeared a tiny blade And I whispered, "all is well". Oh, I watched it grow with a tender pride, And my heart was glad indeed, That such beauty fair, such fragrance rare, Could spring from one small brown seed.

I dropped a thought in the heart of a child, Just a simple thought and true,— As the little one went on its gladsome way The thought was lost to view. Yet I watched for growth from day to day, For I knew that the germ was there; And I prayed that God's Spirit might woo it forth Into life and beauty rare.

My prayer was heard and I saw that thought Into lovely action spring; And my glad heart thrilled with a deeper joy Than Nature's blooms could bring. Day by day it grew, till a beauty rare In that bright young life it wrought; And other lives were strengthened and cheered By the fruit of that one pure thought.

MRS. M. CARRIE HAYWARD, Corinth, Ont.

**Gifts From Readers.**

After an afternoon spent in sick-visiting I noticed that the bottom of the "Advocate purse" was showing through. But—like the widow's cruse—that magic purse fills up again.

A letter, containing \$5 from Mrs. A. D., was waiting for me. Then another \$5 arrived from D. V. H., and \$2 from Mr. J.

How kind our readers are! Your gifts have cheered many sick and discouraged people. They send their warmest thanks—and so do I.

HORE.

**The Beaver Circle**

**The Competition.**

Subject: "If you were not yourself who would you like to be?"

Puck has been very well satisfied with the letters sent in this competition, some of which, besides the prize letters, will be published.

Nearly all of the boys chose to be Lord Kitchener (very short letters); nearly all of the girls, Florence Nightingale,—the war evidently having blotted out everybody else. However, the very cleverest of all was written by a lad of Halton County, Ont., who chooses to be known as "Rob Roy." I think he did not know that we prefer to have the real names given in the Beaver Circle.

Others who won prizes were Nellie Bell, R. R. 2, Kars, Ont.; Jean Gilchrist, Shanty Bay, Ont.; and Ruth Hastie, R. R. 2, Conn, Ont.

The Honor Roll is as follows: Mary McKenna, Janet Grieve, Alta Clark, Edward Harrison, Jean Anderson, D. J. MacNabb, Bernard Wheeler, Charlotte Carmichael, Harold Peterson, Charlie Worrall, Stewart Hill, Beatrice Pearson, Agnes Park, Velma Budd, Alice Hughes, and another who forgot to sign his or her name.

**Florence Nightingale.**

Dear Puck.—I saw in your paper a competition for the Beavers so I thought I would try to write. I think I would like to live the brave life that Florence Nightingale lived. She was born in 1820. She first started her nursing by caring for a poor dog who had been hurt by a cruel boy. Then she practised bandaging, by bandaging her doll's limbs. She was one of the first Red Cross nurses who ever lived.

The Red Cross Society was started in 1854 in the time of the Crimean War. The soldiers suffered terribly not only from wounds which were often neglected, but also from diseases caused by want of food and exposure, as there were no nurses to look after them till Florence Nightingale organized a corps of 37 nurses and went to the Crimea.

The secretary of war told her she could have complete authority over all the nurses and that she could also send to the government for anything she thought necessary in the way of equipment. Even though food and clothing were hard to get, on account of the tremendous amount that had to be gone through she managed to establish an invalid's kitchen

where food could be cooked for those who were not able to eat the ordinary meals, and some clothes were also procured so that the soldier's clothes could be washed. A laundry was made that helped to improve the sanitary conditions of the hospital. Changes did not come as she would have liked them to, and in order to relieve the terrible suffering that she saw around her every day she defied the authorities that were over her and always made ends meet.

At night when the doctors and nurses had gone to bed and the wards were all in silence, except now and again a groan would be heard from someone in pain, or the shrieks of the delirious ones who still thought they were fighting on the battle fields, she would go around with her little lantern.

Now and again she would speak to a soldier who was longing to hear her sweet voice, others would get a smile, while lots of men were content to kiss her shadow as she passed. It was by doing so that she gained her name of "The Lady with the Lamp". She often travelled at nights over six miles of wards. Painful scenes were often lessened of their terrors by her presence in the operating room. Once she was stricken with fever while at the Crimea, but she soon recovered and was able to nurse the soldiers again.

When the Crimean war was ended the English people were all prepared to welcome home the faithful nurse whom so many hundreds of the soldiers had grown to praise and love. But Florence Nightingale had expected this and she wished to travel home quietly so she travelled through France as a Miss Smith, and unknown to anybody she reached her own beautiful home at Lea Hurst in Derbyshire, where she had played when she was a little girl.

After the war a dinner was given for the officers of the navy and army on their return home and each of the men were asked to write on a piece of paper who, they thought, had won the most lasting fame in connection with the war, and Florence Nightingale was the answer given.

Queen Victoria presented her with a jewel and the countrymen for whom she had labored presented her with the gift of \$250,000 which she used to build a school to train nurses, in which she herself took great interest. She never guined all her health and strength after the Crimea, so she spent most of her time quietly at home.

Florence Nightingale lived until she was ninety years of age, her death taking place in the year 1910. Her interest in nursing has passed down through the years from the Crimea until now and I think that there are a great many nurses to-day who followed her good example by going to the front and caring for the wounded soldiers.

NELLIE BELL, R. R. No. 2, Kars, Ontario.

**Marian Keith.**

If I were not myself I should like to be Marian Keith, because she is the author of many interesting books.

The first two books she wrote are about Oro, the township in which I live. The two books are entitled "Duncan Polite," and "The Silver Maple."

I have read one chapter of a book she wrote entitled "The End of the Rainbow." I like as much as I have read of it. Other books she wrote are "Lisbeth of the Dale", "Treasure Valley," and "The Black-Bearded Barbarian", which is a story of a missionary, McKay of Formosa.

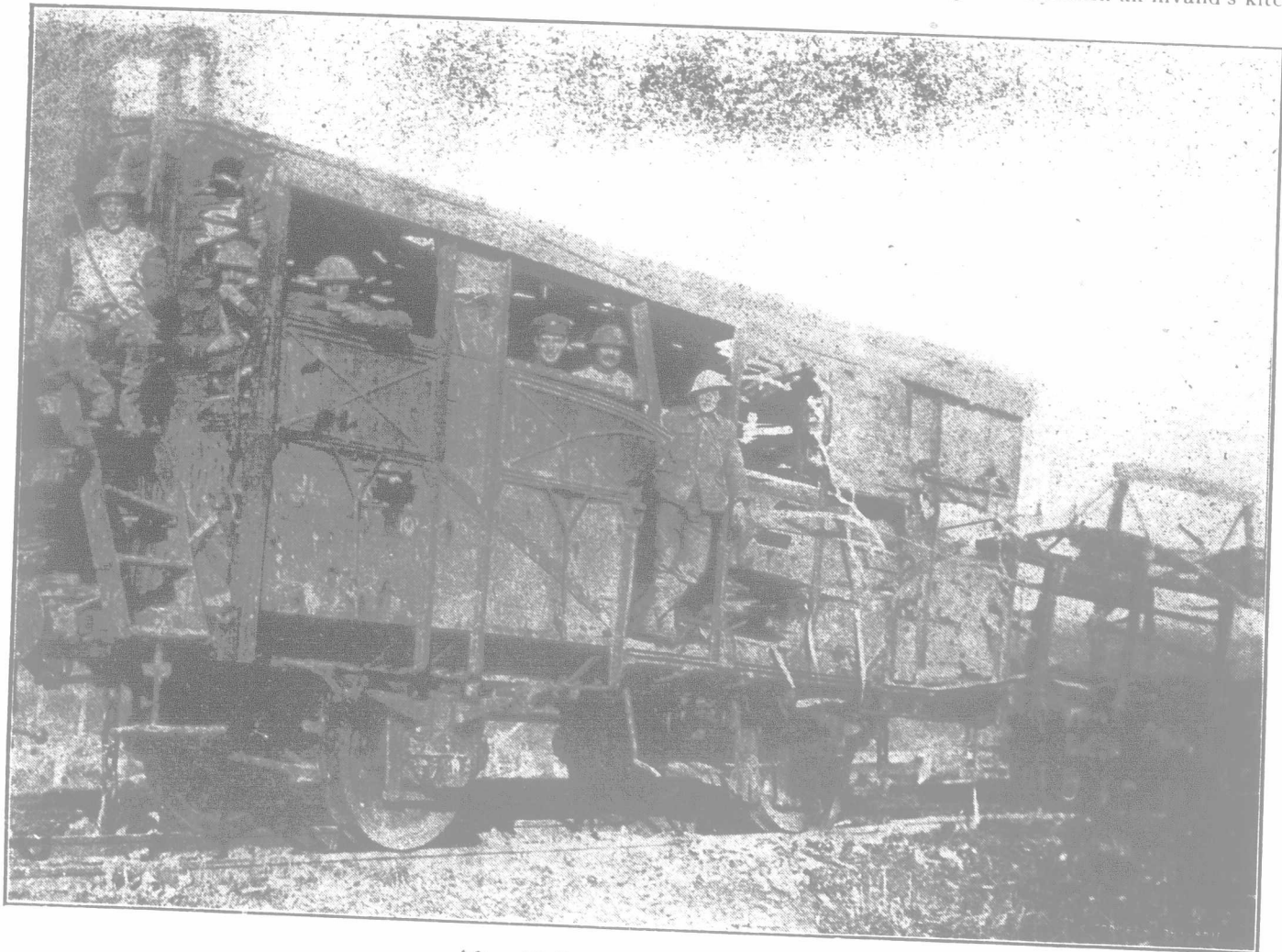
She also wrote a story entitled "Nancy in the Girl-Garden". It is about six girls going out camping. Nancy was the favorite girl in the camp, because she was so full of fun.

Some day I hope to read all Marian Keith's books, and be able to write like her. I am writing a book entitled "The Home of the Six Children." Already I have thirty-one pages. Would the Beavers like to read it? If so, I will send it a chapter at a time, so as not to take up too much space in the paper. There won't be more than five chapters.

JEAN GILCHRIST, age 10, Jr. III Class, Shanty Bay, Ont.

**Florence Nightingale.**

Dear Puck and Beavers.—There are many great men and women whom we have read of but if I were not myself



After Riding the Enemy's Fire.

A shot-ridden Red car in which a score of brave British Tankists rode valiantly through the enemy fire to fulfil an order. Underwood & Underwood

I would like to be Miss Florence Nightingale.

Florence Nightingale was born in Florence and was a very kind girl. She played with the poorer children and spent much of her savings on them. Although her parents were very wealthy and she did not have to work she decided to be a nurse. She studied in Kaiserworth and Paris. She was very clever and when she was through studying she organized a Home for sick Governesses in London.

France and England were now at war with Russia and were fighting in the Crimea Peninsula. There were more soldiers dying in the hospitals than were being killed on the battlefield. When Florence Nightingale heard this she and thirty-seven other nurses set sail for Scutari.

They arrived the very day of the battle of Inkermann, and there were a great many wounded soldiers coming in. Although there was little space they were all found beds and their wounds were carefully dressed.

The hospitals were very dirty and cholera germs were everywhere but with swift and skilful hands things were made clean again.

Florence Nightingale was very gentle and good to the soldiers. They called her "The Lady with the Lamp", because every night she would come around and speak some gentle words to each of the soldiers. If any one wanted her to write a letter for him or do anything she was always willing to oblige them.

I would like to be Florence Nightingale because she thought of others before herself and made them happy; I would like to be loved as much as she was and would like to live as good a life.

Hoping the w. p. b. is gone to the war, I will close wishing the Circle every success.

RUTH HASTIE, age 13.

R. R. No. 2, Conn, Ont.

P. S.—Would be pleased to hear from any of the Beavers.

Who Would I Like to Be?

BY ROB ROY, Hornby, Ont.

I would like to be Robert Burns.

Why? Because he had an ideal in life, and reached it. At sixteen he wrote:

"E'en there a wish, I mind its power, A wish that to my latest hour, shall always fill my breast, That I for dear Auld Scotland's sake Some useful plan or buik might make Or write a sang at least."

Burns did not seek fame for himself, but wished to make his beloved Scotland famous. Did he do it? There are no songs like the love songs Burns has written, the love songs not for Scotland but for the world. There is not an opera house or concert hall in the world where the English language is spoken and where the common people, and the people of culture meet, but Burns' songs are sung. Thus he has made his country famous all over the world.

Then he has written the finest poem ever written in the English language. Many votes have been taken by newspapers and magazines, when their thousands of readers were asked to say what they thought were the ten finest poems ever written. "Cottar's Saturday night" always led by thousands. Then Burns has ennobled humble things. The cottar earning the smallest wage and doing the hardest work, is with his wife and little ones, spoken of thus:

"From scenes like these Old Scotia's grandeur springs, That makes her loved at home, revered abroad."

In another verse he breathes a prayer that is truly immortal because it might be repeated in the world to-day.

"O Scotia, my dear, my native land, For whom to Heaven my dear wish is sent,

Long may thy hardy sons of rustic toil Be blest with health and strength and sweet content,

And ever do their simple lives prevent From luxury's contagion weak and vile, Then how'er crown or cornet be sent A righteous populace may rise the while And stand a wall of fire around thee—much loved isle."

Then he took Mary Campbell, a dairy-maid, and he, a ploughman, by his songs has made her one of the best known women in the world to-day. He in his youth lamented that while streams and rivers of other countries had been made famous in song and story still Lugar, Afton, Ayr, and Doon Naebody sings. "Flow Gently Sweet Afton," "Ayr Gurgling Kissed Her Pebbled Shore," "Beside Yon Banks where Lugar flows," "Ye Banks and Braes o' Bonnie Doon", have made the Scottish rivers and streams better known and more famous than any other in the world. Educated tourists from all lands have gone to the Burns country to see these streams.

Then he taught true Christian charity: "Then gently scan your brother man Still gentler sister woman, If they do go a kennin' wrang To step aside is human.

Who made the heart 'tis He alone Decidedly can try us, He knows each chord, each various tone Each mood, each different bias:

Then at the balance let 's be mute We never can adjust it, What 's done we partly can compute But never what's resisted."

What a refined purified socialism he taught in "rank is but the guinea stamp, The man's the gowd for a' that."

Shakespeare and other poets had gone to homes of the aristocrats, and the courts of royalty for the chief material for their poems. Burns was the first poet to go to the homes of the Cottar. He was the first to teach us the beauties of the fields.

"Sweet, modest, crimson-tipped flower Thou hast met me in an evil hour."

Or when his ploughshare turned up the the mouseie nest,

"The best laid schemes o' mice and men Aft gang a-gley."

There is not a land under the sun, but what has a monument to Burns. After a century and a half he is better known and better loved than ever. On the 25th of this month, in every land, in city, town, hamlet, lonely prairie and in the trenches and camps of the army, thousands will celebrate the birthday of their beloved Bard.

If I had my choice I would sooner be Bobby Burns than any other man living or dead.

The Fashions.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price fifteen cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no pattern will be sold under 15 cents each, regardless of date published, owing to advance in cost of same.

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

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

The Spring Fashions.

Very gay are many of the shades shown for spring wear: gold, rose, lawn green and apple green being very much in evidence, although there are plenty of materials in navy blue, gray and stone color to suit conservative tastes.

In materials: Jersey cloth, fine serge and gabardine will be fashion's favorites

for suits, with silk poplin, fine serge and crepe de chine for dresses. Georgette crepe is as popular as ever for sleeves vestes and fancy blouses.

The "chemise" dresses are still very popular, giving, as they do, the popular barrel effect. Skirts are invariably full, often pleated, and sleeves are small. Pockets are seen on nearly all of the utility dresses, and knotted sashes instead of belts on the fancier dresses. White or cream satin still holds its place as the favorite material for collars.



9346—Boy's Suit, 8 to 14 years.



8983.—Blouse for misses and small women, 16 and 18 years.

9237—Two-piece skirt, misses and small women, 16 and 18 years.



9336 Girl's Middy Dress. 6 to 12 yrs. Price 15 cents.



9344 One-Piece Gown 34 to 42 bust. Price 15 cts.



9230.—Girl's Surprise Dress, 8 to 14 yrs.



9146.—Girl's Dress, 8 to 14 years.



9343 One-Piece Dress 16 and 18 years. Price 15 cents.



**CROWN BRAND  
PURE CORN SYRUP**  
In "Perfect Seal" Glass Jars

These are the finest preserving jars made; and hold a full quart of preserves, or 3 pounds of "Crown Brand" Corn Syrup.

By buying "Crown Brand" in glass, you get the most delicious table syrup, in the perfect preserving jars. Ask your Grocer for them.

Your grocer also has "Crown Brand" in 2, 5, 10 and 20 pound tins.

You'll find our new recipe book, "Desserts and Candies" helpful and interesting. Write for a copy to our Montreal Office.

THE CANADA STARCH CO. LIMITED,  
MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.  
Makers of "Lily White" Corn Syrup—  
Benson's Corn Starch—and "Silver  
Gloss" Laundry Starch. 224

# WRIGLEY'S

The Gum with Lasting Flavour



## First Aid for the "Fighters and Home Guard"

It steadies the nerves. Gives long-lasting refreshment. Allays thirst. Its goodness is perfectly preserved by the sealed package.

Made in Canada

WM. WRIGLEY JR. CO., LTD.,  
Wrigley Bldg., Toronto

The Flavour Lasts

Sealed tight

Kept right

**Phonola**  
REGISTERED

Plays any style or make of disc record with an absence of scratching and clicking. Its life-like reproduction is clear and sweet. Priced from \$15 to \$250. Write to-day for catalogue and name of local dealer. Agents wanted.

The Pollock Mfg. Co., Ltd., Kitchener, Ont.

**The SHERLOCK-MANNING**  
20th Century Piano IS  
Canada's Biggest Piano Value

SAVE \$100

Write Dept 18 for catalogue T, which tells how.

**THE SHERLOCK-MANNING PIANO CO.,**  
London, (No street address necessary) Ontario

## The Ingle Nook.

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

### Birds of a Feather.

They were very much of a feather, but very different in size. The one was little, dapper, alert, quick in his movements—like the catbird that flirts about of a May morning, only that one would have to rob it of its cat-call. The other was huge, slower of movement and slower of vocalization.

When I first saw them they were standing side by side at a table in a horticultural exhibition, not pecking at the grapes and luscious pears, but trying to spread protecting wings over them, all the while keeping sharp eyes open against possible marauders. Had anyone attempted to make off with a plateful of the fruit there would have been a sudden flutter and a concentrated attack—and the little one would have got there first.

Both were gray-bearded, and upwards of threescore years and ten, I should say—the huge one perhaps considerably over—but the beard of the one was of somewhat aggressive quality, parted a bit in the middle, and out-spreading like a sheaf that has been exposed to the weather, while that of the other was soft and bushy, descending to his waist after the patriarchal order.

The eyes?—ah, it was most by the eyes that one recognized them as birds of a feather,—such bright, kindly, interested eyes, endowed with the peculiar quality of innocent enjoyment that invariably marks the worker with plants and fruits. And when one came near them one heard a conversation all of soils and growing things, carried on with the certainty of those who know. This apple was a Fameuse, that a Gravenstein and yet that one a Pewaukee; this bunch of grapes was a Delaware, and that a Diamond, and that farther one, black as a sloe in spite of its blue bloom, a Merrimac,—and so on through berries, pears, currants and all the other delectable foods concocted by the gods to show mortals that the body is by no means to be despised.

But it was at the flower tables that the chattering grew fast and furious. What heralding about of names of high degree here, most of all, perhaps, in the section devoted to Roses: Bourbon and Lord Penzance in the same breath; Baroness Rothschild and Baron de Bonstetten, Earl of Dufferin and Prince Camille de Rohan, Kaiserin Auguste Victoria and Reine Marie Henriette, crooning off—lest democracy be quite forgotten—into such sweet, simple callings as Margaret Dickson, Paul Neyron and Mrs. John Laing.

Then, elsewhere, with what absolute naturalness were terrific words hurled about!—*Eschscholtzia* and *gypsophila paniculata*; *Salpiglossis* and *Calliopsis lanceolata*; *Calceolaria* and *Delphinium formosum caelestinum*; *schizanthus* and *Gailardia grandiflora hybrida compacta*! Truly, in listening one could not but think of the description of another, simple-minded and lovable as these men,—

"And still the wonder grew  
That one small head could carry all he knew."

But what would you have? Flower-lovers must needs have flower talk.

Long, long ago, when the huge one was left for a little, all by himself, and strayed into a room whose floor was covered with a rose-patterned carpet. Returning presently, in a panic over his absence, someone found him with a little pitcher of water, face flushed, golden curls all a-rumple, busily engaged in watering the worsted roses on the floor.—And so the eternal law works out "the child is father of the man." The whole life after was one revelling among flowers, mucking with the roots of them in the sweet-smelling brown earth, gloating with a sweet miserliness over the tender pink and pale green and bronze-colored seedlings, lordling with a true and lavish kingliness among the tall flowering stalks with their crowns of crimson and yellow and blue. "No better temple have I in all the earth," said the man, head bared, in the midst of his garden, at five o'clock of a Sabbath morn. And the pink searchlight from the rising sun, touching that reverend head,

found the locks turning silver, and the eyes still clear, and the lips curved with the sweet tenderness that comes to the one who has thought long on the beautiful manifestations of the Creator.

To the younger of the two "birds of a feather," the wonder of the plant world did not appear until he was fifty-three years of age. At that time a brother-in-law, a botanist for the Government, invited him to go on a three years' study trip through the fastnesses of British Columbia and the invitation was accepted without the slightest premonition of what it might mean. The whole experience proved to be a continuous opening of eyes, and the little man with the parted beard came back with a new light in his life and a new singing in his heart.

Henceforth one might see him, at any hour of the day from earliest dawn until nightfall, prowling in his garden, or setting off, armed with lunch-box and magnifying-glass, for the fields or woods. He knew every spot where plants loved to grow within ten miles, and could tell you just when the last cardinal-flower vanished from the streams and the last arbutus from the woods within a five-mile radius. If the storms of temper ever arose in his soul it was against the thoughtless marauders from the city who had thus devastated the neighborhood, and if there was a cloud upon his later years it was because of the possibility of wider range so richly afforded to the marauders by the increasing prevalence of automobiles. "Why do they delight in killing things!" he would exclaim in real grief, "Why can't they love things without harming them!" I am not sure that he ever heard Whitman's outcry against "the mania of owning things," but assuredly, if he did, he said Amen thereto with all his heart. Moreover, to him it seemed that all growing things were sentient and even conscious. "How do we know they are not?" he would say, and then he would go on to point out how the vine-tendrils reaches out for the nearest support, and the "sensitive plant" shrinks at the touch of the careless or the curious, and the great roots of the tree turn and creep, far beneath the surface of the soil, towards the hidden spring from which they would drink.

Yes, they had much in common, these two birds of a feather, and perhaps it was not strange, when the little one slipped this body to assume who-knows-what other body, with who-knows-what new privileges and perceptions, that the huge one should soon follow, sloughing off the coil that had grown somewhat clumsy and unsatisfactory with the years, as easily as one sloughs off a pair of old shoes.

Perhaps it is not necessary, where the souls of the departed flowers grow, that the two friends spread protective wings above and drive off enemies with quick peckings, but, listening low, one can hear that the chatterings have been resumed, and one surmises that new worlds are not failing to provide, in greater beauty and wonder, what this good old green earth has so sweetly begun.

JUNIA.

### Good Digestion.

"Good digestion," says Dr. Max Einhorn in Medical Record, "is the best promoter of good health and a long life." And then he goes on to tell how it may be maintained.

In the first place, for the normal person, a sufficient variety of food should be provided; this will both stimulate the appetite and help digestion. The variety should be as great as possible, but not too many kinds should be served at one meal.

Meat should not be served more than once or twice daily, and plenty of vegetables should be served with it. Bread and butter, fruits and salads should be used liberally, while water should be taken at each meal and, if thirst be present, between meals. Water contains mineral salts of different kinds which are useful to the body, but its greatest use is to assist in digestion, assimilation and elimination of foods.

Too great fatigue destroys the appetite, although a moderate amount of work done before eating increases the appetite and helps with digestion.

Worry is fatal to good digestion; good will and happiness help it. A short period of rest following each meal is advantageous. During the meal itself pleasant conversation should be the rule. Plenty of fresh air and a healthy

MAR  
skin k  
by fre  
helps  
All S  
No  
smile  
the ga  
the fo  
Fair,"  
love t  
Her n  
poem  
A Hat  
I hate  
They  
There  
They  
Every  
They  
And v  
To see  
They  
Who s  
not ev  
They  
Saying  
They  
Oh, ho  
Then  
The B  
They  
Some  
Every  
Their  
They  
Real T  
The th  
Yes, th  
Conve  
They a  
—I wis  
And th  
in Tro  
Always  
Usually  
They  
They a  
They v  
And, w  
They l  
No one  
And th  
Then t  
They a  
They k  
And w  
They fo  
They k  
Oh, ho  
There  
Why a  
They s  
They t  
What l  
And ho  
And th  
"My d  
—Don't  
There  
They a  
They a  
And pl  
They to  
They a  
I somet  
Any ju  
I hate  
They g  
Junia  
quite w  
useful  
For  
over t  
leave t  
yolks w  
as any  
Peel  
Than

skin kept fit to throw off waste matter by frequent bathing are also valuable helps to a good digestive system.

**All Sorts and Conditions of Women.**

Now, just something to make you smile a bit. Between you and me and the gate-post, I don't think the writer of the following, which appeared in "Vanity Fair," hates women at all,—but she does love to laugh at their little peccadillos. Her name is Henriette Rousseau. The poem appears under the title of "Women: A Hate Song."

I hate Women.  
They get on my Nerves.  
There are the Domestic Ones.  
They are the worst.  
Every moment is packed with Happiness.  
They breathe deeply  
And walk with large strides, eternally  
hurrying home  
To see about dinner.  
They are the kind  
Who say, with a tender smile, "Money's  
not everything."  
They are always confronting me with  
dresses,  
Saying, "I made this myself."  
They read Woman's pages and try out the  
recipes.  
Oh, how I hate that kind of women.  
Then there are the human Sensitive  
Plants;  
The Bundles of Nerves.  
They are different from everybody else;  
they even tell you so.  
Some one is always stepping on their feel-  
ings.  
Everything hurts them—deeply.  
Their eyes are forever filling with tears.  
They always want to talk to me about the  
Real Things,  
The things that Matter.  
Yes, they know they could write.  
Conventions stifle them  
They are always longing to get away—  
Away from It All!  
—I wish to Heaven they would.

And then there are those who are always  
in Trouble.  
Always.  
Usually they have Husband-trouble.  
They are Wronged.  
They are the women whom nobody—un-  
stands.  
They wear faint, wistful smiles  
And, when spoken to, they start.  
They begin by saying they must suffer in  
silence.  
No one will ever know—  
And then they go into details.

Then there are the Well-Informed ones.  
They are pests.  
They know everything on earth  
And will tell you about it gladly.  
They feel it their mission to correct wrong  
impressions.  
They know Dates and Middle names.  
They absolutely ooze Current Events.  
Oh, how they bore me.

There are the ones who simply can not  
Fathom  
Why all the men are mad about them.  
They say they've tried and tried.  
They tell you about some one's husband;  
What he said  
And how he looked when he said it.  
And then they sigh and ask,  
"My dear, what is there about me?"  
—Don't you hate them?

There are the unfailingly Cheerful ones.  
They are usually unmarried.  
They are always busy making little Gifts  
And planning little surprises.  
They tell me to be, like them, always look-  
ing on the Bright Side.  
They ask me that they would do without  
their sense of humor?  
I sometimes yearn to kill them.  
Any jury would acquit me.  
I hate women.  
They get on my Nerves.

**For Frozen Eggs.**

Junia,—A splendid wrinkle we think quite worthy to appear in Nook, and one useful at this time of year.  
For frozen eggs, pour boiling water over them covering them (in water), leave until water is cool, when broken yolks will be quite soft and beat up same as any yolk.  
Peel Co., Ont. M. A. J.  
Thank you, M. A. J.

**Keeping Fish.**

Dear Junia.—I have seen how other readers receive many helpful things, so I thought I would write for your assistance now, as spring is drawing near and it brings many things with it. We get quite a few fish (suckers) from the creeks, so many at once that we would like to keep some for the summer. Could you tell us how?

A COUNTRY LASS.  
Lambton Co., Ont.

Any kind of meat or fish can be kept in sealers if canned properly. Would advise you to cook the fish and remove bones, etc., adding enough salt to season. Pack tight into well sterilized sealers then boil for a while, with the tops on loosely. Screw down while boiling hot and keep in a cold place. The fish may also be dried and smoked. To sterilize sealers wash them well then put into cold water, bring to a boil and boil 20 minutes.

**How to Cook Fish.**

Fish is one of the most inexpensive of the proteid or muscle-forming foods and might well take a more frequent place on the family table.  
To Boil Fish.—Wrap it in clean cheesecloth and plunge into boiling salted water, then simmer, until done, allowing about 8 minutes to the pound. Do not let the water boil hard, as that will spoil the flavor. Instead of boiling the fish you may steam it, allowing about the same length of time.  
Stuffed Fish.—Stuff the fish with a good breadcrumb stuffing, using any seasoning liked, then lay some strips of fat pork over the top and bake, basting often. Serve with tomato sauce or milk sauce.  
Finnan Haddie.—Wash the haddie and cook it gently in water until done, then remove, drain and serve with a rather thick milk or cream sauce.

Codfish balls.—Boil 1 cup codfish with 4 good-sized potatoes, using as little water as possible. When done mash potatoes and fish together, add a good-sized piece of butter, a little pepper and a beaten egg. Form into balls, roll in flour and fry brown in butter or dripping. Serve very hot.

Halibut Cutlets.—Cut the halibut steaks an inch thick and season with salt and cayenne pepper. Dip each in egg then in bread crumbs and fry in deep fat until light brown. Salmon may be fried in the same way.

Fried Fresh Herring.—Get the herrings ready, split them open from the back and lay them flat. Dust over them a little pepper and salt, then put them in a hot frying-pan, skin side next the pan. No dripping is required as good herring contain sufficient oil to fry them.

Salmon Croquettes.—One can salmon 1/2 cup milk, 1 tablespoon flour, 1 egg, a little lemon juice. Let boil until thick, then make into balls with a spoon, roll in crumbs and fry.

Salmon Salad.—One large can red salmon, 1 cup chopped celery, 1 cup chopped walnuts, 3 or 4 sweet pickles. Mix well with mayonnaise dressing.  
Scalloped Salmon.—One can salmon minced fine. Roll 1 dozen crackers and put in a baking dish alternately with the salmon, adding bits of butter and a sprinkling of salt and pepper to taste. Have the top layer of the cracker crumbs, and add enough milk to moisten the whole. Bake 30 minutes and serve hot.

Creamed Salmon.—One can salmon, 1 cup milk, 2 level tablespoons flour, 1 teaspoon chopped parsley. Melt the butter. Add the flour, rubbing the two together over the fire until the flour begins to cook. Add the milk, stirring constantly, and boil till smooth. Add the parsley and salmon. When quite hot serve on buttered toast.

**Spring Cookery.**

In the spring the preserve jars begin to fail; the celery is at an end; in the country lettuce and radishes, so plentiful in city shops, are hard to get; possibly even the last apples have been taken from the apple barrels.  
But there are still possibilities in the cellar and in the pantry. No doubt there are some potatoes still on hand, some dry beans and some onions, and in some stores there are, besides oranges, bananas and pineapples, all the dried fruits: prunes, apricots and peaches. Indeed, compared with the privations in

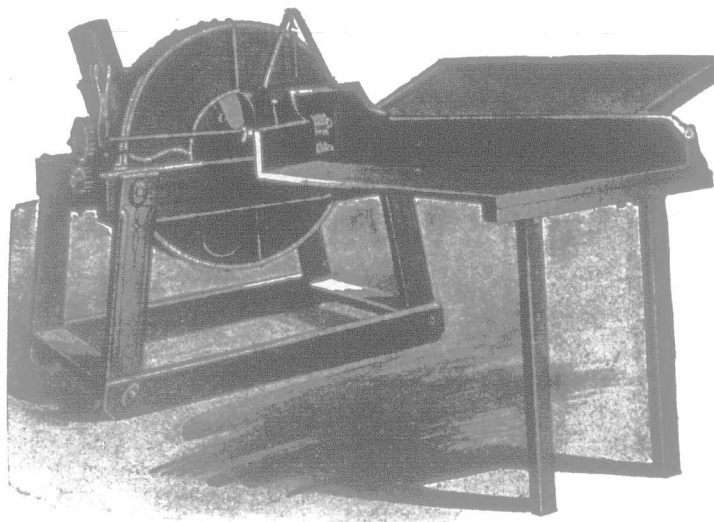
**Build With "METALLIC"**

EASTLAKE SHINGLE      EMPIRE CORRUGATED IRON

MAKE your buildings last a lifetime. Let us show you the savings made by using "Eastlake" Galvanized Shingles, "Empire" Corrugated Iron (for roofing and siding), "Metallic" Rock and Brick Faced and Clapboard Siding, "Halitus" Ventilators, "Acheson" Roof Lights, "Metallic" Ceilings, Eavetrough, etc.

Write us for information and booklet based on years of experience in farm buildings.

**Metallic Roofing Co. Limited, Manufacturers, Toronto and Winnipeg**



**Look! Stop!! Listen!!!**  
For quick sale—3 new  
**Easy Running MONARCH Blower Cutting Boxes**

Specifications: Throat 50 square inches, table 6 feet, knives 2, fans 4; 30 feet of pipe and deflector. Horsepower 5 to 6. Capable of filling 35-foot silo.

Hurry! First three customers sending us \$55 for one gets them.  
**Canadian Engines, Ltd.**  
Dunnville, Ont.  
Above subject to prior sale.

**The Power Behind the Profitable Farm**

Farmers to-day have the best chance ever to make money—if they can only solve the labor problem!

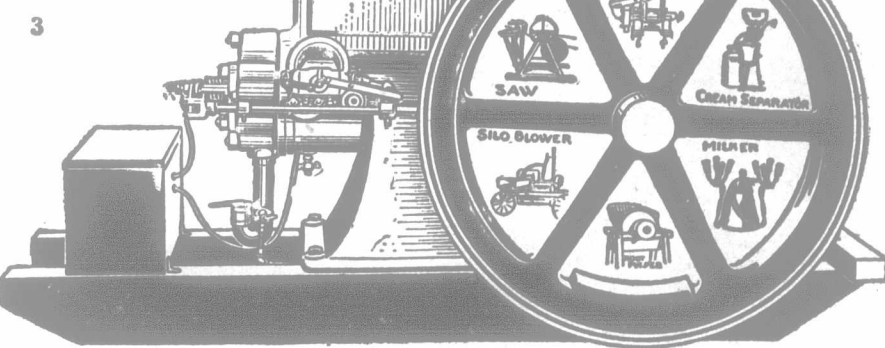
Here's where the TORONTO Gasoline Engine comes in. It handles no end of heavy work around the barn and house, and does it far cheaper than hired men—even if you could get them. From grinding, driving the straw and hay cutter, filling the silo, pumping water and sawing wood, down to running the milker, the separator and the grindstone, it will do so many hard, tiresome jobs that you'll wonder how you ever got along without it.

**TORONTO ENGINES**

give particularly good satisfaction because they are so simple and adaptable. Our illustrated booklet shows that there is nothing complicated about them to be figured out, tinkered up or referred to experts—nothing likely to get out of order and tie up an important job. They start easily and run like clockwork, at a speed that can be controlled within wide limits while they are running.

Battery or Magneto Ignition—Gasoline, Kerosene or Natural Gas Fuel. Our illustrated booklet shows that there is nothing complicated about them to be figured out, tinkered up or referred to experts—nothing likely to get out of order and tie up an important job. They start easily and run like clockwork, at a speed that can be controlled within wide limits while they are running.

We also manufacture Windmills, Pumps, Silos, Stable Equipment, Etc.



**Better Ensilage at less Cost with**

**The TORONTO Economy Silo**

The comparatively low cost of wood staves—the quickness and ease of erection—and the extra capacity afforded by the new HIP-ROOF—make the TORONTO Economy Silo less expensive per ton of silage than any other standard type. Being absolutely air-tight, even to the doors, and having no tendency to draw the frost, it makes better ensilage than silos costing far more. Write for Booklet explaining its advantages. 14

**Ontario Wind Engine and Pump Co. Limited**  
Dept. "F"  
**TORONTO and MONTREAL.**

# Pull Stumps The Easy, Practical Way

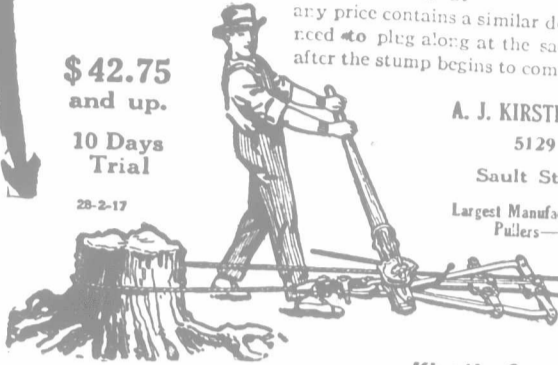
**C**LEAR your land by the KIRSTIN Method, the quick, easy, sensible, economical way—the way that has proven practical under all conditions. One man handles and operates the KIRSTIN One-Man Puller—no horses required. The improved Double Leverage KIRSTIN—the new short lever Model stands the extreme test of the very hardest stump-pulling. The KIRSTIN wonderful compound leverage principle makes any man master of tough stumps anywhere. In addition to its practically unlimited power, the KIRSTIN changes speed while pulling a stump. No other Stump Puller at any price contains a similar device—no need to plug along at the same speed after the stump begins to come.

When the hard pulling is over and the stump begins to come, shift to high-speed and hasten the pulling. Clears over an acre from one anchor—no time lost in resetting the machine, just a steady, easy back and forth movement of the lever pulls out stump quick and easy. Pulls small trees, hedges and brush in bunches.

**Kirstin**  
Stump Pullers  
Made in Canada

The KIRSTIN gives unlimited power. The low price puts the KIRSTIN within reach of all. Ten day try-out on your farm—Special Profit-Sharing Offer to the first buyers in each neighborhood.

\$42.75 and up.  
10 Days Trial  
28-2-17



Kirstin One Man Puller

Write To-day for Our New Book, "The Gold in Your Stump Land"—don't clear a foot of land until you get this valuable book.

A. J. KIRSTIN CANADIAN COMPANY  
5129 Dennis Street  
Sault Ste. Marie, Ontario.  
Largest Manufacturers in the World of Stump Pullers—Small and Large Power.



Clears Land from 10% to 50% Cheaper than any other method

KEITH'S

THE FARMER'S SEEDSMAN SEEDS FIFTY YEARS SERVICE

1866 1916

We cannot urge too strongly  
**ORDER YOUR SEED EARLY**

The supply of good reliable seeds of all kinds is very limited this year. Be sure and make it a point to get your orders in early so as not to be disappointed.

**We pay railway freight on all orders of \$25 or more in Ontario and Quebec.**

SEED CORN	Rack Crib	Cured in Crates in Bags	Per Bushel
Ontario Crown	Wisconsin No. 7	Golden Glow	3.15
Bailey	White Cap	Longfellow	3.25
N. Dakota	Compton's		3.25
			3.00
			2.50
			2.50
			2.75
			2.75
			1.1c. lb.

Gov't Standard No. 1 Red Clover \$14.00 to \$14.50  
No. 2 Red Clover 12.50  
No. 1 Alsike \$14.00 to 15.00  
No. 2 or 3 (No. 1 for purity) \$13.00 to 14.00  
No. 1 Timothy 5.50  
No. 2 (Extra No. 1 purity) 4.50  
ALFALFA  
Montana Crown No. 1 15.00  
Ont. Variegated No. 2 (almost No. 1) 25.00  
Lynman's Grimm 80c. lb.  
North-West Grimm 75c. lb.  
O. A. C. No. 21 Barley registered \$ 2.00  
O. A. C. No. 21 Barley 1.60  
Marquis Spring Wheat 2.40  
Goose Wheat 2.35  
For Clover and Timothy allow 30c. for each cotton bag required. Grain sacks free.

We are buyers of Alsike, Alfalfa, Red Clover, Sweet Clover, Timothy and Seed Grain. Send samples. We are especially in need of Rye, buckwheat, Spring Rye, Emmer, O. A. C. 72 Oats, Black Oats, Black Hullless Barley and Pearce's Tree Beans.

**Send for our 1917 catalogue, brimful of information; free.**

GEO. KEITH & SONS SEEDS 124 KING ST. E TORONTO

APPLE TREES

The best varieties, all Government inspected trees, at rock-bottom prices, delivered at your nearest railway station. You will never again, we believe, have an opportunity to buy selected trees at these low prices. Nurserymen and growers predict next year an advance of from ten to fifteen dollars per hundred. Place your order now, while we have a general assortment on hand.

E. D. SMITH & SON, LIMITED

NURSERYMEN  
WINONA, ONTARIO

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

Europe in this war-time, the opportunities in the Canadian kitchen are legion. A few new ways of cooking the few things on hand, and the lack of variety will scarcely be noticed.

Onions, for instance, may be made to wear several different faces, and are always wholesome. When boiled in salted water and served with cream or milk sauce, either at dinner with meat, or on buttered toast for a supper dish, they are very appetizing. Also the large ones may be stuffed. To do this choose large ones, parboil them and remove from each enough to leave a cavity. Into this place a mixture made of the removed onion, cooked veal, chicken or sausage, a little bread-crumbs, with butter and seasoning to taste. Fill to heaping, then bake slowly, basting from time to time with melted butter. Serve with white sauce. To make white sauce, mix melted butter with flour, in equal quantities, cooking until it begins to boil, then add milk or cream and bring to boiling. When cooked season and serve very hot.

Try old potatoes this way: Take the boiled ones left over after dinner and cut them in thin slices or small squares. Put them over the fire in a saucepan, adding boiling water almost to cover. Cover the dish and boil rapidly for some minutes, then uncover and let the water evaporate somewhat. For each pint of potatoes add about 1/2 teaspoon salt and 3 or 4 tablespoons butter. Mix thoroughly, and serve very hot. A little sharp tomato or mushroom catsup or Worcester sauce may be added if liked.

Boston baked beans are delicious for supper, and are not known as well in Canada as they should be. They appeal particularly in cold weather; in fact they are especially a winter dish as they can be prepared then without waste of fuel. A Boston recipe is as follows: Pick over and wash 3 cups small white beans; cover with cold water and soak over night. In the morning put them on the stove, just to scald, not boil, in the same water. Pour off the water and put the beans into a bean-pot (earthen vessels are best). Add 7 teaspoons sugar, 1 teaspoon salt, 1/2 lb. salt pork, fat and lean mixed. Cover with fresh water and bake from 8 a. m. until 6 p. m. As the water boils away add more. A very little molasses may be added if liked. Serve hot with tomato catsup.

Ordinary bread dough may be made into delicious Coffee Rolls as follows: When the dough is risen light and fluffy cut off with a very sharp knife some small pieces and make into little rolls four inches long, handling just as little as possible. Turn back into a twist and fry in hot beef fat. When done sprinkle with powdered sugar and cinnamon and serve at once with coffee.

Delicious Dip Toast is made this way: Cut slices of bread 1/2 inch thick and toast nicely. Dip these into hot salted milk, letting them remain until soft

Lay them on a hot platter and spread a little butter over each slice. Have a quart of milk, more or less according to the size of the family, heating in a double boiler, and salt it to taste. Wet 2 tablespoons flour with a little cold milk, stir until smooth and pour into the milk when boiling. When cooked it should be of the consistency of rich thick cream. Add a bit of butter and pour while very hot over the bread. Serve at once. A nice supper dish.

Orange Marmalade.—Take one dozen oranges and four lemons; cut each fruit in quarters and slice the quarters through pulp and rind as thin as possible, discarding all seeds. Weigh the prepared fruit, and to each pound add three pints of cold water. Set aside for twenty-four hours. Let boil gently until the rind is perfectly tender (it will take six or more hours), then set aside until the next day. Weigh the material and to each pound add one pound of sugar. Let cook until it thickens enough to hold up the peel. The mixture will thicken still more on cooling and care must be taken not to cook it too much. Stir occasionally, while cooking, to avoid burning. Store in jars. With a small hardwood board upon which to rest the fruit and a thin, sharp knife, the slicing is quickly done. If the bitter marmalade is liked use all bitter oranges.

## Food Economy.

### Use of Oatmeal.

Dr. C. W. Saleeby in the "Daily Chronicle," London, Eng. loudly voices the value of oatmeal as a foodstuff. "We definitely know," he says, "that the plate of porridge alone, with milk and sugar, for instance, at the beginning of such a breakfast, is an adequate meal for a really normal appetite with moderate work. Scottish experience has proved it. In times past, oatmeal was the staple food of Scotsmen, whom anthropologists then reckoned to be the tallest of mankind, with the most splendid and substantial skeletons. Many a time, in Edinburgh, in past years, have I seen a pack of such Scottish forwards, doubtless breast and porridge-fed to a man, shove English, Welsh or Irish forwards back for yards in a Rugby 'scrum.' So much for the body. As for the development of the brain, which is body, too, but almost more, oatmeal need fear no challenge. Everything one needs it contains. Truthful history is the tradition, astonishing as it has always sounded to Southern ears, educated in Scotland, that in times past the son of the Scottish manse left his home in the autumn for one of the four Scottish universities, with a sack of oatmeal, upon which he lived during the winter, and acquired the knowledge with which he later conquered London, or Labrador, or the Tropics. Gone forever are those days, when the Scots boy thus 'cultivated learning on a little oatmeal'—that now despised oatmeal which scarcely figures at the beginning of the gross and Gargantuan dietary of a Glasgow hotel to-day—but the lesson is one for all time.

### Unrivalled in Cheapness.

"For cheapness, in terms of value, it surpasses all other foods in normal times, and its economic rank is scarcely impugned to-day, when its nearest rival, wheat, is so dear. Says Dr. Goodfellow, in ante-bellum days: 'The purchaser who expends his modest twopence-halfpenny on a two-pound loaf may rest assured that he could not spend his money to better advantage, except perhaps in the purchase of oatmeal, which contains slightly more energizing nutriment than bread.' Observe the present price of the loaf and estimate the place of porridge in food economy to-day. Growing in the North, oats are rich not only in proteins, but also in fat; a good source of heat is needed for a young plant that is to grow in high latitudes. This applies to a young child. Thus oats are rich in fat, whereas rice is poor. So much the better for oatmeal as a food in northern lands, and in winter. Doubtless many of us find ordinary oatmeal tiresome to digest, because of the irritant and innutritious husk. The recent rolled oats, so largely advertised under various names, meet this need, though in these the remarkable percentage of nourishment has been slightly reduced. Oatmeal porridge is very well absorbed by the normal digestion, and has unquestionably played a primary

MAR...  
part in...  
of the...  
former...  
peasant...  
the mos...  
almost...  
in iron...  
—best...  
food no...  
sary fo...  
fitted b...  
their bl...  
is also...  
contain...  
which...  
a fine S...  
—a tru...  
of ano...  
that ol...  
oatmeal...  
getting...  
"Dr...  
useful...  
respect...  
times...  
bread...  
porridge...  
(three...  
old pri...  
return...  
superior...  
supply...  
indicat...  
concern...  
she wil...  
consider...  
that so...  
and als...  
cooking...  
economy...  
cultivat...  
we Sou...  
marked...  
degree...  
digestio...  
rapt wit...  
here qu...  
instant...  
perfect...  
staple f...  
"Mos...  
view w...  
as indis...  
first ran...  
child in...  
as he...  
the Boe...  
children...  
by wom...  
of Edin...  
bread a...  
and mi...  
sufficed...  
physiqu...  
our day...  
of ricke...  
which...  
account...  
it conta...  
a versio...  
parallel...  
that...  
scriptio...  
fill our...  
The ex...  
bow leg...  
teeth lo...  
yet to l...  
of child...  
of Emp...  
wisdom...  
Occas...  
a list of...  
each. I...  
January...  
February...  
March—...  
April—...  
May—...  
June—...  
July—...  
August—...  
Septemb...  
October...  
Novemb...  
Decemb...  
peri...  
Don't...  
candy...  
dye-mat...  
N. J., re...  
whose d...  
with coa...  
pops; its...  
extracte...  
"shined"...  
piths; an

part in the history of Scotland, and thus of the Empire. Oatmeal and milk was formerly the staple diet of the Scottish peasant. Fortunate was he to have the most nutritious of all cereals growing, almost for nothing, at his door. Rich in iron and other salts, as well as in fat—besides the protein and starch—this food not only contains everything necessary for life, but has a constitution well fitted for children, who need iron for their blood, salts for their bones, and fat to keep their little bodies warm. Oatmeal is also rich in vitamins, and even contains genuine stimulant substances, which the late Sir Lauder Brunton, a fine Scotsman, compared with strychnine—a truer analogy, I fancy, than that of another famous Scottish doctor of that old school, who preferred to compare oatmeal with champagne at night, forgetting the real pain in the morning.

**Porridge and Physique.**

"Dr. Hutchison has given us a very useful comparison of two meals, in respect of foodvalue and cost (in normal times.) The first is a meal of tea and bread and butter, the second a meal of porridge and milk. For the same sum (three halfpence), even with bread at its old price, which will probably never return, the porridge and milk is far superior, both for tissue building and supply energy. Here, then, are plain indications for the reader who is really concerned with food economy. He or she will remember that we are now considering real value, not mere flavor; that some skill is necessary in cooking, and also that methods of prolonged cooking must be employed which are economical of fuel, or our money calculations may be partly vitiated. Lastly, we Southrons must remember that a marked change in diet involves some degree of adaptation on the part of the digestion. We must not suddenly be rapt with enthusiasm at the food-values here quoted, and expect our stomachs instantly and effortlessly to digest imperfectly cooked porridge used as a staple food for the first time.

"Most serious of all, from the point of view whence Scotsmen are perceived as indispensable imperial assets of the first rank, is the fact that the Scottish child is no longer brought up on porridge, as he was. When the revelations of the Boer War directed attention to the children's physique an inquiry conducted by women medical students in the homes of Edinburgh showed that tea and white bread and jam were replacing porridge and milk to an extent which almost sufficed to account for the deplorable physique of Scottish city childhood in our days, and the monstrous distribution of rickets, a disease of malnutrition in which oatmeal is very valuable, on account of the iron, fat and phosphorus it contains. A certain strong man issued a version of the official report, with parallel columns, in which he argued that physical exercises, of his prescription, would save our physique and fill our regiments with superb manhood. The exercises which will straighten bow legs and knock knees, or restore teeth lost ten or twenty years ago, have yet to be defined. The right nutrition of childhood is an essential foundation of Empire; knowledge we have, but wisdom lingers."

**The Scrap Bag.**

**Birth Stones.**

Occasionally we are asked to give a list of birth-stones with the meaning of each. Here is the one usually accepted. January—garnet, signifying constancy. February—amethyst, signifying sincerity. March—bloodstone, signifying courage. April—diamond, signifying innocence. May—emerald, signifying love. June—pearl, signifying purity. July—ruby, signifying content. August—sardonyx, signifying felicity. September—sapphire, signifying wisdom. October—opal, signifying hope. November—topaz, signifying fidelity. December—turquoise, signifying prosperity.

**Cheap Candies.**

Don't give the children cheap, colored candy. To illustrate the danger of cheap candy, which is colored with powerful dye-materials. Prof. Hodgdon of Newark, N. J., recently arranged a doll for exhibit whose dress and stockings were dyed with coal-tar dyes obtained from lollypops; its shoes blacked with lampblack extracted from licorice candy, and "shined" with shellac used on peach piths; and its hair glued on with carpen-

tar's glue obtained from "all-day suckers." In its hand the doll holds a knife copper-plated with copper obtained from canned French peas. Candies are good for children,—but let them be home-made rather than of the cheap store species.

**Back Yard Gardens.**

EDITOR "THE FARMER'S ADVOCATE": Owing to the limited crops grown in 1916, and the partial failure thereof, we are anxious that those living in our cities, towns and villages should utilize every available foot of ground for the production of vegetables. The Ontario Department of Agriculture are prepared to cooperate with you in every possible way to assist in this necessary undertaking in this time of our Empire's stress and strain. 5,000,000 British soldiers are on the fighting line, and as Canada is known as the "Granary of the Empire," we should make good our claim thereto. Will you see to it that every member of your Society and all those over whom you have an influence will take part this coming spring in not only utilizing your own gardens but every vacant lot in your locality for the purpose of producing the products that are so necessary to maintain our people at home and our armies at the front. Would you be good enough to call a meeting, promptly, of your society to arrange details for this important work. If you cannot secure a local speaker, the Department will endeavor, if possible, to send you a practical man to give your members and other citizens an address on gardening.

The Department are issuing plans and pamphlets on back yard gardens, and a poultry bulletin which will be forwarded to you on application to the "Vegetable Garden Campaign," Department of Agriculture, Toronto.

J. LOCKIE WILSON, Superintendent.

**The Dollar Chain**

A fund maintained by readers of "The Farmer's Advocate and Home Magazine" for the soldiers and all who are suffering because of the war.

Contributions from Feb. 23rd to March 2nd:

"A Reader," Woodford, Ont., \$5; John H. Powell, Shetland, Ont., \$3.50; A. E. Ferguson, Komoka, Ont., \$1; J. J. Clark, R. 2, Pontypool, Ont., \$5; Gus. Kinahan, Lucknow, Ont., \$2; I. H. S., \$1; Women's Bible Class, Blake's Church, Ashfield, Ont., \$2.25; "Helper," \$2; Jas. A. Thompson, R. 1, Desboro, Ont., \$1; K. Sinclair, Dalkeith, Ont., \$1; Wm. Henderson, R. 1, Thamesford, Ont., 50 cents; Jas. E. Gauley, Brownsburg, Que., \$5; Alfred Rivett, Cookstown, Ont., 75 cents; W. Simpson, \$1. For Byron Military Hospital—"M. O. A.," Charlton, Ont., \$1; Mrs. Fred. Andrews, R. 5, Simcoe, Ont., \$1; Shakespeare Women's Institute, \$22; Farmer's Wife, Glenvale, Ont., \$1; J. E. Miller, Wilton, Ont., \$1; K. Sinclair, Dalkeith, Ont., \$1; Mrs. Jas. E. Gauley, Brownsburg, Que., \$5; Mrs. Herbert Alexander, Terrebonne, Que., \$1.50; "Scotia," London, Ont., \$1; "One Who Wishes to Help," R. R. 1, Munro, Ont., \$5.

The total amount received to March 2nd for the Byron Military Hospital is \$111.50, with \$388.50 yet to be made up for the equipment of the ward. Previously acknowledged.....\$3,922.25

Total to March 2nd.....\$3,992.75 Kindly send contributions to "The Farmer's Advocate and Home Magazine," London, Ont.

**Help Can Still be Forwarded to Belgium.**

Mrs. Boomer, of the Belgian Aid Department, writes as follows: Accept once more our sincere gratitude for your generous contribution towards our Belgian Relief Fund. This time it is \$50, and but a very short time ago you gave us \$25 (as acknowledged) to our last remittance to the National Belgian Fund in old London. I do not think that any one of our previous remittances have left without help from your wonderful Dollar Chain. This time you begin our ninth, so you send us not only financial help but encouragement to persevere.

The door is yet ajar, for even if the United States channel of delivery is to be blocked, other neutrals are alive to the needs of Belgium and pledge their help to keep the door open.

Gratefully yours,  
H. A. BOOMER,  
For self and Local Council of Women.

**CLOVER SEED**

- Red Clover No. 1.....\$14.00 (extra fine)
  - Red Clover No. 2..... 13.00
  - Alsike No. 1..... 13.50
  - Alsike No. 2..... 12.50
  - Timothy No. 2..... 4.00 (No. 1 for purity)
  - Alfalfa No. 1..... 13.00 (Northern Grown)
  - Silvermine Oats for Seed.. 1.10
- Cotton bags, 30c. Freight paid on lots of \$25.00 and over.

CALEDONIA MILLING CO.  
Caledonia, Ontario



**LAME HORSES PUT BACK TO WORK QUICK**

TRY Kendall's Spavin Cure. It has saved a great many horses—has put them back to work even after they had been given up. Over 35 years of success has proved the merit of

**KENDALL'S Spavin Cure**

HUNTSVILLE, ONT., March 6th, 1916. I have used a good many bottles of Kendall's Spavin Cure for sprains and lameness and I do not think it has an equal, especially in stubborn cases. Kindly send me a copy of your Treatise on the Horse. G. T. YOUNG.  
Sold by druggists everywhere. \$1.00 a bottle, 6 bottles for \$5.00. Get a copy of "A Treatise on the Horse" from your druggist or write  
Dr. B. J. Kendall Company,  
Enosburg Falls, 114 Vermont

**Good Clean Fruit Results from Spraying**

This Aylmer Bronze Sprayer is powerful in action, easily operated and very durable. The Aylmer Sprayer has no packing to blow out. In its place, however, are three expansion piston rings (similar to those of a gasoline engine) which prevent leakage.



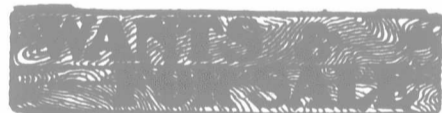
This sprayer is used by Seven Governments, and has won the highest awards at the large European and American Exhibitions.

Write to-day for a copy of our free illustrated catalogue, which explains the size, capacity and equipment of the Aylmer Sprayer.

**The Aylmer Pump & Scale Co., Limited**

AYLMER, ONTARIO

Also Makers of Aylmer Water Supply Systems, Standard of Canada



NURSE-HOUSEMAID, ALSO COOK - GENERAL. References required. Twenty and twenty-five dollars per month. Only competent persons required. Apply Mrs. Bowker, care of Dominion Bank, London, Ont.

WANTED—TWO MARRIED MEN FOR farm work—good milkers, yearly engagement. House room, fuel and garden. A few miles from Toronto. Send particulars. Box P, Farmers' Advocate, London, Ont.

WANTED—TWO MARRIED MEN FOR stock farm. Yearly engagement. Free house and garden. State wages, age and nationality with references. Gordon Smith, Woodslee, Ont.

**BABCOCK & SONS**

ESTAB. 1877. Formerly Patent Office Examiner, Master of Patent Laws. Book, full information, rec. 99 St. James St., Montreal. Branches at Ottawa and Washington.

PATENTS AND LEGAL FETHERSTONHAUGH & CO., Patents Solicitors—The Old Established Firm. Head Office, Royal Bank Building, Toronto, and 5 Elgin Street, Ottawa, and other principal cities. Send or free booklet.

DR. BELL'S Veterinary Medical WONDER. 10,000 \$1.00 bottles FREE to horsemen who give the Wonder a trial. Guaranteed for Colic, Inflammation of Lungs, Bowels, Kidneys, Fevers, and Distempers, etc. Send 25 cents for mailing, packing, etc. Agents wanted. Write address plainly. BR. BELL, V.S., KINGSTON, ONT.

FOR SALE One large-sized Success Churn, heavy frame, used two seasons, one large-sized Danish Cooler; also three 300 gal. open cream vats, in good condition. Apply WALKERTON EGG & DAIRY CO., LTD., WALKERTON, ONT.

**POULTRY AND EGGS**

BARRED ROCKS—GRAND LAYING strains. Cockerels, pullets, eggs, s. Prices right. Central Poultry Yards, Colborne, Ont.

FOR SALE, "SNOWFLAKE" SINGLE-COMB White Leghorns. 3 Cocks and cockerels, two dollars. E. W. Burt, Paris, Ont.

FOR SALE—LIGHT BRAHMAS. PEKIN ducks. Eggs in season, \$3 for setting. Joseph Walker, Wardsville, Ont.

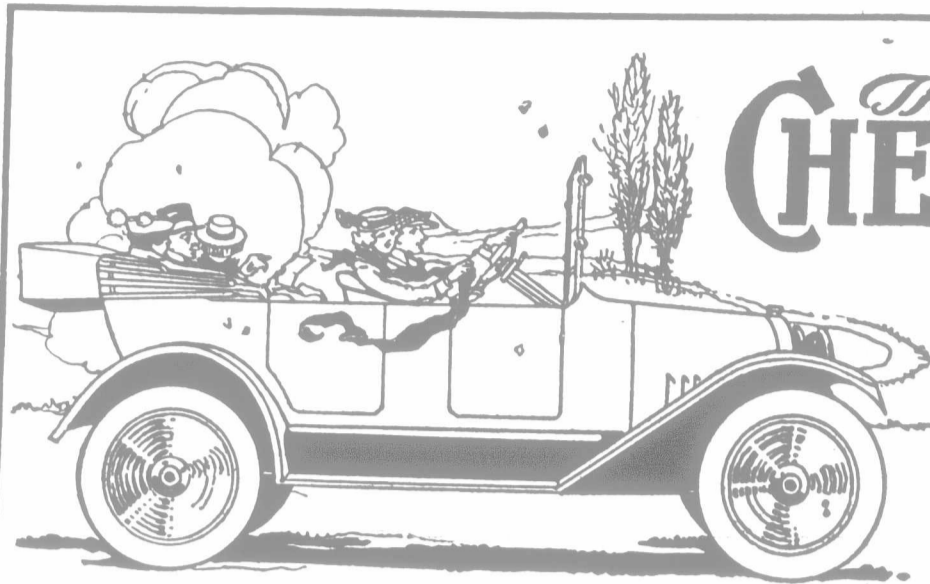
PURE BRONZE TURKEYS FOR SALE; guaranteed free from disease. E. N. Wilson, "The Woods," Shanty Bay.

"REGAL" DORCAS WHITE WYANDOTTES; champions eleven years at New York State Fair; also wonderful records in laying contests. Stay white Utility Cockerels, \$3.00 and \$5.00 each. Pullets, \$2.50 and \$3.00 each. Hatching eggs, \$3.00 and \$5.00 per setting. Send for free illustrated catalogue. John S. Martin, Drawer F, Port Dover, Ont.

SINGLET BARRED ROCKS—PURE - BRED, trap-nested, heavy winter layers. Beauty and utility combined. Settings, \$2.00; 100% fertility guaranteed. Also few splendid, large cockerels for sale. Book order now. Particulars—F. Coldham, Barriefield, Kingston, Ontario.

WANTED—SINGLE MAN FOR FARM WORK \$40 per month and board, comfortable home; also married man. P.O. Box 930, Thorold, Ont.

50 BARRED ROCK AND BLACK SPANISH cockerels—special price to close out. Indian Runner Ducks, Partridge Wyandottes, Partridge Rocks. John Annesser, Tilbury, Ont.



# The New Series CHEVROLET FOUR-NINETY

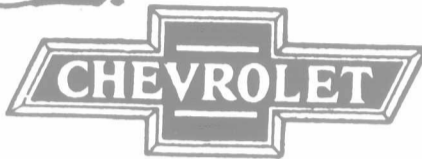
The best steel, and genuine highest grade materials forged, cast or welded into shape by modern machines of scientific accuracy insure the high efficiency of the CHEVROLET Four-Ninety.

The resiliency of the chassis, the pliancy of the supporting springs and fine upholstery insure comfort. Our mammoth production and efficiency methods makes possible the low price of

**\$695.** f. o. b. OSHAWA

including Electric Lights and Starter.  
CHEVROLET MOTOR COMPANY  
OF CANADA, LIMITED  
OSHAWA, CANADA.  
WESTERN SERVICE AND DISTRIBUTING BRANCH,  
REGINA, SASK.

Send for Descriptive Literature



# VIKING

Cream Separators of Quality

Comparison tells the Story

WHEN you buy a Viking Cream Separator you get more for your money. More in capacity, quality, workmanship, endurance, economy and skimming ability. One man says his 300-lb. Viking gives him 1½ lbs. of butter more a week and that it skims closer by a good deal than the \$75 separator he used to have.

A "cheap" mail-order machine, capacity 300 lbs., costs say \$60 a year; it lasts probably two years. Your cost, \$30 a year. One of the high-priced, "standard" separators, capacity 450 lbs., costs \$100. It lasts you maybe five years. Costs \$20 a year. A Viking Cream Separator, Size C, capacity 600 lbs., costs \$71.15. Greater capacity for less money; lasts at least ten years. Costs only \$7.15 a year.

Thousands of farmers and farmers' wives are praising the Viking. Get our catalogue free for the asking. See your dealer or write direct.

Large stocks of machines and spare parts at Montreal, Toronto and Winnipeg, duty and war tax paid.

SWEDISH SEPARATOR COMPANY, 515 South Fifth Avenue, Chicago, Ill.



## Current Events.

On Feb. 27th the Ontario Government conferred votes on women.

President Wilson has been opposed by a few members of Congress in his proposal to place the nation in a state of armed neutrality and arm all merchant ships.

Two American women lost their lives when the Cunard liner, "Laconia," was torpedoed and sunk off the Irish coast. The Cunard steamship company is to have six new vessels built in the United States.

The Right Rev. the Bishop of Willesden, England, has made an earnest appeal through the press for prohibition in Great Britain.

Premier Lloyd-George's uncle and foster father, Richard Lloyd, died at Cricketh, Wales, on Feb. 27th. He was a shoemaker and also assistant preacher in the Baptist Church; a man of great character and good repute.

The Germans continue to withdraw along the Ancre in Northern France, and Gen. Sir Douglas Haig's troops advance steadily. Evidently for some purpose—the Allies think because of weakness—the Germans are shortening their line of defence. . . . In the Far East the British troops under Gen. Maude have chased the Turks over 50 miles beyond Kut-el-Amara, where they are fleeing for Bagdad. Over 7,000 Turks in all have been taken prisoners. It is believed that the British troops and the Russians, under Grand Duke Nicholas, are striving to effect a junction.

A German plot to have Japan and Mexico unite in war against the United States has been unearthed. At time of going to press it is hinted that China wishes to enter the war on the side of the Allies if certain concessions should be agreed to, but the President has not yet agreed.

## The Windrow

What Our Soldiers Read.

(By Miss Beatrice Harraden, in the "Cornhill Magazine.")

About eighteen months ago Miss Elizabeth Robins and myself entered on our duties as Honorary Librarians to the Military Hospital, Endell Street, the only Military Hospital in England officered entirely by women. The doctor in charge is Dr. Flora Murray, and the chief surgeon Dr. L. Garrett Anderson. There is a staff of fourteen doctors, including a pathological and an ophthalmic surgeon, a staff of thirty-six nursing sisters and ninety orderlies—all women. There are eighteen large wards, accommodating about 550 wounded.

We were asked to collect a number of suitable books and magazines, and by personal intercourse with the soldiers, to encourage reading amongst the men,

## Have this modern bathroom in your farm home

Be in the van of progress by having not only the telephone and rural mail, but also running hot and cold water in the bathroom and kitchen. Have water in the barn and for the lawn and garden. In case of fire you have an efficient fire-fighting plant, with lots of pressure for real work. This is all made easily possible if you own an

## Empire Water System

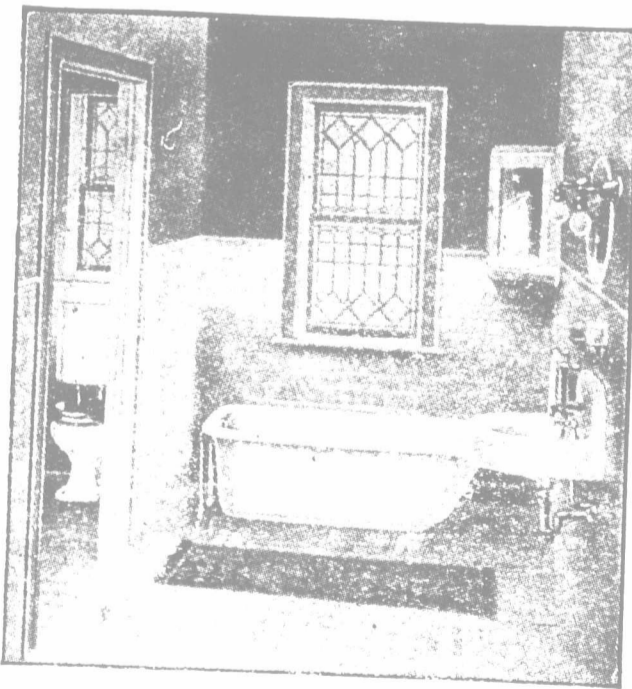
Many country homes are enjoying the comfort and protection afforded by Empire Systems. Why not modernize YOUR home when it is so easily done and costs so little? It will lessen the household burdens and enhance the value of your property as well.

Send for our Information Blank and Catalogue to-day. Fill in the blank, return it to us, and we will suggest a system suited to your needs, and give you an estimate of its cost, free of charge.

## EMPIRE MANUFACTURING CO., LIMITED

Head Office and Factory: East London, Canada

Branch Office: 119 Adelaide St. West, Toronto



### System Includes the Following :

White enamel bath tub, closet with tank, lavatory with fittings, hot-water boiler for kitchen range, kitchen sink, water supply system with pneumatic storage tank, and all piping and fixtures necessary.



and to do our best to help them through the long hours of illness and inaction, by offering them books which would amuse and interest them.

We determined to have no red tape, and to leave the book-cases unlocked at all times, so that the men who were able to move about could come and pick out what they liked. And we arranged to go into the wards and take books ourselves to the men who were confined to their beds. Our view was that we should give them what "they" wanted, not necessarily what "we" wanted for them.

It was quite possible that one man in a ward would be reading, say, Nat Gould's "Jockey Jack"—a great favorite—and the man in the next bed would be reading Shakespeare, or "The Pilgrim's Progress," or Shelley, or Meredith, Conrad, or the Encyclopaedia. We found, in fact, so many different kinds of minds and upbringings, that we could never have remembered without the aid of a note-book what each man wanted.

So after various experiments, this became our system. We divided the wards between us, and went round with our note-book to each bedside, found out if our soldier cared to read, and if he had no suggestion to make, found out in a vague sort of way, without worrying him, of course, what he would be "likely" to want—if, indeed, he wanted anything at all. For in some cases the very thought of a book was apparently worse than a bomb.

We were asked for books on paper-making, printing, cabinet-making, engineering, marine engineering, veterinary work, Sheffield plate, old furniture, organic and inorganic chemistry, fish-curing, coal-mining, counterpoint, languages, meteorology, electricity, submarines, aeroplanes, flowers, trees, gardening, forestry, the Stone Age, painting and drawing, violin-making, architecture, and so on. The fish-curing instance was particularly interesting. The soldier in question was from Nova Scotia, and his father's business was fish-curing. He was anxious to learn the English methods, and gain all the information he could during his sojourn in England, before he was invalided out of the army and returned to his home.

We have therefore made it our business to supply these various needs, and also to provide any weekly papers bearing on the different subjects in which the men are interested.

Turning aside from technical subjects to literature in general, I would like to say that although we have not ever attempted to force good books on our soldiers, we have, of course, taken great care to place them within their reach. And it is not an illusion to say that when he men once begin on a better class of book they do not as a rule return to the old stuff which formerly constituted their whole range of reading. My own impression is that they read rubbish because they have had no one to tell them what to read. Stevenson, for instance, has lifted many a young soldier in our hospital on to a higher plane of reading, whence he has looked down with something like scorn—which is really very funny—on his former favorites. For that group of readers, "Treasure Island" has been a discovery in more senses than one, and to the librarians a boon unspeakable.

### Our Serial Story

Serial rights secured from the Bobbs-Merrill Publishing Company.

### The Brown Mouse.

CHAPTER XXIII.

AND SO THEY LIVED—

And so it turned out quite as if it were in the old ballad, that "all in the merry month of May," and also "all in the merry green wood," there were great doings about the bold little promontory where once stood the cabin on the old wood-lot where the Simms family had dwelt. The brook ran about the promontory, and laid at its feet on three sides a carpet of blue-grass, amid clumps of trees and wild bushes. Not far afield on either hand came the black corn-land, but up and down the bluff sides of the brook for some distance on both sides of the King-dragged highway, ran the old wood-lot, now regaining much of the unkempt appearance which characterized it when

Jim Irwin had drawn upon himself the gentle rebuke of Old Man Simms for not giving a whoop from the big road before coming into the yard.

But Old Man Simms was gone, with all the Simmses, now thoroughly established on the Blanchard farm, and quite happy in their new success. The cabin was gone, and in its place stood a pretty little bungalow, about which blossomed the lilacs and peonies and roses and other old-fashioned flowers, planted there long ago by some other pioneer woman, nourished back to thriftiness by old Mrs. Simms, and carefully preserved during the struggles with the builders of the bungalow by Mrs. Irwin. For this was Mrs. Irwin's new home. It was, in point of fact, the teacher's house or schoolmanse for the new consolidated Woodruff District, and the old Simms wood-lot was the glebe-land of the schoolmanse.

Jim turned over and over in his mind these new applications of old, historic, significant words, dear to every reader of history—"glebe-land," "schoolmanse"—and it seemed to him that they signified the return of many old things lost in Merrie England, lost in New England, lost all over the English-speaking world, when the old publicly-paid clergyman ceased to be so far the servant of all the people that they refused to be taxed for his support. Was not the new kind of rural teacher to be a publicly-paid leader of thought, of culture, of progress, and was he not to have his manse, his glebe-land, and his "living"? And all because, like the old clergyman, he was doing a work in which everybody was interested and for which they were willing to be taxed. Perhaps it was not so high a status as the old; but who was to say that? Certainly not Jim Irwin, the possessor of the new kind of "living," with its "glebe-land" and its "schoolmanse." He would have rated the new quite as high as the old.

From the brow of the promontory a light concrete bridge took the pretty little gorge in the leap of a single arch, and landed the eye at the bottom of the front yard of the schoolhouse. Thus the new institution of life was in full view of the schoolmanse veranda, and yet shut off from it by the dry moat of the brook and its tiny meadow of blue-grass.

Across the road was the creamery, with its businesslike unloading platform, and its addition in process of construction for the reception of the machinery for the co-operative laundry. Not far from the creamery, and also across the road, stood the blacksmith and wheelwright shop. Still farther down the stream were the barn, poultry house, pens, hutches and yards of the little farm—small, economically made, and unpretentious, as were all the buildings save the schoolhouse itself, which was builded for the future.

And even the schoolhouse, when one thinks of the uses to which it was to be put—kitchen, nursery, kindergarten, banquet-hall, theater, moving-picture hall, classrooms, manual training rooms, laboratory and counting-room and what-not, was wonderfully small—Colonel Woodruff said far too small—though it was necessarily so large as to be rather astonishing to the unexpectant passer-by.

The unexpectant passer-by this May day, however, would have been especially struck by the number of motor-cars, buggies, and surreys parked in the yard back of the creamery, along the roadside, and by the driveway running to the schoolhouse. People in numbers had arrived by five o'clock in the afternoon, and were still coming. They strolled about the place, examining the buildings and grounds, and talking with the blacksmith and the butter-maker, gradually drawing into the schoolhouse like a swarm of bees into a hive selected by the queen. None of them, however, went across the concrete bridge to the schoolmanse, save Mrs. Simms, who crossed, consulted with Mrs. Irwin about the shrubbery and flowers, and went back to Buddie and Jinnie, who were good children but natchally couldn't be trusted with so many other young ones withouten some watchin'.

"They're coming! They're coming!" This was the cry borne to the people in and about the schoolhouse by that Hans Hansen who would be called Hans Nilsen. Hans had been to the top of the little hill and had a look toward town. Like a crew manning the rigging, or a crowd having its picture taken, the assemblage crystallized into forms determined by the chances of getting a glimpse of the bungalow across the ravine—on posts, fences, trees and hillocks.

## CALDWELL'S

PASTE ME ON A CARD      O      HANG ME UP IN THE STABLE

### Feeds for all Farm Stock Horses, Cattle, Swine, Poultry

Read this list over and check the products you require at the present time, or will need in the near future. Each product is as good as we can make it, and as pure. They will give you splendid results, and they are reasonable in price.

Check here

<p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p> <p>Caldwell's _____</p>	<p>Molasses Dairy Meal</p> <p>Dry Dairy Meal</p> <p>Calf Meal</p> <p>Molasses Meal</p> <p>Molasses Horse Feed</p> <p>Alfalfa and Molasses <span style="font-size: small;">Horse Feed</span></p> <p>Molasses Hog Feed</p> <p>Light Colored Mixed Chop</p> <p>Scratch Feed <span style="font-size: x-small;">No. 1 and No. 2 grade</span></p> <p>Laying Meal <span style="font-size: x-small;">No. 1 and No. 2 grade</span></p> <p>Growing Mash</p> <p>Developing Feed</p> <p>Chick Feed</p>
---	--

Cracked Corn (re-cleaned), Alfalfa Meal, Moss Litter, Ground Bone (fine or coarse), Charcoal (fine), Beef Scrap (fine), Oyster Shell, (fine or coarse), Grit (fine or coarse).

Write us your requirements, or secure Caldwell's products from your feed man.

*Cut this list out and keep it for future reference.*

### The Caldwell Feed & Cereal Co., Ltd.

Dundas - - - Ontario

LARGEST FEED MILLS IN CANADA MAKING HIGH-CLASS

## STANDARD FEEDS

TWO DAYS      Great Dispersion Sale of      TWO DAYS

## Shropshire and Southdown Sheep

other pure-bred live stock and farm implements; 300 bushels seed oats, Early Surprise and O. A. C. 72 varieties. The property of J. LLOYD-JONES, Burford, Ont.

MONDAY and TUESDAY      **March 26th and 27th, 1917**

Implements and cattle will be sold Monday. Sheep, ponies and horses on Tuesday.

Sale to commence 10 a.m. Monday.  
Farm one mile from Burford Station, G. T. R.  
Phone connection, Machine phone 24.

**J. LLOYD-JONES, Proprietor, Burford, Ontario**  
WELBY ALMAS, Auctioneer.      F. MILES, Clerk.

1916—A RECORD YEAR—1916  
Increase in New Business Over 50 per cent

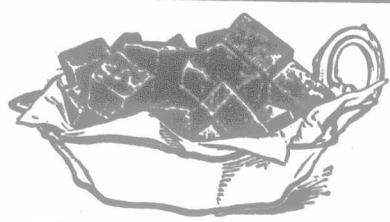
## EXCELSIOR LIFE INSURANCE COMPANY

A STRONG CANADIAN COMPANY

Assets for policyholders over four million dollars

Head Office, Toronto

When writing advertisers will you please mention The Farmer's Advocate



## University Fudge

The Lantic Sugar Cook Book gives the recipe for this and many other new sweets. Send a red ball trade-mark, cut from a Lantic package, for a free copy.

## Lantic Sugar

"The All-Purpose Sugar"

will please you by its purity, convenience and high sweetening power.

The Sugar with the red ball trade-mark

Packed in 100-lb. Bags

For book, address  
Atlantic Sugar Refineries, Ltd.  
Power Building, MONTREAL 11

## RAW FURS

We Want

## Spring Rats

Write for our Price List  
We Pay Express and Postage

E. T. CARTER & CO.  
84 Front St. East, Toronto

S.-C. White Leghorn

## DAY OLD CHICKS

Order now, from our well-known laying strain. Pens mated to Barron cockerels. Satisfaction guaranteed. Write for our catalogue re the Care and Feeding of Day Old Chicks.

## UTILITY POULTRY FARM

Stratford, Ont.

LT. - COL. T. G. DELAMERE, Prop.

—FOR SALE—

## 4 Young Shorthorn Bulls

Ages from 9 months to 1 year, all reds, and from dams that are good milkers, sired by J. T. Gibson's herd-header. Will also sell Jim's Victor #93844, 5 years old, in prime condition, good handler, active and sure. His progeny commends him. All will be priced right. Come and see, or write.

PETER L. GRAHAM,  
Maplehurst Farm, R.R. No. 2, Hderton, Ont.

## O.A.C. 72 OATS

Free From Weeds  
\$1.25 per bu., bags extra. One pure-bred Tamworth sow, 2 years old, due May 1st. For information, write:

JOS. O'REILLY,  
R. R. 9, Peterboro, Ont.

## FOR SALE—BALED HAY

In car lots. Clover, Timothy, and Mixed Hay.  
G. A. BOWMAN, Hay Dealer,  
Hagersville, Ont. R. R. 1

Still nobody went across the bridge, and when McGeehee Simms and Johnny Bonner strayed to the bridge-head, Mrs. Simms called them back by a minatory, "Buddy, what did I tell you? You come hyah!"

A motor-car came over the hillock, ran down the road to the driveway to the schoolmanse and drew up at the door. Out of it stepped Mrs. Woodruff and the colonel, their daughter, the county superintendent of schools, and Mr. Jim Irwin. Jennie was dressed in a very well-tailored travelling costume, and Jim in a moderately well-tailored business suit. Mrs. Irwin kissed her son and Jennie, and led the way into the house. Jennie and Jim followed—and when they went in, the crowd over across the ravine burst forth into a tremendous cheer, followed by a three-times-three and a tiger. The unexpected passer-by would have been rather surprised at this, but we who are acquainted with the parties must all begin to have our suspicions. The fact that when they reached the threshold Jim picked Jennie up in his arms and carried her in, will enable any good detective to put one and one together and make a pair—which comes pretty near telling the whole story.

By this time it was nearly seven, and Calista Simms came across the charmed bridge as a despatch-bearer, saying that if Mr. Jim and Miss Jennie didn't mind, dinner would be served right soon. It was cooked about right, and the folks was gettin' right hungry—an' such a crowd! There were fifteen in the babies' room, and for a while they thought the youngest Hamm young one had swallowed a marble. She would tell 'em they would be right over; good-by.

There was another cheer as the three elderly and the two young people emerged from the schoolmanse and took their way over the bridge to the school side of the velvet-bottomed moat; but it did not terminate in three-times-three and a tiger. It was, in fact shut off like the vibration of a bell dipped in water by the sudden rush of the shouters into the big assembly-room, now filled with tables for the banquet—and here the domestic economy classes, with their mothers, sisters, female cousins and aunts, met them, as waiters, hat-snatchers, hostesses, floor-mangers and cooks, scoring the greatest triumph of history in the Woodruff District. For everything went off like clockwork, especially the victuals—and such victuals!

There was quantity in meats, breads, vegetables—and there was also savor. There was plenty, and there was style. Ask Mrs. Haakon Peterson, who yearned for culture, and had been afraid her children wouldn't get it if Yim Irwin taught them nothing but farming. She will tell you that the dinner—which so many thought of all the time as supper—was just as well served as if it had been in the Chamberlain Hotel in Des Moines, where she had stayed when she went with Haakon to the state convention.

Why shouldn't it have been even better served? It was planned, cooked, served and eaten by people of intelligence and brains, in their own house, as a community affair, and in a community where, if any one should ask you, you are authorized to state that there's as much wealth to the acre as in any strictly farming spot between the two oceans, and where you are perfectly safe—financially—in dropping from a balloon in the dark of the moon, and paying a hundred and fifty dollars an acre for any farm you happen to land on. Why shouldn't things have been well done, when every one worked, not for money, but for the love of the doing, and the love of learning to do it the best way?

Some of these things came out in the speeches following the repast—and some other things, too. It was probably not quite fair for B. B. Hamm to incorporate in his wishes for the welfare and prosperity and so forth of Jim and Jennie that stale one about the troubles of life, but he wanted to see Jennie blush—which as a matter of fact he did; but she failed to grow quite so fiery red as did Jim. But B. B. was a good fellow, and a Trojan in his work for the cause, and the schoolmaster and superintendent of schools forgave him. A remark may be a little broad, and still clean, and B. B. made a clean speech mainly devoted to the increased value of that farm he at one memorable time was going to sell before Jim's fool notions could be carried out.

Colonel Woodruff made most of the above points which I have filched from

"I could not have done without it this Summer, as help is so scarce"



Here is the experience of one of the scores of dairy farmers for whom the

## EMPIRE Mechanical Milker

is taking the place of the farm help they can no longer get, and enabling them to keep their herds together and take advantage of the prevailing high prices.

R. R. No. 3, INGERSOLL, ONT.

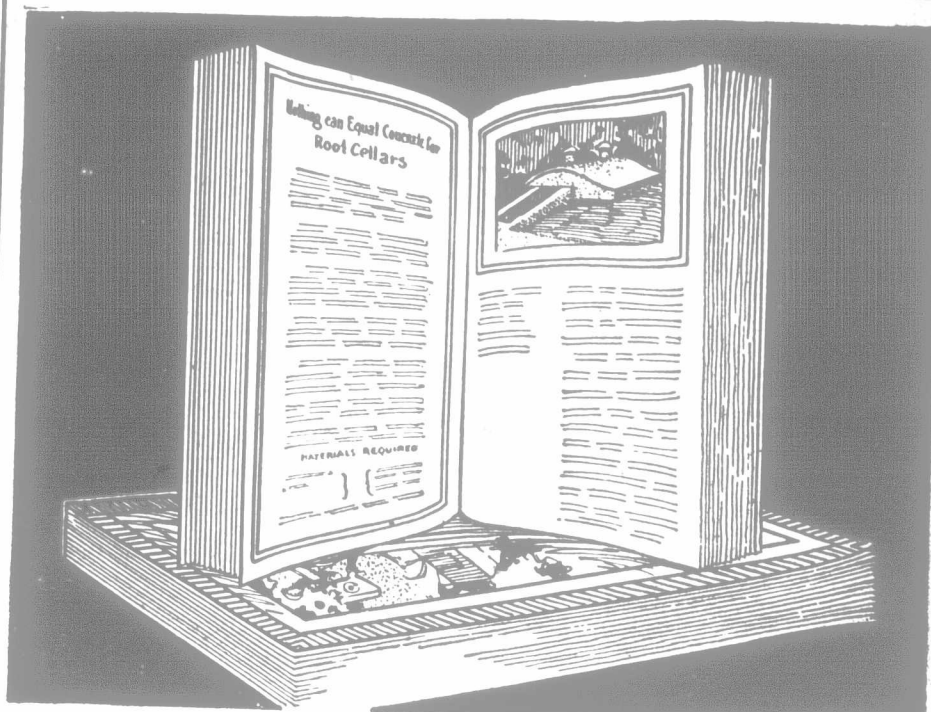
Gentlemen:—

I have used one of your "Empire Milkers" since early last April, on from 30 to 45 cows continually, and can find no injurious effects on the cows. They seemed to like it from the first time, and I think gave rather more milk than with the best hand milking. Easy cows seemed less inclined to leak, and hard ones gradually became easier. I have sent the milk a number of years to the Borden Condenser Company, and have had no complaints. I have just followed the instructions for keeping it clean. I could not not have done without it this summer, as help is so scarce. I may say further that I have been milking cows for over 50 years, and have been in the milk business nearly that length of time. I have had no previous experience with milking machines, but have had very little trouble or expense for repairs. I have used it on heifers never milked before, with perfect satisfaction, no matter how small their teats were.

The Milker has been of more practical value to me than I ever expected.  
WILLIAM COLYER.

We will be glad to send you Booklets showing exactly how the Empire Mechanical Milker works, and telling the experience which dozens of prominent dairy farmers have had with it. Address Dept. C

The Empire Cream Separator Co. of Canada, Limited,  
58 MONTREAL TORONTO WINNIPEG.



## "CONCRETE!"

What do you know about it?

The more you know about the uses of concrete, the more money you can make out of farming.

Here's a free book that tells all about it—in plain, non-technical language, illustrated with many photographs and working plans.

With it, you can quickly become expert in the use of concrete. You can build anything from a sidewalk to a silo—and everything you build of concrete adds permanent value to your farm property.

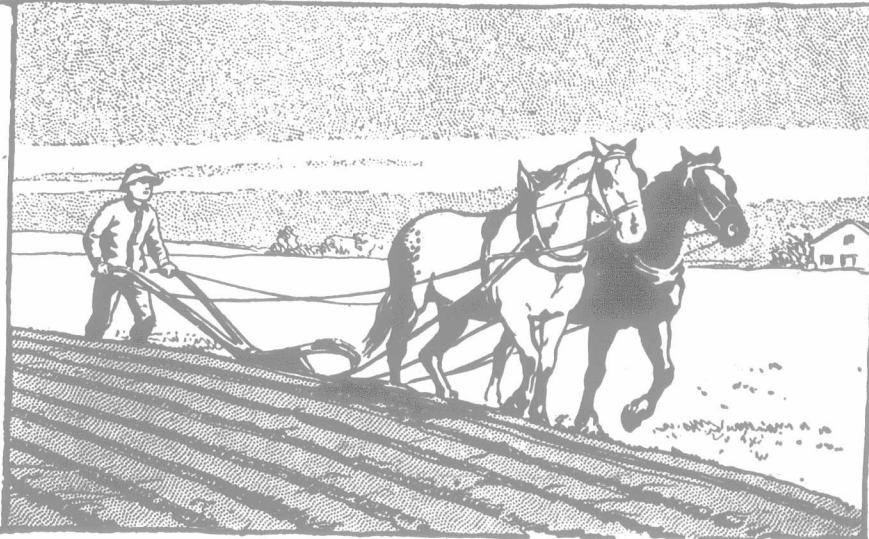
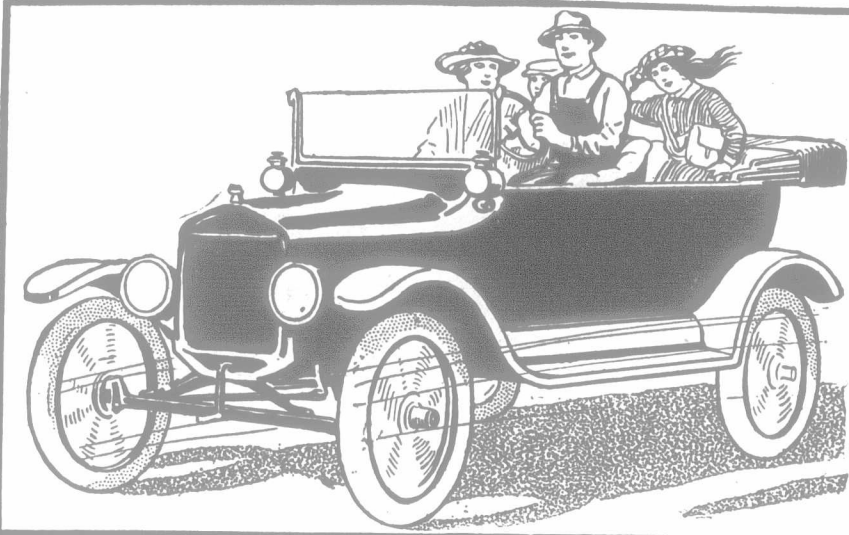
Check the coupon opposite the uses in which you are most interested, and send with your name and address to

Canada Cement Co. Limited  
30 Herald Building, Montreal



SEND ME INFORMATION ON SUBJECTS MARKED X

<input type="checkbox"/>	FLOORS
<input type="checkbox"/>	CONCRETE BLOCKS
<input type="checkbox"/>	SILOS
<input type="checkbox"/>	GARAGES
<input type="checkbox"/>	TROUGHS AND TANKS
<input type="checkbox"/>	DAIRY HOUSES
<input type="checkbox"/>	BARNs
<input type="checkbox"/>	FENCE POSTS
<input type="checkbox"/>	ROOT CELLARS
<input type="checkbox"/>	ROADS
<input type="checkbox"/>	SIDEWALKS
<input type="checkbox"/>	FOUNDATIONS
<input type="checkbox"/>	WHAT THE FARMER CAN DO WITH CONCRETE



## Save the Horses for Farm Work

**T**HE average farmer has enough work for his horses right on the farm. He can ill spare them to pull a buggy or a phaeton. And his own time is valuable, too. With farm labor so scarce, he cannot afford to spend half a day or a day to drive a horse to town and back, when he can do it in an hour or two in a Ford.

### Costs Less

A Ford car soon pays for itself in the time it saves the busy farmer, costs less to run than a horse. It doesn't eat its head off when idle.

Mr. S. M. Smith, of Holstein, Ont., says: "I can run my Ford car more miles with less expense than a horse." His experience is typical of thousands of others.

Mr. W. A. Fallin, of Vermillion, Alberta, states that he has driven his Ford more than 13,000 miles over muddy roads, prairies and fields in every kind of weather. His entire maintenance expense for three years, outside of one set of rear tires has been only \$3.35.

With the cost of running a Ford less than driving a horse, it doesn't seem good business to drive a horse to town and tire him out so that he is not fit for work on the farm the next day, now does it?

### Never Tired

That's the great beauty of a Ford! It never gets tired. It whirls you to town and back, or takes the children to school, or your wife to visit a friend, 15 miles down the line, without any slowing up for breath or any urging with a whip. You

don't have to say "gid-dap" to a Ford. And as for hills, well, it scurries over them like a squirrel climbs a tree.

It is as easy to drive a Ford as to drive a horse. It is just the car for country service. Narrow roads or sharp turns do not bother it. It can turn completely around in a very little larger space than a horse and buggy. It is not afraid of a traction engine, a street car, a train or another motor car. It never "shies." It stands without hitching.

The initial cost of a Ford is small—\$495 for the touring car. If you care to sell it at the end of one year, you will find many buyers who will offer you the first price, less \$125. Consider, therefore, how much pleasure you can have in a year for \$125; how many hours of tedious travel, and how much horseflesh you can save. Don't you think it is a good "buy"?

### "Ford Times" Free

No progressive farmer can afford not to own a Ford. The more you look into this, and think it over, the more you will realize that it is so. Let us put you on the mailing list for "Ford Times"—our interesting magazine. It will help you in thinking it over.

Touring Car - \$495

Runabout - - \$475

F.O.B FORD, ONTARIO

Ford Motor Company of Canada, Limited

FORD - - - ONTARIO

him. He had begun as a reformer late in life, he said, but he would leave it to them if he hadn't worked at the trade steadily after enlistment. He had become a follower of Jim Irwin, because Jim's reform was like dragging the road in front of your own farm—it was reform right at home, and not at the county seat, or Des Moines, or Washington. He had followed Jim Irwin as he had followed Lincoln, and Grant, and Blaine, and McKinley—because Jim Irwin stood for more upward growth for the average American citizen than the colonel could see any prospect of getting from any other choice. And he was proud to live in a country like this, saved and promoted by the great men he had followed, and in a neighborhood served and promoted, if not quite saved, by Jim Irwin. And he was not so sure about its not being saved. Every man and nation had to be saved anew every so often, and the colonel believed that Jim Irwin's new kind of rural school is just as necessary to the salvation of this country as Lincoln's new kind of recognition of human rights was half a century ago. "I am about to close my speech," said the colonel, "and the small service I have been able to give to this nation. I went through the war, neighbors—and am proud of it; but I've done more good in the peaceful service of the last three years than I did in four of fighting and campaigning. That's the way I feel about what we've done in Consolidated District Number One." (Vociferous and long-continued applause.) "Oh, Colonel!" The voice of Angie Talcott rose from away back near the kitchen. "Can Jennie keep on being county superintendent, now she's married?"

A great guffaw of laughter reduced poor Angie to tears, and Jennie had to go over and comfort her. It was all right for her to ask that, and they ought not to laugh at Angie, so there! Now, you're all right, and let's talk about the new schoolhouse, and so forth. Jennie brought the smiles back to Angie's face, just in time to hear Jim tell the people amid louder cheers that he had been asked to go into the rural-school extension work in two states, and had been offered a fine salary in either place, but that he wasn't even considering these offers. And about that time, the children began to get sleepy and cross and naughty, and the women set in motion the agencies which moved the crowd homeward.

Before a bright wood fire—which they really didn't need, but how else was Jim's mother to show off the little fireplace?—sat Jim and Jennie. They had been together for a week now—this being their homecoming—and had only begun to get really happy.

"Isn't it fine to have the fireplace?" said Jennie.

"Yes, but we can't really afford to burn a fire in it—in Iowa," said Jim. "Fuel's too everlastingly scarce. If we use it much, the fagots and deadwood on our 'glebe-land' won't last long."

"If you should take that Oklahoma

## You may be deceived

some day by an imitation of

# "SALADA"

and possibly you will not detect this imitation until the tea-pot reveals it. Demand always the genuine "Salada" in the sealed aluminum packet, and see that you get it, if you want that unique flavour of fresh, clean leaves properly prepared and packed.

Well-raised Pie Crust  
That Digests Unconsciously  
follows the use  
of  
**FIVE ROSES FLOUR**  
for Breads  
Cakes  
Puddings  
Pastries

## McCormick's Sodas

JERSEY CREAM

So good that butter seems unnecessary

What could be more appetizing than fresh, crisp, McCormick's Jersey Cream Sodas which have been baked in white enamelled revolving ovens, by men in snowy white suits?



Sold fresh everywhere in different sized packages.

59

## MORE MILK & BUTTER

### Has no Equal as a Butter and Milk Producer

Milch cows need food rich in Nitrogen for two reasons: to rebuild the ordinary waste of tissue and to secure the protein necessary for the milk. This is why nothing can equal "Maple Leaf" Oil Cake as a producer of butter and milk. It increases the flow of the milk and adds to the richness of the cream. Made by the old process and guaranteed absolutely pure. Contains over 35% Protein and 33% Carbo-Hydrates.

This splendid food is so rich in protein that British Farmers send four thousand miles to secure it.

Write to-day for samples and our free booklet, "Facts to Feeders".



**CANADA LINSEED OIL MILLS, LIMITED**  
TORONTO AND MONTREAL

position," said Jennie, "we could afford to have open wood fires all the time."

"It's warmer in Oklahoma," said Jim, "and wood's more plentiful. Yes"—contemplatively—"we could, dear."

"It would be nice, wouldn't it?" said Jennie.

"All right," said Jim briskly, "get me my writing materials, and we'll accept. It's still open."

Jennie sat looking into the fire oblivious of the suggestion. She was smiling. Jim moved uneasily, and rose.

"Well," he said, "I believe I can better guess where mother would put those writing materials than you could, after all. I'll hunt them up."

As he passed, Jennie took him by the hand and pulled him down on the arm of her chair.

"Jim," she said, "don't be mean to me! You know you wouldn't do such a wicked, wicked thing at this time as to leave the people here."

"All right," said Jim, "whatever you say is the law."

When Jennie spoke again things had taken place which caused her voice to emanate from Jim's shirt-front.

"Did you hear," said she, "what Angie Talcott asked?"

"M'h'm," said Jim.

"Well," said Jennie, "now that I'm married can I go on being county superintendent?"

There was a long silence.

"Would you like to?" asked Jim.

"Kind of," said Jennie; "if I knew enough about things to do anything worth while; but I'm afraid that by rising to my full height I shall always just fail to be able to see over anything."

"You've done more for the schools of the county," said Jim, "in the last year than any other superintendent has ever done."

"And we shall need the money so like—so like the dickens," said Jennie.

"Oh, not so badly," laughed Jim, "except for the first year. I'll have this little farm paying as much as some quarter-sections when we get squared about. Why, we can make a living on this school farm, Jennie,—or I'm not fit to be the head of the school."

There was another silence, during which Jennie took down her hair, and wound it around Jim's neck.

"It will settle itself soon one of these days anyhow," said he at last. "There's enough to do for both of us right here."

"But they won't pay me," she protested.

"They don't pay the minister's wives," said Jim, "and yet, the ministers with the right sort of wives are always the best paid. I guess you'll be in the bill Jennie."

Jim walked to the open window and looked out over the still landscape. The untidy grounds appealed to him—there would be lessons in their improvement for both the children and the older people. It was all good. Down in the little meadow grew the dreaming trees, their round crowns rising as from a sea not quite to the level of the bungalow, their thrifty leaves glistening in the moonlight. Across the pretty bridge lay the silent little campus with its twentieth-century temple facing its chief priest. It was all good, without and within. He went across the hall to bid his mother good night. She clung to him convulsively, and they had their own five minutes which arranged matters for these two silent natures on the new basis forever. Jennie was in white before the mantel when he returned, smiling at the inscription thereon.

"Why didn't you put it in Latin?" she inquired. "It would have had so much more distinction."

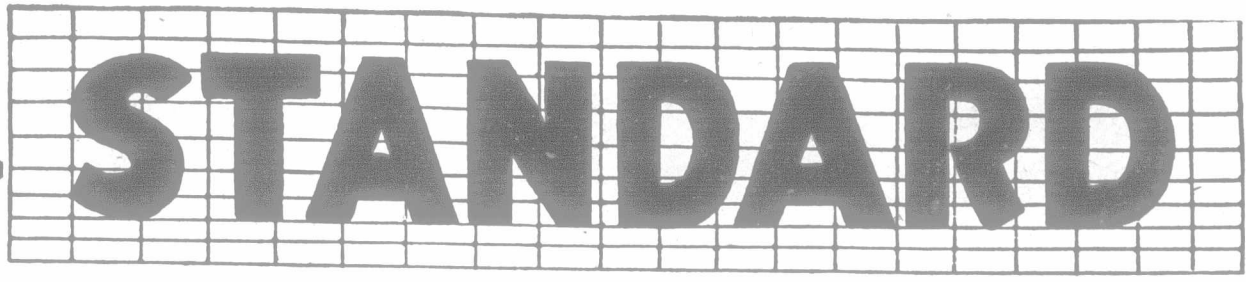
"I wanted it to have meaning instead," said Jim. "And besides, nobody who was at hand was quite sure how to turn the Latin phrase. Are you?"

Jennie leaned forward with her elbows on her knees, and studied it.

"I believe I could," said she, "without any pony. But after all, I like it better as it is. I like everything, Jim—everything!"

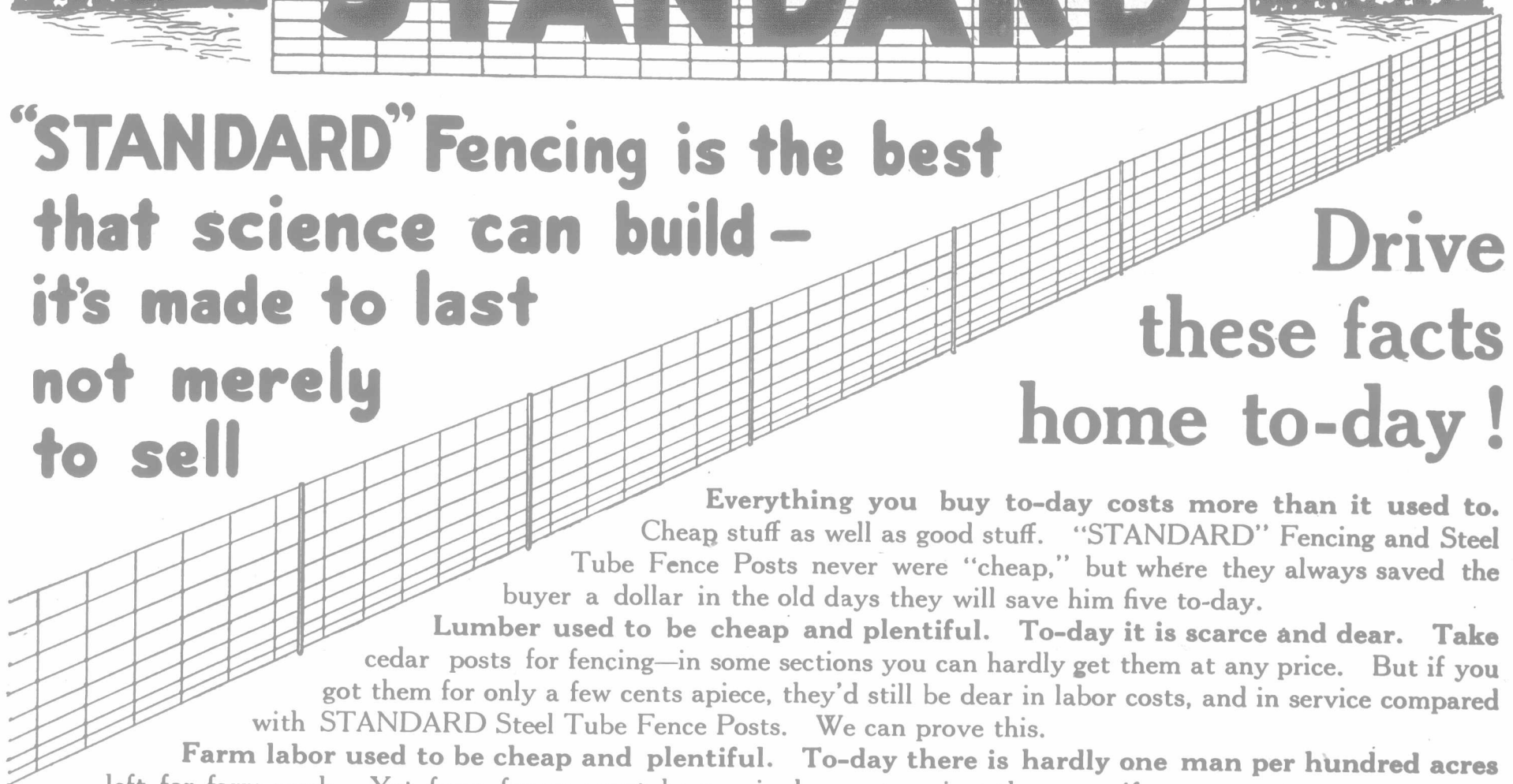
"LET US CEASE THINKING SO MUCH OF AGRICULTURAL EDUCATION, AND DEVOTE OURSELVES TO EDUCATIONAL AGRICULTURE. SO WILL THE NATION BE MADE STRONG."

THE END.



**"STANDARD" Fencing is the best that science can build - it's made to last not merely to sell**

**Drive these facts home to-day!**



Everything you buy to-day costs more than it used to. Cheap stuff as well as good stuff. "STANDARD" Fencing and Steel Tube Fence Posts never were "cheap," but where they always saved the buyer a dollar in the old days they will save him five to-day.

Lumber used to be cheap and plentiful. To-day it is scarce and dear. Take cedar posts for fencing—in some sections you can hardly get them at any price. But if you got them for only a few cents apiece, they'd still be dear in labor costs, and in service compared with STANDARD Steel Tube Fence Posts. We can prove this.

Farm labor used to be cheap and plentiful. To-day there is hardly one man per hundred acres left for farm work. Yet farm fences must be repaired or put up just the same, if you want to save your crops and stock. How are you going to do it?



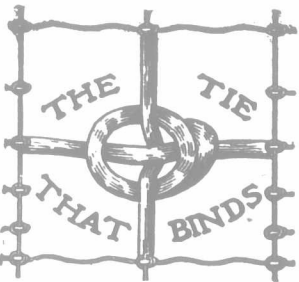
Our Fence Hooks (supplied free) have a wonderful grip.

STANDARD Fencing is the once-up-stay-up kind. The high-carbon, tough, springy steel wire is all No. 9 gauge, full Government size. It's made from our own special formula. Every rod is tested again and again, both before and after weaving. The galvanizing is scientific, heavy and uniform. There's no fence test you could think of that STANDARD hasn't already stood and made good on.

## STANDARD STEEL-TUBE FENCE POSTS

Put them up, and you're through with fence post worries

That's true. STANDARD Steel-Tube Fence Posts will outlast even the clearest cedar two to one, and why shouldn't they? They can't rot. They can't burn down. Insects cannot bore into them and breed into million-fold crop-eaters. They don't sag, and the wind pressure is cut down seventy-five per cent. They are lighter and stronger. They can be erected as easily on rough ground as on level. You save the cost of staples, as we supply, free, our STANDARD Post Hooks, which make a neater, firmer job. You save money in stretching and fastening the fencing.



But we haven't yet mentioned the biggest advantage of all!

Economy of labor—economy of time—economy of money—here's where STANDARD Steel Tube Posts score heaviest. What does that mean? Simply this—let a man and boy start out with a wheelbarrow full of STANDARD Posts, and they'll put up more posts in a day and do a better job than three men and a boy digging holes and putting in wooden posts the wasteful, old-time, out-of-date way.

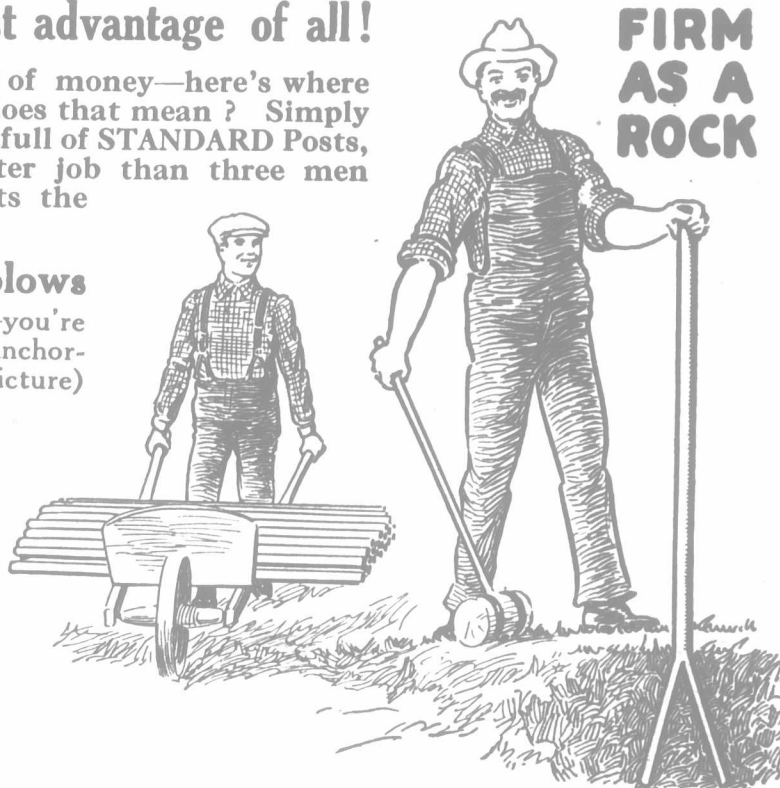
A Standard Post needs just a few mallet blows to drive it the 2 or 3 feet into the ground needed, and then—you're through with fence post worries! Where you want special anchorage, drive in one of our split and self-anchoring posts (see picture) and nothing short of an earthquake will bring it up again.

### Every Fence Need Filled

The STANDARD Line is complete—we give you Quality fencing for every purpose, also farm and lawn gates, tools, etc. All guaranteed with a guarantee which means something, though probably you'll never need it. Let us show you to-day what money we can save you. Mail us the Coupon.

**Standard Tube & Fence Co., Limited**

Woodstock - - - Ontario



STANDARD TUBE & FENCE CO., LIMITED  
Woodstock, Ontario

Send me, to-day, your latest catalogue and prices. I don't want to be under any obligation for this

Name.....

Address.....

LFA2

UNDED 1866  
could afford  
the time."  
a," said Jim,  
ful. "Yes"  
d, & dear."  
n't it?" said  
kly, "get me  
we'll accept  
fire oblivious  
was smiling  
e.  
lieve I can  
would put  
you could,  
him by the  
n the arm of  
be mean to  
n't do such  
s time as to  
whatever you  
things had  
er voice to  
nt.  
she, "what  
w that I'm  
ty superin-  
ked Jim.  
if I knew  
hing worth  
ising to my  
fail to be  
hools of the  
year than  
ever done."  
ey so like-  
e.  
ghed Jim,  
have this  
as some  
t squared  
living on  
'm not fit  
e, during  
hair, and  
e of these  
"There's  
ght here."  
she pro-  
's wives,'  
sters with  
s the best  
the bill  
ndow and  
ape. The  
im—there  
improve-  
and the  
d. Down  
dreaming  
g as from  
ungalow,  
he moon-  
e lay the  
wentie-th-  
f priest.  
l within.  
is mother  
convul-  
own five  
for these  
ew basis  
efore the  
g at the  
Latin?'  
so much  
stead,"  
who was  
turn the  
r elbows  
without  
it better  
—every-  
MUCH OF  
DEVOTE  
GRICUL-  
E MADE

## THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much.

And I didn't know the man very well either. So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it.

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 50 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

State whether you prefer a washer to operate by Hand, Engine Power, Water or Electric Motor. Our "1900" line is very complete, and cannot be fully described in a single booklet. Drop me a line to-day, and let me send you a book about the "1900" Gravity Washer that washes clothes in six minutes.

M. L. Morris, Manager, 1900 Washer Company  
357 Yonge Street, Toronto

## What Has Coal Got To Do With BRICKS?

Coal is the main factor in making bricks, and as the price has increased this will increase the price of brick very soon.

Take advantage of winter prices of

## Interprovincial Pressed Brick

and order now while the hauling is good. Quality and Service are assured.

Write for samples—see for yourself.

Interprovincial Brick Company  
of Canada, Ltd., Goodyear Bldg., Toronto

## O.A.C. No. 72 OATS

FOR SALE. A good sample of this popular variety.

Price \$1 per bus., f.o.b. St. George. Jute bags 5c. extra. Cotton, 25c. Also a quantity of No. 21 BARLEY. An excellent sample, but with a few No. 72 Oats accidentally mixed. Price \$1.30 per bus.

Write H. C. Nixon, St. George, Ont., R.R. No. 1

## Shorthorns

For Sale—Three good bulls, ten to twelve months, reds and roan, well bred, at reasonable prices. Write, or come and see them.

N. A. McFarlane, No. 2, Durton, Ont.

## MINK SKINS WANTED

AT ONCE. Highest prices guaranteed for these and all other raw furs. Give me a trial or write for prices.

J. N. NICHOLS, Box 338, INGERSOLL, ONT.



Our "Gravity" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

## Gossip.

Ira Nichols, Burgessville, Ont., whose advertisement has been appearing in these columns, reports the sale of Knoolwood's Raleigh and Capt. Raleigh to R. J. Graham and Jas. Rea of Georgetown. Mr. Graham also took Rioetus Peony 2nd, a daughter of Rioetus Peony, a winner at Guelph. Rioetus Peony was a daughter of Maid of Dentonia, also a Guelph winner.

## London Sale Set for March 28.

The popular spring Shorthorn sale at London has been set for March 28, and there will be a stronger collection of cattle offered than at any previous sale. One will be able to buy bulls or heifers of the leading Shorthorn families under a liberal guarantee from the company. Write early for a catalogue. Address all correspondence to Harry Smith, Hay, Ont. See the advertisement elsewhere in this issue.

## Nature's Plant Food.

Nature's Plant Food is a new fertilizer that has recently appeared on the market. We are advised that it is made in the vicinity of Boston, and that the Nature's Plant Food Company, Limited, Chatham, are the agents for it in this province. The composition of this fertilizer, as stated by the company, themselves, shows that it contains 2.09 per cent. of potassium oxide, .23 per cent. of phosphoric acid, and nearly 3.0 per cent. of lime. The balance is largely silica, or sand, alumina, iron, etc. For this material they are asking \$30.00 per ton. If it will do all that is claimed, it would be very cheap at this price; but, unless all our ideas of plant requirements, availability of plant food constituents in the soil, and means of combating insect and fungous pests are at fault the fertilizer will be of little use. Apparently farmers, gardeners and others would do well to delay expending much money on this new material until its efficiency is demonstrated.

R. HARCOURT,  
Prof. Chemistry, O.A.C., Guelph.

## The Menie District Ayrshire Sale.

We direct the attention of readers to the advertisement elsewhere in this issue of the Menie District Ayrshire Breeders' Club sale to be held at Campbellford, Ont., March 14. In all about fifty head will be sold, including choice females to the number of over forty and seven young bulls ready for service. About ten head were sired by Auchenbrain Hercules, a noted Canadian prize-winner, and from the same herd in Scotland as the world's champion, Brown Kate 4th. Six or seven others were sired by the champion bull Hillside Peter Pan, and ten head more are sired by sons of the celebrated Lessnessock Durward Lely, a winner at the National Dairy Show, Chicago, in 1907, and champion of some leading Canadian shows. His dam, Blossom 3rd of Bargenock, was a record cow in Scotland. Springhill Cashier and two others of this great bull's sons have done service in the Menie District. The District has been famous for many years as the home of choice Ayrshires. The names of Hume & Co., and of Wm. Stewart & Sons, have been prominent in showyard and breeding circles for many years. Look over this list for a few great females: Humeshaugh Miss Nan by Hillside Peter Pan, and a granddaughter of the show cow, Bellsland Nan 4th with a record of 14,635 lbs. milk and 583 lbs. fat; Spicy Lass, a show cow with a splendid exhibition and milk record and in calf to Peter Pan; Purple Heather of Menie, to freshen in April, sired by Springhill Cashier, a grandson of Lessnessock Durward Lely; Highland Lady, by a son of Lessnessock Durward Lely; Highland Belle, tracing to the same sire, (both these heifers will freshen in March); Flossie with 8,200 lbs. of 4 per cent. milk to her credit as a two-year-old; May Mitchell of Menie 3rd, a typical young heifer with noted ancestry. There are many as good as these mentioned. The young bulls to be sold include prize-winners at our leading shows, and some good youngsters for which high prices have been refused. See the advertisement. Get a catalogue, and attend the sale.

Little Clarence: "Pa, what is an optimist?" Mr. Callipers: "An optimist, my son, is a person who doesn't care what happens if it doesn't happen to him."—Puck.

## How to obtain a safe and certain 5% for your savings in place of the usual 3%.

To increase the rate of interest earned by your savings is to increase the savings themselves in a very marked way. Thus, if you save \$100 every six months for 10 years, at the end of that time you would have \$2,618.33 if invested at 5 per cent., but only \$2,347.05 if invested at 3 per cent.

That is, while the yearly amount saved is the same in both cases, the higher rate of interest has added over \$271.00 to your capital.

This result can be safely and easily secured by investing in Standard Reliance Mortgage Corporation 5% debentures, which are issued in amounts from \$100 to \$10,000.

Interest at 5% is payable in cash at your local bank on the day it is due. Principal on the date agreed upon.

An interesting booklet about "PROFITS FROM SAVINGS," which gives some very valuable advice, will be sent free on request. Write for it to-day.



**STANDARD RELIANCE MORTGAGE CORPORATION**  
Head Office 82-88 King St. E. Toronto

Branch Offices:  
AYR BROCKVILLE CHATHAM  
ELMIRA NEW HAMBURG

**Now! is the time to ship RAW FURS** If you want HIGHEST PRICES

Ship all your Raw Furs to us, as we pay highest prices, charge no commissions, pay express charges, repay parcel post charges and remit promptly.

RAW FUR PRICE LIST, TRAPPERS GUIDE (in English or French) and TRAPPERS SUPPLY CATALOG sent free on request.

**JOHN HALLAM, Ltd.**  
212 HALLAM BLDG., TORONTO  
The largest in our line in Canada

**Plows, Wheelbarrows, Galvanized Hog Troughs, Water Troughs, Feed Cookers, and a full line of repairs for all Plows**

MANUFACTURED BY  
**THE HILBORN CO., LTD.**  
AMERICAN PLOW WORKS  
AYR, ONTARIO

**UNLESS—**

The Great-West Life Assurance Company were providing particularly attractive policies, it would not—for ten successive years—have led all Canadian companies in the amount of business written in Canada.

UNLESS the funds were invested at an exceptionally favorable rate, it would be impossible to pay the unequalled profits that are being paid to Policyholders.

UNLESS strict economy prevailed, the advantage of these high earnings would be lost.

These, and many other points of vital interest to those looking for the best obtainable in Life Insurance, are referred to in the 24th Annual Report of

**THE GREAT - WEST LIFE ASSURANCE CO.**  
Dept. "Z" Head Office: Winnipeg

ASK FOR A COPY

# Seeds AND Seed Grain

	Per Bush.
Red Clover, Special No. 1	
Extra nice.....	\$14.00
Red Clover No. 1.....	13.50
Alsike No. 1.....	13.50
Alfalfa No. 1.....	13.00
No 2 Timothy (No. 1 for Purity).....	4.00

These prices are cash.  
Bags extra, at 30c. each.

## SEED OATS

	Per Bush.
New Century.....	\$ 1.25
Banner.....	1.25
Early Empire (ripens with barley).....	1.10
O. A. C. 72.....	1.25
Newmarket.....	1.25
Lincoln.....	1.25

O. A. C. 21 Barley, \$1.50 per bush.

Terms cash, ex-warehouse. Bags at 30c. each.

We pay freight on orders of \$25 or over to points in Ontario not exceeding 200 miles. We have a carload of seed corn in bulk for later shipment. Write for prices.

**HEWER SEED CO.**  
Guelph, Ont.

## SEED CORN FOR SALE

I am able to supply first-class Seed Corn on the cob in the standard varieties of Dents. Reduction on club orders. If undecided as to most suitable variety, enquire, stating your locality.

**ROBT. W. KNISTER,**  
Comber, Ontario

**Buy Seed Oats Now**—Now is the time to get your seed oats to make sure of getting good Ontario-grown seed. I have a limited amount of good, clean seed oats left, which I will sell reasonably. Samples and prices sent on request. Apply soon.

**BENJ. J. WAECHTER,** Gold Medal Farm,  
R. R. No. 3, Walkerton, Ontario

**Seed Grain**—Still have a good supply of O.A.C. 72 Oats and 21 Barley left. We supply the best varieties to grow in Ontario. Supply is pure and true to name, and of good quality. Priced so you can buy.

**JOHN ELDER & SONS,**  
(Special Seed Growers) Hensall, Ont.



**STRAWBERRY PLANTS,** including fall-bearing; Raspberries, Currants, Gooseberries, Grapes, Asparagus, Seed Potatoes, etc.  
Illustrated Berry Book and Price List Free.  
**H. L. McConnell & Son,** Port Burwell, Ont.

**O. A. C. No. 3 Early Oats**—Splendid yielders, good sample, no noxious weed seeds. Price, \$1.75 per bush. Orders of 5 bush. or over, \$1.50 per bush. f.o.b., G. T. R. or C. N. R. Cash with order. Bags free. Also Red Clover, Grade No. 1, \$12.00 per bush. Bags, 30c. extra. S. P. Foote, Bethesda, Ont., York Co.

**Registered O.A.C. 21 Barley** in sealed bags, at \$2.00 per bu. Same barley in plain sacks at \$1.75 per bu., 1st at Guelph and Ottawa. Improved O. A. C. 72 Oats, at \$1.50 per bu., bags included. George R. Barrie, R.R. 7, Galt, Ont.

**Farmers, Notice!** We have for sale a large quantity of high-grade O. A. C. No. 72 Oats and O. A. C. No. 21 Barley, grown from carefully-graded, selected seed. Guaranteed true to variety, and free from all noxious weed seeds. No. 1 Red Clover seed. Write for samples and prices.

**RUTHVEN BROS.,** Alliston, Ont., R.R. No. 2

**For Sale**—Baled hay, car-load lots. Alfalfa clover and mixed hay. Apply to  
**W. E. TODD, Hay Dealer,**  
Hagersville P. O., Ontario

**Seed Corn** **SAMPLE FREE.**  
**IRA L. GRAHAM**  
WINDSOR, ONT.

## Gossip.

### Holstein Sale at the Elms Stock Farm.

If in need of pure-bred Holsteins, plan to attend the Elms Stock Farm auction sale on March 13. There are a number of high-producing cows with calves at foot in the offering, and the entire herd traces back to such sires as Count De Kol Pietertje Paul and Cornelius Posch. Write J. Summerfeldt & Son, Unionville, for catalogues and detailed information of the stock. Unionville is 20 miles from Toronto, on the Midland division of the G. T. R. Trains will be met on the day of sale.

It has been estimated that the ground occupied by an average stump and its roots will grow from 25 cents to 50 cents worth of food crops per year. Multiply the many millions of stumps which now occupy the uncleared land of this country and you will see that colossal treasure lies beneath them. There are several methods used in the removing of these unsightly tax eating monsters, but the experience of hundreds of farmers throughout the country has demonstrated that the use of the Kirstin Stump Puller is satisfactory. Literally hundreds of farmers have been able to answer their country's call by producing larger crops after clearing their waste land.—Adv't.

### Holsteins at Highlawn Farm.

In the advertising columns of our last issue there appeared a small advertisement of the Highlawn Farm herd of Holsteins, the property of Joseph O'Reilly, of Peterborough, Ont. Although Mr. O'Reilly really belongs to the younger school of Holstein breeders in Canada, we believe he needs very little introduction to Farmer's Advocate readers. His achievement in developing the noted yearly producer, Toitilla of Riverside, the Record of Performance champion of Canada, is already well known to those of the Holstein fraternity at least, who are very fortunate in having so thorough a dairyman as Mr. O'Reilly in their midst. At the time of our visit a little over a week ago, the herd numbered only some thirty odd head, but there were among those almost as many high record individuals as can usually be found in herds of even double the size. Toitilla of Riverside, Burkeyje Hengerveld, Calamity Johanna Nig, Helena Hengerveld Keyes 2nd, all members of the herd still, are, with the exception of the latter, all above 20,000-lb cows, while she in her four-year-old form was only 247 lbs. below this figure. Burkeyje Hengerveld's record was also made at four years, she being the first four-year-old cow in Canada to cross the 20,000-lb. mark. This makes the combined records of these four cows average over 22,000 lbs. for the year, and they, too, are all show individuals. A number of the younger things in the herd are direct descendants of these cows. There is a two-year-old daughter, for instance, out of the Canadian champion and by Sir Lyons Segis, the \$1,500 son of King Segis. The daughter, again, has a nice bull calf by Pontiac Johanna King, a son of the 25,000-lb. cow, Calamity Johanna Nig, mentioned above, which by the way is due again in March to Hillcrest Ormsby De Kol, a son of the great 29,009-lb. cow "Rauwerd." Burkeyje Hengerveld also has a very promising two-year-old daughter in the herd which has just recently dropped a nice bull calf by the herd sire. Another five-months bull, by the same sire, is from Helena Hengerveld Keyes 3rd, which has an 18-months-old daughter in the herd as well. These bulls mentioned, although still young, are one of the most richly bred lots we have seen for some time and are all well deserving of the attention of those who will be needing a sire for service in a few months' time. They are mostly by the sire, May Echo Prince, a bull that is seventy-five per cent. the same breeding as May Echo Sylvia, 41.5 lbs. of butter in 7 days and the champion milk cow of the world. He is sired by Inka Sylvia Beets Posch, also the sire of May Echo Sylvia, while his dam was the noted 31.34-lb., 11-year-old cow, May Echo. There are also seven heifers in the herd from this sire, and the majority of the mature cows are again in calf to him. A sire by him and from any of Mr. O'Reilly's cows would improve the most of herds. He has others besides those mentioned; watch the advertising columns of this paper for further particulars.



**T**HE roadways in the Dominion Experimental Farm are an object lesson for all farmers. They are built with macadam constructed with "Tarvia-X" to prevent ruin by automobile traffic.

The roads were built in 1914. The photograph shows the condition at the end of 1916. During the intervening period there has been no expense whatever for maintenance, yet the roadway retains its beautiful contour, shedding water perfectly and giving ideal traction 365 days of the year, although the traffic is very heavy.

The Tarvia added a little to the original cost, but it was cheapest in the long run. The kind of roads that are built too flimsily to withstand traffic is the most expensive road of all. That is why plain macadam without Tarvia treatment is going out of date. It is too expensive in the long run; it wears out too fast.

Pay a little more for Tarviated ma-

cadam, and you will find that your road money will go for extensions of good roads instead of for keeping the old ones in passable condition.

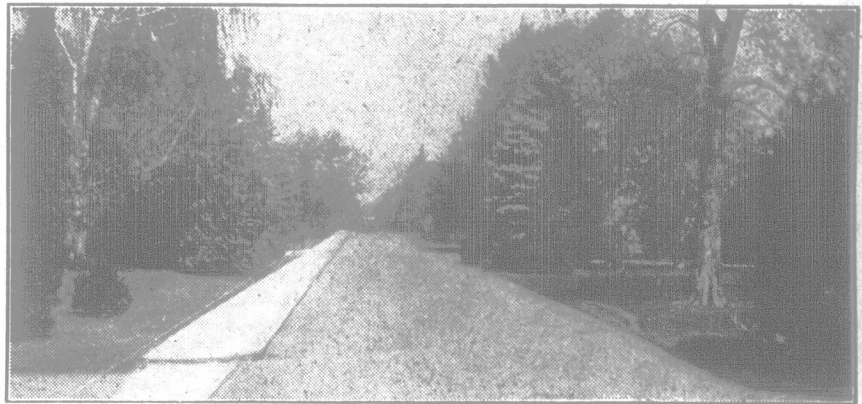
The road engineer who tries to doctor up all the roads at once so as to please everybody, ends up by wasting a lot of money and pleasing nobody.

Build Tarvia roads and take care of them year after year at small cost, and eventually you will get good roads everywhere. You never will get them by the older methods of cheap construction and poor but costly maintenance.

We have attractive illustrated booklets on Tarvia, which we will be glad to send to any taxpayer on request.

**THE PATERSON MANUFACTURING COMPANY, LIMITED**  
MONTREAL TORONTO WINNIPEG VANCOUVER

**THE CARRITTE-PATERSON MANUFACTURING CO., LIMITED**  
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.



Driveway in Dominion Experimental Farm, Ottawa, Ont. Constructed with "Tarvia-X" in 1914.

**PEERLESS PERFECTION**  
The Fence For Real Protection

gives life time service. Is made of the best Open Hearth steel fence wire, all impurities burned out, all the strength and toughness left in. Makes the fence elastic and springy. Will not snap or break under sudden shocks or quick atmospheric changes. Galvanized to prevent rust and the coating will not flake, peel or chip off. 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. Send for catalogue. 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

**MAKE YOUR CROPS TOUCH A NEW HIGH MARK!** An experiment in 1913 on loamy soil showed that the limed portion of the land gave 1,865 lbs. of corn, while a similar piece—unlimed—gave only 690 lbs. Lime is being used more and more, to correct the soil and get bigger, better results. Try an application of

## BEACHVILLE WHITE LIME

and judge for yourself. Let us send you folder containing valuable information, without charge.

**BEACHVILLE WHITE LIME CO., Limited, Beachville, Ont.**

## ESSEX SEED CORN

For sale—a limited quantity of high-grade seed corn of different varieties, crib cured and peg cured. For particulars write—  
**W. F. MALOTT,** Box 16, Cottam, Ont.

## ALSIKE CLOVER

Good pure seed. \$10 per bus. New bags 30c. Write for sample.  
**A. BINGLE,** GRIMSBY, ONT

### SEED CORN ON THE COB

Some of the best corn in Essex County, second to none in germination. Satisfaction guaranteed or your money refunded. In sacks or crates. Flints and Dents on the cob. Ed. Mather, Box 460, Leamington, Ontario

### CHOICE SEED OATS

O.A.C. No. 72 and Daubeny. No noxious weed seeds. For samples and prices, write E. Broderick, R.R. No. 1, Exeter, Ontario

### No. 21 O. A. C. Barley

Home-grown, and tests 50 lbs. per bushel. Price \$1.50 per bus. JOHN NESBITT, Nestleton Station, Ontario

### No. 1 Ontario Variegated Alfalfa Seed

Fields have stood 10 years of severe testing. Price \$25.00 per bushel. Bags included. SAUGEN ALFALFA SEED CENTRE W. G. Schell, Secretary, Port Elgin, R.R. No. 3

SEED GRAIN—O. A. C. No. 72 Oats, O. A. C. No. 3, Early Oats, No. 21 Seed Barley. The O. A. C. No 3 Oats are just the thing to sow with barley for mixed feed as they ripen together. Be first in your locality to grow some for seed. Write for samples and prices. W. R. Dougall, Hensall, Ont.

### FARMERS—Your Big Chance—NOW

The Provincial Government is about to spend \$25,000 to induce people to grow vegetables on all spare land this season, to help avert the danger of insufficient food supply. Food scarcity is threatening even now. EVERY FARMER IS VITALLY INTERESTED. Have your fields been fertilized? Are you going to produce BIG CROPS? There will be BIG PRICES, too. This year will be the greatest opportunity to make money the farmer ever saw. The unusual combination—BIG PRICES—BIG CROPS. The big prices are assured, but the big crops are only certain if you use

## "Best-by-Test" FERTILIZERS

These fertilizers are scientifically and honestly made, guaranteed to contain full strength of chemicals as per formula. We supply any quantity of the right fertilizer for any crop and for any soil. Please let us quote on anything you need, and freely consult us, regarding any of your fertilizing problems.

We sell a bag or a carload. Write for prices. Local Agents Wanted.

Canadian Fertilizer Co., Limited  
12 Market Chambers, Chatham, Ont.



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

## Come to Detroit The Automobile Center and LEARN THE AUTOMOBILE BUSINESS

DETROIT trained men get preference and get jobs quickly. No other city can give what Detroit offers. Think what it means to learn in the Michigan State Auto School. Factories endorse our school, glad to employ our graduates or offer them territory in which to sell cars and start garages. Unlimited opportunities. 71% of automobiles are made in Detroit. You're right in the Heart of the Auto Industry. Men are needed everywhere as testers, repair men, chauffeurs, garage men and salesmen. Hundreds of our graduates start in business for themselves.

### Earn \$75 to \$300 a month

We teach you to handle any auto proposition. You graduate in from 10 to 12 weeks. Our equipment is new, up-to-the-minute, and complete. No old, obsolete motors, chassis or electrical equipment used. Students actually build cars from start to finish, getting factory training in assembling, block-testing, road-testing, everything. Special complete course in Oxy-Acetylene brazing, welding and cutting, separate from regular course. Learn to time motors, rebore cylinders, adjust carburetors, magnetos, valves and bearings quickly and accurately. Six-cylinder Lozier, Chalmers, "6," Detroit "6," Overland and 8-cylinder King are used for road instruction. We have a new Chalmers "6-30" chassis with 3400 r. p. m. motor, the latest thing out, Willys-Knight 1917 chassis, Saxon "6" 1917 chassis, Studebaker "6" 1917 chassis, Maxwell 1917 chassis, Hudson Super-Six 1917 chassis, Oldsmobile "8" 1917 chassis, Cole "8" 1917 chassis, Briscoe 1917 chassis, Detroit Electric 1917 chassis, Winton "6" chassis. All completely equipped for students to work on. We have more than 25 motors in our block-test department—2 cyl., 4 cyl., 6 cyl., 8 cyl. and 12 cyl. Our electrical department is complete, having every standard starting, lighting and ignition system, including Delco System as used in Buick, Hudson and Packard Twin "6."

There are 44 auto factories in Detroit and 140 accessories and parts factories. Our students have the privilege of going through any or all of them. We now operate Westinghouse, Auto-Lite and Bijur Service Stations. This has added thousands of dollars' worth of equipment, and makes our electrical department unequalled. Students get actual experience in handling all kinds of electrical auto equipment and taking care of trouble. We have just installed a Sprague Electric Dynamometer for block-testing purposes for students' use. Ours is the only Auto School

Following this equipment. Auto factories need Dynamometer men constantly. Factories and garages are paying big salaries to men who know how to handle electrical equipment quickly and properly. Detroit is the automobile center. You get practical instruction. School open all the year. Enter classes any time, any day. Three classes daily: morning, afternoon, evening. All instructors are members of the Society of Automobile Engineers (S.A.E.). There is a great demand for Michigan State Auto School students. Auto factories write and phone for men constantly.

Follow the Crowd to the Michigan State Auto School. Come to Detroit.

### MONEY-BACK GUARANTEE

We guarantee to qualify you in a short time for a position as chauffeur, repair man, tester, demonstrator, garage man, or automobile dealer, paying from \$75 to \$300 monthly or refund your money. We have constantly more requests for Michigan State Auto School Graduates than we can supply.

### Additional Building and Equipment

Thousands of dollars' worth of new equipment, plenty of room for students to work, at 687-89-91 Woodward Ave., in addition to our building at 11-19 Selden Ave. Our school has grown by leaps and bounds, students come from all over the world. We are constantly adding new equipment. Our electrical department is thorough and complete.

### Factory Co-Operation

We have completed arrangements with the Auto factories to put them in touch with men who intend going into business for themselves. Men who know the auto business from A to Z are in biggest demand. Remember, the price of course is based on giving full value. Graduates in the complete auto course are competent to handle farm tractors.

### Auto Factories Endorse Our School

The leading automobile factories in Detroit, as well as in other cities, endorse our school. They have been watching our school and graduates for years and are satisfied. They are putting their latest model complete chassis in our school for students to work on. They are employing our graduates in their factories and service stations and assisting them in opening garages and salesrooms. They allow our students to go through their factories. They need trained, competent men, and are asking for more of our graduates constantly. The Michigan State Auto School in Detroit, the heart of the Auto Industry, is endorsed by the leading auto factories, is receiving their hearty co-operation. What better endorsement could you ask?

### Act Quickly—NOW!

Fill in the coupon; get full particulars, "Auto School News" and New Catalogue. All absolutely free. Or, better still, jump on the train, as hundreds have done, and come to the "Heart of the Automobile Industry," and learn right. We have no branches. Write or come direct to this school.

## Michigan State Auto School

The Old Reliable School. A. C. Zeller, President  
1843 Auto Bldg 687-89-91 Woodward Ave. 11-19 Selden Ave.  
DETROIT, MICHIGAN, U.S.A.

44 AUTOMOBILE FACTORIES 140 ACCESSORY FACTORIES

**SEND THIS COUPON TODAY**

Michigan State Auto School,  
1843 Auto Bldg., 11-19 Selden Ave.,  
687-89-91 Woodward Ave.,  
Detroit, Michigan, U.S.A.  
Gentlemen: Send me absolutely FREE  
"Auto School News" and New Catalogue,  
or, better still, you can expect me about

Name.....  
Street.....  
Town.....State.....

### Gossip.

#### Holsteins at Dumfries Farm.

Two hundred head of pure-bred Holsteins are not often found on one Ontario farm, and it afforded a representative of this paper a great deal of pleasure recently to visit the 500-acre Dumfries Farm at St. George, Ont., and leisurely inspect so large a herd of Black and White milk producers. Dumfries Farm and the Dumfries herd, property of S. G. & Erle Kitchen, are certainly a well-balanced institution. Here farming, dairying and breeding Holsteins all receive equal attention, and combined make up one of the best commercial propositions Brant County can boast of to-day. Everything must pay its way under the management of Messrs Kitchen, and while there has been very little official cow testing done as yet, cows that will not produce upwards of 60 lbs or over per day on two milkings do not stop long in the stables. In selecting herd sires, too, they have been very fortunate. Good luck as well as good management has, no doubt, been with them many times in making these selections. Prince Aaggie Mechtild, that great re-producing sire recently purchased by the Dominion Government for the Lacombe Experimental Farm, was only one of several noted sires that have seen service in the herd. He has left a lot of good daughters in the herd, as has also Choicest Canary, the 30.24-lb.-bred son of the famous sire, Brightest Canary. Both of these sires were well chosen, but their good judgment was again well exercised when they selected, as the sire to mate with the daughters of these bulls, the young son of Evergreen March, 110.8 lbs. of milk in 1 day, 711 lbs. in 7 days, and 26,107 lbs. of milk and 1,130 lbs. of butter in 365 days, making her at the time the champion cow of Canada. Then again on the sire's side he has not only Canadian record but world's record breeding blood, being a son of Plus Inka Sylvia, whose sire, Inka Sylvia Beets Posch was the sire of May Echo Sylvia, the greatest milk producing cow the world has ever known. This young sire is a growthy, well-colored fellow of splendid type, and when mated on the daughters of the two previously mentioned bulls will carry several steps higher the production and individuality of the entire herd. In conclusion we might impress upon our readers that from a herd of 200 head that has been so well selected and carefully bred there can be a good selection made at all times. The offering at present in this case includes a lot of good females, and Messrs. Kitchen are now in a position to fill any order from one animal to carload lots.

### Conscription or Not?

EDITOR "THE FARMER'S ADVOCATE":  
I read with interest the official letter of the Minister of Agriculture in your last issue urging production. There has been much talk and many demands, both official and private, that the government put on some form of conscription. The situation has passed the stage of mere rumor, and such a measure is well within the realms of possibility. The government, however, seems to be working in the dark on this issue. Now, I feel that I have a large percentage of farmers with me when I make this demand—that the government state openly their stand on this issue, and give us something definite to work on. My reasons for making this demand are as follows:  
I have a single man in my employ, and of military age. With his help I intend to put in a large acreage of crop. If he is to be called for military service within the next eight months I shall curtail my acreage greatly and possibly not enter into a contract with him at all. Right now I have to decide on taking a contract from the local canning factory. My grain crop was of poor quality last year and I have to buy seed. Prices are high and I do not want to buy a lot of seed if I cannot sow it. In short, now is the time to make plans for the year's crop, and I feel unable to proceed under the existing circumstances. So I feel I am justified in asking for a satisfactory and official explanation.

Essex Co., Ont.

R. J.



All cows give some

**MILK**

Well fed cows of course give

**MORE MILK**

but cows fed COTTON SEED

MEAL give the

**MOST MILK**

and do it at less cost per pound.

**COTTON SEED MEAL**

When carefully selected, such as our BRANDS are, is the most economical and most satisfactory concentrate on the market. It is rich in protein, and offers it to the animal in a highly palatable and digestible form, and cows need protein to produce the maximum amount of milk. A scientific dairyman will always include in the ration sufficient cotton seed meal. More natural farm roughage and less grain products can be used. Ask your Experiment Station.

**OUR BRANDS:**

Owl Brand	Dove Brand	Jay Brand	Fox Brand
41-43% Protein	38 1/2-40% Protein	36-38% Protein	Feed Meal 20-22% Pro.

All selected quality—Cotton seed meal is our specialty and has been for forty years. Come to headquarters.

**F. W. BRODE & CO.**

Memphis, Tenn.

Established 1875 Incorporated 1915

**Clover Seeds**

High-grade Government Standard Seeds

No. 1 Mammoth Red Clover	Per bus. \$14.00
No. 1 Red Clover	13.50
No. 2 Red Clover	12.50
No. 1 Alsike	13.50
No. 2 Alsike	12.50
No. 2 Timothy (this seed grades No. 1 for purity and germination)	4.25
No. 3 Timothy	3.25
White Blossom Sweet Clover	13.00
No. 1 Alfalfa (Northern grown)	13.00

Terms cash with order. Bags extra, at 30 cents each.

We pay the freight on all orders of \$25.00 or over east of Manitoba.

Send for samples if necessary.

**Todd & Cook, Seed Merchants**  
Stouffville, Ontario

**SEED GRAINS**

Now is the time to place your order for Seed Oats, Barley, Peas, Corn, Buckwheat, etc. We have some good, clean seed, and can quote reasonable prices.

We can also supply Cotton Seed Meal, Oil Cake Meal, Gluten Meal, Distillers Grains, Tankage, Bran, Shorts, etc.

We are buyers of Hay, Straw, Beans and Coarse Grains.

Write for prices.  
**Crampsey & Kelly, Toronto, Ont.**

**Carter's Tested Seeds Inc.**

Branch of Jas. Carter & Co., London, Eng.

1917 Market Gardener's Catalogue is now ready. Write for copy at once.

Our New Stocks Have Already Arrived.

133 King St. East Toronto, Ont.

**SEED CORN**

FOR SALE—Many varieties of high germination test. No. 1 seed corn from No. 1 growers. The St. Joachim Seed Corn Growers' Club, Box 4, St. Joachim, Ont.

Sweet-clover Seed Wanted—A quantity of white blossom Sweet-clover seed, hulled and unhulled. Send sample and price. For sale—O.A.C. 21 Seed Barley, and O.A.C. 72 Seed Oats.

GEO. D. FLETCHER, Erin, Ont., R.R. No. 1

**Questions and Answers.**

1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

**Miscellaneous.**

**Sugar Curing Pork.**

What is the exact amount of salt, sugar, pepper and saltpetre required to sugar cure about 225 lbs. of pork? E. W.

Ans.—When the meat is cool, rub each piece with salt and allow it to drain over night. For each 100 lbs. of meat use 8 lbs. of salt, 2 lbs. of brown sugar and 2 ounces of saltpetre. Dissolve in 4 gallons of water and cover the meat with the brine. The brine should be thoroughly cooled before using, and in summer it is advisable to boil the brine before using. The strips of bacon should remain in the brine from four to six weeks, and it is recommended that the hams and shoulders remain in it for six to eight weeks, after which they will keep through the summer if smoked. The length of time the meat is kept in the brine depends on the size of the pieces. This system is known as the sugar-curing of hams and bacon.

**Feeding and Housing Poultry.**

1. Is a house 6 feet by 8 feet large enough to accommodate from 15 to 20 Leghorn pullets?

2. In what month should Leghorn chickens be hatched in order to have the pullets laying in November?

3. Would equal parts wheat, oats barley and buckwheat in the morning, a mash made of chop and scraps at noon, and oats, barley and wheat at night be a satisfactory ration for laying hens?

4. Are ashes and some oyster shell sufficient in the line of grit for hens?

5. Do you consider the White Leghorn superior to the other Leghorn breeds? F. S.

Ans.—1. A pen of the dimensions given would accommodate 15 birds of the lighter breeds, and about 12 of the heavier breeds.

2. Pullets hatched any time from April 10 to May 20, and fed well through the season should be sufficiently developed to commence laying in early fall.

3. Some meat food and green feed should be added to the ration; otherwise it should prove quite satisfactory, although we would suggest that rolled oats or else a mixture of bran and shorts, low-grade flour and cornmeal be kept before the birds all the time.

4. The ashes and oyster shell have a tendency to supply the lime for the manufacture of egg shell, but grit in the form of gravel or sand is also necessary.

5. It is all a matter of preference; some people prefer one breed and some another. There are good and bad strains in all.

**Gossip.**

**A Review of Chicago International.**

A "Review and Album of the 1916 International"—a profusely illustrated, cloth bound history of the show, will in the near future be ready for delivery. These books can be had upon application by mailing 50 cents to the International Live-Stock Exposition, Union Stock Yards, Chicago. The cost of the book is considerably more than this sum.

**Show Ring Holsteins For Sale.**

Elias Snyder, Burgessville, has decided on Thursday, March 15, as the date his dispersion sale of Holstein cattle. In the offering are a number of prize winners in the large show-rings of Ontario. There are eighteen females in the offering, which are good individuals and bred for type and production. Mr. Snyder has milk records of most of his mature cows so that purchasers will know what the animals are capable of doing. Many of these records are included in the catalogues, which are now ready for distribution. If high-class individuals are desired it will pay to attend this sale. Trains will be met at both Woodstock and Norwich. Write Mr. Snyder, Burgessville, for catalogue and full particulars.

**SEEDS**  
**BUY SUPPLIES NOW**

Rennie's Early Yields White Oats (pure stock). Bus. \$2.25, 10 bus. \$22.00.

Earliest White Cap Seed Corn (for silo or green). Bus. \$2.75, 5 bus. \$13.25.

Compton's Early Seed Corn (high grade seed). Bus. \$3.25, 5 bus. \$15.75.

Red Clover, select No. 2 seed. Bus. \$15.30, No. 1 seed. Bus. \$16.20.

Timothy. Prime No. 2 seed. Bus. \$4.56, No. 1 seed, Bus. \$5.76.

Alfalfa. Choice No. 2 seed. Bus. \$13.50, No. 1 seed. Bus. \$14.10.

White Blossom Sweet Clover. Bus. \$12.60.

Above Seed and Grain Prices do NOT include freight charges.

Cotton Bags to be used in shipping Grain and Seed, 30c each extra.

Giant White Feeding Sugar Beets. 1/2 lb. 25c, 1 lb. 45c.

Short White Feeding Carrot. Oz. 15c, 4 ozs. 45c, 1/2 lb. 80c, lb. \$1.50.

Famous Derby Swede Turnip (feeding). 4 ozs. 20c, 1/2 lb. 37c, lb. 70c, 5 lbs. \$3.40.

Giant Yellow Intermediate Mangel. 1/2 lb. 25c, 1 lb. 45c.

Spinach Beet (for greens). Pkg. 10c, oz. 30c, 4 ozs. 90c.

Danvers Scarlet Table Carrot. Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. \$2.00.

Early Yellow Danvers Onion (black seed). Pkg. 5c, oz. 20c, lb. \$1.90, 5 lbs. \$8.25.

Chalk's Early Tomato, large and early. Pkg. 5c, 1/2 oz. 20c, oz. 35c.

Little Marvel Garden Peas (Dwarf). 4 ozs. 15c, lb. 40c, 5 lbs. \$1.75.

Shallot Multiplier Onions. Lb. 30c, 5 lbs. \$1.40.

Giant Branching Asters, pink, white, lavender or mixed. Pkg. 10c, 3 pkts. 25c.

XXX Exhibition Pansies, mixed colors. Pkg. 25c, 1/8 oz. \$1.25.

Rennie's Seed Annual Free. Delivered Free, except Seed Grain, etc.

Order Through Your Local Dealer, or Direct From

**WM. RENNIE CO., LIMITED**

King and Market Streets, Toronto

ALSO AT MONTREAL WINNIPEG VANCOUVER

**SOW** Established 1856  
**SIMMERS'**  
**SEEDS**

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

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

**Percheron Stallions**

Lots of them. All imported direct from France. None second. All guaranteed foal getters. Prices and terms on application. Write for illustrated Catalogue.

Hodgkinson & Tisdale, Beaverton, Ontario

**CLYDESDALES FOR SALE**

We are offering for sale the imported stallion Kirkland Chief, also a number of imported and Canadian-bred mares and fillies. These are large, strong mares, with splendid breeding, and two are in foal at the present time. Here is an exceptional opportunity to get good foundation stock at a reasonable price. For full particulars, write or visit

**Stoneycroft Stock Farm,** St. Anne de Bellevue, Quebec.  
H. M. MORGAN, Owner L. C. McQuat Manager.

**Imported & Canadian-bred Clydesdales**

We have some big, draft, good quality stallions from our 1915 fall importation. They have been winners wherever shown. We have other proven sires, imported a year ago, as well as a choice lot of Canadian-bred stallions and mares. SMITH & RICHARDSON, Columbus, Ontario

## TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

## DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF \$500, OR ANY MULTIPLE THEREOF

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

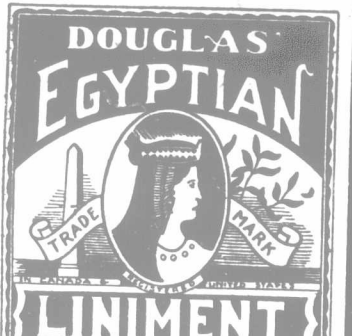
Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA  
OCTOBER 7th, 1916.

**DOUGLAS EGYPTIAN LINIMENT**



**Cures Chilblains and Frostbites**

For Sale Everywhere

DOUGLAS & COMPANY MFRS. WINDSOR, ONTARIO

**VETERAN**



**THRESHERMEN, READ THIS!**

The Improved Veteran Endless Canvas Drive Belts will give you better service than any other. You want the best. Order now. Sold only by

**WINDSOR SUPPLY CO.**  
57 Sandwich Street West, Windsor Ont.  
Headquarters for Suction Hose and all other Thresher Supplies. Write for catalogue, "Engineers' Bargains."

**DO YOU NEED FURNITURE**

Write for our large photo-illustrated Catalogue No. 7—It's free to you.

**THE ADAMS FURNITURE CO., Limited**  
Toronto, Ontario

When writing please mention Advocate.

## No More Sore Shoulders

### Mr. Horse-owner:

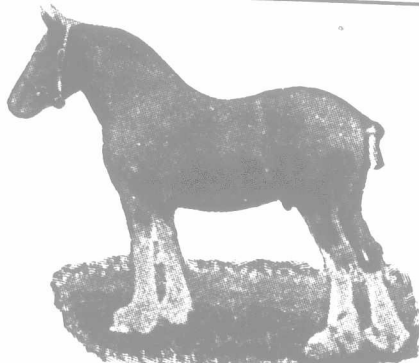
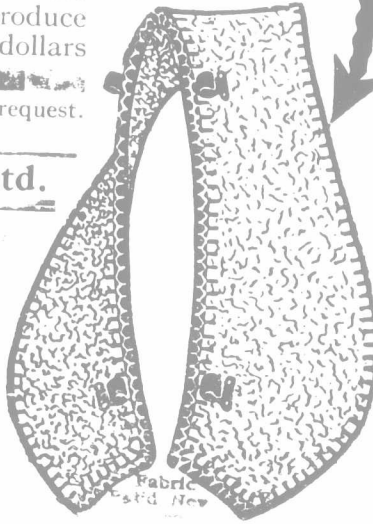
Probably you know of and are a user of "Ventiplex Pads." If not, right now is none to soon to equip all your horses with them. "Ventiplex" Horse Pads cure "Gall Sores" and prevent "Sore Shoulders".

When horses are well they earn big money—but if laid up at times they are a loss. A few dollars spent on "Ventiplex" pads will produce bigger returns by hundreds of dollars every year.

Further information gladly furnished on request. Your dealer will supply you.

**Burlington Blanket Co., Ltd.**  
793 King St. W., Toronto, Canada

**Ventiplex PADS**



THE COUNT OF HILLCREST  
ONE OF OUR NOTED CHAMPIONS

## CLYDESDALES PERCHERONS

WE would like you to see our 1916 Guelph champions in their own stables. We also have other Clydesdale stallions that were never out, as well as several high-class Percheron stallions and some choice Clydesdale mares and fillies.

PRICES RIGHT  
TERMS TO SUIT

**T. H. HASSARD, MARKHAM, ONT.**

## Questions and Answers.

Miscellaneous.

### Conveniences in the Home.

I purpose installing a bath, toilet, and hot and cold water in my house, and would like to have your experience as well as that of some of your readers regarding the kind of system to install. What is your opinion of the pneumatic water system with the hand pump? I do not want to go to the expense of putting these conveniences into the house unless I have fair assurance that they will prove satisfactory.

Ans.—The pneumatic water system, along with several other systems, was fully described in the issue of June 29, 1916. This system is in use in many farm homes and is evidently giving satisfaction. By having water pressure in the house, or else a supply in a tank in the attic, hot water can be secured in any part of the house by having a pipe connected with the kitchen stove, or with the furnace in the winter-time. The waste can be gotten rid of by use of a septic tank, which is described in answer to a question in another column of this issue.

### Curing Bacon.

What method or methods do you recommend for curing bacon?  
W. N.

Ans.—There are a number of recipes for curing meat, which give very satisfactory results. To salt, hams and shoulders are frequently rubbed with 4 pounds of salt, 1½ lbs. of brown sugar, and 2 ounces of pulverized saltpetre for every 100 lbs. of meat. Apply three times for hams and shoulders and twice for bacon. Some make a brine strong enough to float an egg, using 8 lbs. of salt, 2 lbs. of brown sugar, and 2 ounces of pulverized saltpetre, dissolved in 4 gallons of water. Place the meat in a cask, pour the mixture over it, and add sufficient water to cover it. Weigh the meat down and leave in the brine for six weeks, then remove and smoke. A mixture of 9 lbs. of salt, 3 lbs. sugar, 1 lb. molasses, 3 ounces of saltpetre, 1 ounce baking soda, to 6 gallons of water, is sometimes used. The meat is left in the brine for about six weeks before smoking. Bacon is very often packed in salt, but it may also be rubbed well with salt and brown sugar in the proportions of ¼ lb. sugar to 2 lbs salt, then packed in salt for three or four days, after which it may be taken out and partially cooked and packed in large crocks or lard pails. The fat which fries out of the meat should be poured over it and enough lard added to completely cover the meat. This will make it airtight. The meat must be cooked a little more before it is used.

### Grafting.

1. Is it possible to graft Snow apple scions on to a plum tree? The plum tree has died at the top and has thrown out thorny branches near the bottom. I have heard that it takes seven years for a Snow apple tree to come into bearing. This plum tree that I speak of is four years old. If I graft the apple on to the plum tree, will it still take the seven years for the tree to come into bearing, or will the age of the plum tree count?

2. What time of the year should grafting be done?

3. What kind of grafting wax is best to use, and how can it be done?

4. Could I transplant the tree in question in the spring or fall, or is it advisable to leave it where it is?  
E. M.

Ans.—1. Apple and plum are two entirely different kinds of fruits; the one being a stone fruit, the other being a pome. We doubt the possibility of grafting the one on the other. When grafting takes place it must be with fruits of like nature botanically. It does not take quite as long for a graft to come into bearing as it does for the original tree.

2. Grafting is done when the sap commences to flow.

3. Grafting wax is made with 4 lbs. of resin, 2 lbs. of beeswax, and 1 pint of boiled linseed oil. The resin and beeswax must be melted and the oil stirred in. Tallow may be used in place of linseed oil. It makes a harder wax, which cracks more readily when applied than does the kind made with linseed oil.

4. A four-year-old tree can be transplanted in the spring. If the tree is healthy and of good variety, but is located in the wrong place, it would be advisable to change it.

Questions and Answers.  
Miscellaneous.

Milking a Heifer.

I have two three-year-old heifers freshening in the spring. Would you advise allowing the calves to run with them, or would it be better to wean the calves?

W. L.  
Ans.—It depends somewhat on the value of the heifers and the ease with which they can be milked. If the heifers are to be kept for dairy purposes we would advise milking them the first year. It is advisable to keep the heifers in milk ten or eleven months the first lactation period, and it is almost impossible to do this if the calves are allowed to run with them. A heifer that dries up at the end of six or seven months in the first lactation will in all probability do the same in the succeeding years, and no system of feeding will prevent her. If the calves are valuable it might pay to allow them to run with the cows; it will depend considerably on local circumstances whether or not the calves are weaned. Some stockmen keep a large herd of cows for raising calves to be sold as baby beef. With good quality calves they claim that the practice pays well, although with present prices of milk and cream it is possible the returns would be greater if cream was sold and calves raised on skim-milk.

Gravel for Silo—Pasture for Hogs.

1. How much gravel would be required for a silo 12 by 45 feet?

2. What strength and thickness should the foundation and wall be?

3. Is a silo better with or without a cement floor? Explain method of drainage where a floor is used.

4. I have about four acres of clover; three-quarters alfalfa and one-quarter red, which was sown with grain last year. How many young pigs two months old, at the start, should this provide with pasture for the season?

5. Which do you consider the better to sow for hay or pasture, the mammoth or common red clover?

6. How much milk and butter-fat should a good Shorthorn cow give per annum? I have one which gave 7,000 lbs. of 5.7 per cent. milk. Would this be considered good?

7. Name a few of the best strains of dual-purpose Shorthorns.

G. P. M.  
Ans.—1. Building the wall about 8 inches thick, and mixing in the proportion of one to eight, it will require about 45 cubic yards of gravel and 39 barrels of cement.

2. We have known silos to be built with a 6-inch wall from top to bottom. However, it is generally considered that they should be a little heavier than this. Some builders commence with a ten or twelve-inch wall at the bottom and taper to five or six at the top. The foundation should rest on firm soil and at least a 2-foot base should be put in. If the soil is anyway soft, it is better to make the footing wider than this. The concrete could be mixed one of cement to 7 or 8 of gravel.

3. We prefer a concrete floor in the silo, and a drain will permit the surplus liquid to escape. The floor should be sloped slightly towards the centre, where the tile is connected. The ordinary drain will serve as an outlet. Many do not have a drain from the floor of the silo, but a tile should be laid around the foundation of the silo.

4. Ordinarily a pasture that has a good stand of grass will carry about twelve shotes per acre. It will depend a good deal on the stand of clover and on the season. Some seasons are much more favorable for growth than others. However, you should be able to start off with about twenty pigs of the age mentioned per acre, but in all probability the number would have to be reduced as the season advanced.

5. We prefer the common red clover, although the mammoth will possibly give a larger yield but it makes coarser fodder.

6. A yield of 6,000 or 7,000 lbs. of milk is considered fair for a cow of good Shorthorn type. A cow that gives 7,000 lbs. of milk, testing 5.7 per cent., is a profitable animal.

7. The milking strains of Shorthorns are usually considered to be of Bates origin, and are to be found among the families of Duchess, Oxford, Waterloo, Cambridge Rose, etc.

SALE OF HIGH-CLASS  
**SHORTHORNS**

40 Females

90 HEAD

60 Bulls

ONTARIO'S GREAT SPRING SALE

will be held at the FRASER HOUSE STABLES

**London, Ont., Wed., March 28, 1917**

These have been carefully selected from the leading herds throughout Western Ontario, strengthened with a small draft from the W. C. Edwards herd at Rockland. Included in this offering are representatives of nearly all of the more fashionable families. Those predominating are Clippers, Rosewoods, Village Blossoms, Rosemarys, Minas, Duchess of Glosters, Secrets, etc. Everything will, as usual, be sold on the most liberal guarantee. Our motto has always been: "Good cattle, good pedigrees and generous treatment to all." We feel sure that our offering this year is the strongest lot we have ever had together. Watch for further particulars and make your request for catalogues early.

Address all correspondence to:—

**HARRY SMITH, Mgr. of Sale, HAY, ONT.**



**Apples selling at \$6 and \$7 per bbl.**

Wouldn't you rather grow them. We have as fine trees as can be grown. Beautiful root system, sure to grow. Also other SHRUBS, ROSES and TREES from a berry bush to a shade tree. We ship direct from Nurseries to Customers (agents). Nearly 40 years at it and know how. Send for our priced catalogue to-day before placing spring orders, to

**CENTRAL NURSERIES, A. G. Hull & Son, St. Catharines, Ont.**

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

**FENCE BUYERS—NOTICE!**

Our prices are the lowest it is possible to name, quality of fence considered. To make a less price, quality would have to be sacrificed. We think it only fair to give the public this statement.

Of course if one would just as soon have a low grade or off grade fence, he can buy the kind sold at a low price. That is his affair. If, however, good quality and permanency are desired in a fence, he should buy ours or a similar good grade, at the small extra cost necessary.

There is a lot of high-quality fencing being sold this year. Fence buyers are evidently learning to discriminate.

Our 1917 prices and printed matter are now ready for you

**THE PAGE WIRE FENCE COMPANY LIMITED.**

WALKERVILLE

TORONTO

MONTREAL

ST JOHN

**Co-operation**

Corn is offering again, subject to all restrictions, which, we hope, will be lifted soon.

Our Carriage, Wagon and Implement price lists are ready for mails, also Grocery lists, Oils, etc.

We can supply best grade Cement in car lots; also Fertilizers, Land Plaster, Ground Lime Stone, Basic Slag, etc., at lowest market prices.

**United Farmers' Co-operative Company**  
110 Church St., Toronto

**EARN \$10.00 A WEEK AT HOME**

The Hosiery trade is booming. Help to meet the huge demand. Industrious persons provided with profitable all-year-round employment on Auto-Knitters, Experience and distance immaterial. Write for particulars, rates of pay, etc. Send 3c stamp. Auto-Knitter Hosiery (Can.) Co., Ltd. Dept. 302E; 257 College St., Toronto.

**The Mutual Life of Canada has paid in cash \$15,849,946 since its establishment.**

BE SURE AND ASK FOR THE

*Maxwell*

Line of WASHERS, CHURNS, BUTTERWORKERS, FOOD CUTTERS, GAS ENGINES, etc. Write for Catalogue. MAXWELLS LIMITED, St. Mary's, Ont.

**Cockshutt Drills**

Ensure perfect seeding. Write us for Drill Folder to-day.

**Cockshutt Plow Company, Limited**  
Brantford, Canada

# Gombault's Caustic Balsam

The Worlds Greatest and Surest

Veterinary Remedy

HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Caustery or Firing. Invaluable as a CURE for

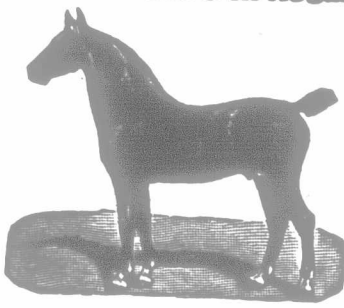
**FOUNDER, WIND PUFFS, THRUSH, DIPHTHERIA, SKIN DISEASES, RINGBONE, PINK EYE, SWEENY, BONY TUMORS, LAMENESS FROM SPAVIN, QUARTER CRACKS, SCRATCHES, POLL EVIL, PARASITES.**

**REMOVES BUNCHES or BLEMISHES, SPLINTS, CAPPED HOCK, STRAINED TENDONS.**

SAFE FOR ANYONE TO USE.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

**The Accepted Standard VETERINARY REMEDY**  
Always Reliable. Sure In Results.



None genuine without the signature of **The Lawrence-Williams Co.** Sole Proprietors & Distributors for the U.S. & CANADA. CLEVELAND, O.

**NOTHING BUT GOOD RESULTS.** Have used GOMBULT'S CAUSTIC BALSAM for more than 20 years. It is the best blister I have ever tried. I have used it in hundreds of cases with best results. It is perfectly safe for the most inexperienced person to use. This is the largest breeding establishment of trotting horses in the world, and use your blister often.—W. H. RAYBOND, Prop., Belmont Park Stock Farm, Belmont Park, Mont.

**USED 10 YEARS SUCCESSFULLY.** I have used GOMBULT'S CAUSTIC BALSAM for ten years; have been very successful in curing curb, ringbone, capped hock and knee, bad ankles, rheumatism, and all most every cause of lameness in horses. Have a stable of forty head, mostly track and speedway horses, and certainly can recommend it.—F. C. CRANE, Training Stables, 990 Jennings Street, New York City.

Sole Agents for the United States and Canada.  
**The Lawrence-Williams Co.**  
TORONTO, ONT. CLEVELAND, OHIO.



**You'll Have Eggs to Hunt Winter as well as Summer**

If you feed Royal Purple Poultry Specific to your hens. It contains all the necessary elements to keep laying hens healthy, and at the same time assists them in digesting all the food taken into the system. Keeps them active, vigorous, and makes them lay.

## Royal Purple Poultry Specific

Is manufactured from roots, herbs, minerals, etc., practically what the fowl find during the summer months. It is therefore a perfect substitute for you to feed your hens to make them produce eggs. Don't experiment—Royal Purple goods are guaranteed. A 25c. package lasts 25 hens 35 days—less than 1c. per day. Use according to directions.

Your money back if it does not produce the eggs.  
Mr. J. Brandon, Ayr, Ont., writes as follows:  
"Kindly send me one of your booklets. We didn't have an egg all winter until we started using your 'Royal Purple' Poultry Specific, and it is the best thing I have ever used. We are getting eleven to twelve eggs per day now on account of feeding them the right food."  
Royal Purple Poultry Specific is put up in 25 and 50c. packages, also \$1.50 and \$5.00 tins. Secure them from our dealer in your town.

**W. A. Jenkins Mfg. Company, Limited**  
London - Canada

**FREE BOOK**  
We will send you our 80-page book, describing all the common diseases of stock and poultry; also how to build hen houses, and explains how to raise calves without milk.

**Hillsdale Clydesdales** Richest Breeding  
I am now offering a number of in-foal young mares from imp. sires and dams, bred from Scotch and Canadian winners and champions for generations. They represent the highest standard of the breed's quality and breeding. B. Rothwell, Ottawa, R.R. 1, L.-D. Bell 'phone. Farm 3 miles from city.

**ABERDEEN ANGUS**  
We have a number of young bulls to offer at reasonable and attractive prices. At the recent Canadian National Exhibition, with 15 animals shown, we won 24 prizes, among which was Grand Champion and Gold Medal for best female of the breed.  
To insure prepotency of the right kind in your next herd bull, buy him from **SHROPSHIRE AND SOUTHDOWN SHEEP**  
**LARKIN FARMS** QUEENSTON, ONTARIO  
Twenty-minute trolley ride from Niagara Falls.

**MEADOW LAWN SHORTHORNS**  
F. W. EWING, ELORA, ONT.  
In order to make room for the crop of calves coming on attractive prices are being made on the offering of bull ready for the trade. They are of extra quality and choice breeding, by that great sire, Escana Ringleader, by Right Sort imp. Few bulls their equal are to be had.

### Questions and Answers. Miscellaneous.

**Hens Eating Eggs—Outlet for Sink Drain.**

1. I have a great deal of trouble lately with my hens eating eggs. I have killed several of the hens, but the trouble continues. Am feeding corn, bran and shorts, and the birds have access to oyster shell and charcoal. Is there any way to cure them of the habit? How are traps made?

2. I would like to put a sink in my house, to be used in connection with the cistern, and would like some advice regarding an outlet. There is a good outlet to an open ditch, which we expect to tile shortly. It is located about 20 rods from the house, and runs into a spring creek. This creek is used by our neighbor for watering his cattle. Would water from the sink in any way injure the water for the cattle? I have been told that I can put a tile from the sink and let it drain into a covered tank about three feet below the ground surface. The soil is of a sandy nature. Would a distance of 20 feet be far enough from the house to locate the tank? Would there be any danger of germs infecting the well which is only a short distance from the house? Is there any danger of the soil in the bottom of the tank becoming non-porous? What is your opinion regarding the matter?

J. A.

Ans.—1. Egg eating is a bad habit and one which is difficult to cure. Some have claimed satisfactory results from cutting the sharp point off the birds' beaks; others have filled an egg shell with red pepper and put it in the nest and claim that it will cure the birds. If you could arrange the nests so that they will be dark, it is possible that results might be obtained. We have heard that removing the birds to another pen will offset the habit. The birds require meat and green feed. There are different methods of making a trap-nest. All are devised on the principal that the bird entering the nest unfastens the catch which supports a door. The following description gives an idea of how one type of nest is built. A box 28 inches long, 13 inches wide, 16 inches deep is used. About 15 inches from the front end a division board with a circular opening 7½ inches in diameter is placed across the box. The rear apartment is the nest proper. As a door at the entrance to the box a light frame covered with wire netting is used. The door should be 10 inches wide and 10 inches high. It is hinged at the top and opens up in the box. The hinges are placed at the front of the door, rather than at the centre or rear, which ensures it closing completely every time the trap is tripped. The trap consists of one piece of stiff wire about 22 inches long, shaped so that a part of it rests directly across the circular opening in the division board, and is held in place by a couple of clamps in which are slots to allow the wire to work up and down without much friction. The wire passes along the side of the box and supports the door when it is open. As the hen passes under the door and through the circular opening to the nest, she naturally raises the wire in the slot, which causes the hook supporting the door to move and let the door fall. Some are made so that the bird trips the fastener and causes the door to close as she walks into the nest. This latter kind is possibly the easiest constructed.

2. The tile from the sink to the creek would prove satisfactory in carrying away the waste water, and if nothing but wash water was emptied into a running stream there would not be much possibility of injury being done to stock. However, if at any time anything should happen to stock which drank from the stream, there might be a possibility of the owner coming on you for damages. A cess-pool built in sand or gravel gives very good satisfaction. The water gradually seeps away and bacteria working in those tanks destroy any solid substance. It may be necessary to clean out the tank occasionally, as it is possible that greasy substance might in time cause the soil to become non-porous. This system of getting rid of waste water is working very satisfactorily in many cases. There is still another method which you might use, and that is the septic tank; the making of which is described in answer to a question in another column of this issue. A cess-pool should not be located near the well that supplies the house.



**Foaline**  
TRADE MARK

Given to the pregnant Mare for sixty days before foaling

**PREVENTS Navel Disease and Joint Ill in the Foal**

Price \$3.00 Per Bottle  
Delivery Charges Prepaid

One bottle required for each Mare treated

GUARANTEED EFFECTIVE OR MONEY REFUNDED

**Foaline Laboratory of Canada**  
WINNIPEG - MANITOBA

**WINDSOR DAIRY SALT.**

The Salt is mighty important

**Windsor Dairy Salt**  
Made in Canada

THE CANADIAN SALT CO. LIMITED

**MUSIC TAUGHT FREE**  
In Your Home

By the Oldest and Most Reliable School of Music in America—Established 1895

Piano, Organ, Violin, Mandolin, Guitar, Banjo, Etc.

You can read music like this quickly

Beginners or advanced players. One lesson weekly. Illustrations make everything plain. Only expense about 2c. per day to cover cost of postage and music used. Write for Free booklet, which explains everything in full.

American School of Music, 73 Lakeside Building, Chicago

**Clydesdale Stallion for Sale, Laboremde (15157), inspected and enrolled, Form 1, (dark bay), foaled June 22nd, 1911; weight, 1,850; a beautiful horse, and in the pink of condition. Reason for selling, I am in automobile business. Correspondence solicited. WM. McCALLUM, Glencoe, Ont.**

MA  
C  
w  
m  
\$7  
UP  
H  
A  
—  
ye  
gu  
U  
wh  
th  
wi  
Fu  
I  
of  
las  
of  
75  
D  
W  
Wils  
"Little  
medic  
defect  
devices,  
where  
Write  
NESS, g  
WIL  
553 Int  
An  
F  
Forst  
Allow  
Angu  
CH  
ROBT.  
MESSI  
Hickma  
Kent, E  
PEDI  
of all des  
beef and  
sheep. I  
applicati  
Now is th  
better, an  
covered b  
Beave  
salves at  
Rose-con  
winter lay  
MCKINN  
BALMI  
Get a high  
ion steers  
10 to 24 m  
belifers.  
Aberdeen  
bulls, one  
berd, Mide  
Toronto an  
Manager,  
Ont. 13


**The Lankford HUMANE HORSE COLLAR**

**Cures while working**  
Cure your horse of galls and sore shoulders with the Lankford collar, without the use of medicine—even while he does his heaviest work.

We guarantee a cure when properly fitted. Get the genuine Lankford collar. Made of best white sail duck, trimmed in extra heavy leather, stuffed with clean, downy, curled, medicated cotton, will not pack or harden. Also comes in a special brown waterproof duck. Fits any shaped neck, always soft and pliable. Absolutely prevents galls, sore shoulders.

**Buy a Lankford Now!**  
See your dealer. If he does not have Lankford, send us his name and ask for our literature on the Lankford guaranteed collar.

**Powers Mfg. Co.**  
Waterloo, Ia.  
This trade-mark protects you. Look for it.



**Heaves**

**AND HOW TO CURE**  
—A Standard treatment, with years of success back of it to guarantee results is

**Fleming's Tonic Heave Remedy**  
Use it on any case—No matter what else has been tried—and if three boxes fail to relieve, we will refund full amount paid. Further details in

**Fleming's Vest Pocket Veterinary Adviser**  
Write us for a Free Copy  
**BEST EVER USED**

Dear Sirs:—Enclosed find \$1.00 for 1 package of Tonic Heave Remedy. I used a package last year and completely cured a case of Heaves of some 3 years' standing.  
H. B. BRUCKHOFF, Lillooet, B.C.  
Per Doz., \$1.00; 3 for \$2.50

**FLEMING BROS., Chemists**  
75 Church St. Toronto



**Deafness**

Perfect hearing is now being restored in every condition of deafness or defective hearing from causes such as Catarrhal Deafness, Relaxed or Sunken Drums, Thickened Drums, Roaring and Hissing Sounds, Perforated, Wholly or Partially Destroyed Drums, Discharge from Ears, etc.

**Wilson Common-Sense Ear Drums**  
"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable. Write today for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.

**WILSON EAR DRUM CO., Incorporated**  
553 Inter-Southern Bldg. LOUISVILLE, KY.



**4 YOUNG Angus Bulls**

For Sale; 6 to 9 months old.  
**Forster Farm, Oakville, Ont.**

**Alloway Lodge Stock Farm**  
Angus—Southdowns—Collies

**SPECIAL this month: CHOICE BULLS**  
**ROBT. McEWEN, R.R. 4, London, Ont.**

**MESSRS. A. J. HICKMAN & CO.,** (late Hickman & Scruby), Court Lodge, Egerton, Ont, England, exporters of

**PEDIGREED LIVE STOCK**  
of all descriptions. Specialty made of draft horses, beef and dairy breeds of cattle, show and field sheep. Illustrated catalogues and testimonials on application. All enquiries answered with pleasure. Now is the time to import. Prospects were never better, and insurance against all war risks can be covered by payment of an extra 1% only.

**Beaver Hill** Aberdeen-Angus bulls, from 15 to 24 months; cows, with calves at foot, and bred again; females all ages. Rose-comb Rhode Island Red cockerels from good winter laying strains, \$2.50 each. Write ALEX. MCKINNEY, R.R. No. 1, Erin, Ont. L.-D. phone.

**BALMEDIÉ ABERDEEN-ANGUS**  
Get a high-class Angus bull and breed the champion steers. I have show-ring quality bulls from 10 to 24 months of age; also choice 1 and 3-yr.-old heifers. T. B. BROADFOOT, FERGUS, ONT.

**Aberdeen-Angus.** For Sale, several choice young bulls, one from imported sire. Present head of herd, Middlebrook Abbot 2nd, first prize in class, Toronto and Ottawa, 1915. Apply A. Dinsmore, Manager, "Grape Grange" Farm, Clarksburg, Ont. 1 1/2 miles from Thornbury, G.T.R.

**Questions and Answers.**

**Miscellaneous.**

**Tannery.**  
Is there any tannery that you know of in Ontario where a farmer can send a hide and have it tanned for harness leather?  
G. McC.

Ans.—We believe the tannery at Delhi is still in operation. There may be others in the province which we do not know of.

**Flax seed for Calves.**  
Is cotton-seed meal satisfactory for feeding calves, or would you prefer flax-seed meal, taking the price into consideration?  
N. G.

Ans.—Flax-seed or oil-cake meal is generally considered to be preferable to cotton-seed meal for feeding young calves.

**Scrub Bull.**  
A owns a pure-bred, registered heifer, which is put to pasture with B at so much per month. B's neighbor, C, has a scrub bull, which gains access to B's pastures, owing to bad fences, and gets heifer with calf.

1. Can A collect damages from B or C?  
2. If so, what would be a reasonable sum; the heifer being of great promise as a producer?  
B. C. A. B.

Ans.—1. We think so, and he ought to make his claim against both B and C.  
2. We cannot venture to predict what a judge or jury might be disposed to award.

**Cement and Sand for Concrete Wall.**

1. How much sand and cement will be required for a cement-block wall 10 inches thick and 8 feet high, for a barn 60 feet long and 36 feet wide? Also, for a barn 40 feet long and 30 feet wide? There will be twelve windows 3 by 5, and five doors 4 feet wide, to come out of it. In what proportion would you mix the cement?  
2. How much gravel and cement will it take for the floor of this barn?  
3. How much gravel and cement will it take for a cement-block silo, 8 inches thick, 30 feet high and 12 feet in diameter on the inside?  
S. B.

Ans.—1. Cement blocks are frequently made with different-sized hollow space, but considering about one-third hollow and mixing in a proportion of one of cement to five of sand and using an extra bag of cement for facing per 100 blocks, it will require about 59 barrels of cement and 34 cubic yards of sand for the larger barn, and 42 barrels of cement and 24 cubic yards of sand for the smaller barn.  
2. It will require about 42 cubic yards of gravel and 36 barrels of cement for the floors.  
3. Mixing the concrete in the same proportion for the blocks of the silo as for the blocks for the barn, it will require about 18 cubic yards of sand and screened gravel and 29 barrels of cement.

**Cruel Stepfather.**

1. Can a girl fifteen years and six months old stay away from home against her mother's and stepfather's wishes? The stepfather abuses her and beats her. She has been living with her aunt and uncle for three years. Now the mother and stepfather are trying to force her home but the girl does not want to go. She went back a month ago and the stepfather beat her so that the mother let her go back to the uncle's again. They haven't a fit home for a girl that age.  
2. Can the girl lawfully make a choice of homes at sixteen years old? The mother asked the uncle three years ago if he would keep her and send her to school as the stepfather wasn't good to her. The uncle did so but never got papers on her. The mother has never sent the girl any clothes, books or money at all in the three years.  
3. Can the aunt and uncle hold the girl for her keep?  
4. If so, how much a month can they collect for board, books and keep for the three years. She is trying for "entrance" this summer.  
Ontario. A SUBSCRIBER.

Ans.—1. Under the circumstances, yes.  
2. She has a legal right to be consulted about same at 12 years of age, and a stronger right, of course, at 16.  
3 and 4. No.

**Don't go through another winter without a good silo**

**THIS** winter you are feeding to your cows, in the form of grain, a large part of the money you receive for their milk. If you had a silo, you would not only be getting 25% more milk, but you would be spending a great deal less for feed.



Don't throw away your profits again next winter.

**Decide now to put up an IDEAL GREEN FEED SILO**

and have it filled with rich, juicy, milk-producing silage when the cold weather comes and dairy products are bringing high prices.

There never was a time when good cows, properly fed, would return to their owner as great a profit as they will today. And there never was a time when careless methods of feeding were so expensive. To make a reasonable profit from your cows under conditions as they exist, and as they are likely to continue for some time to come, it is absolutely necessary to feed with the utmost care.

Silage is much cheaper than grain and it has been proved over and over again that cows fed on silage will produce fully 25% more milk than cows on dry feed.



Made in Canada

Now is the time to prepare for bigger profits next winter. Our silo catalogue, which we will gladly send on request, contains a great deal of valuable information about silage and explains why the Ideal Green Feed Silo is the best to buy.

Write today for this catalogue. It shows you every detail of the IDEAL and explains just why you get more in it for your money than in any other.

**THE DE LAVAL COMPANY, Ltd.**  
LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Catalogues of any of our lines mailed upon request.  
**MONTREAL PETERBORO WINNIPEG VANCOUVER**

**Spruce Glen Shorthorns**  
Derry 2nd, 5 yrs. old, a show bull, hard to beat. Also a few young, thick, mellow fellows, fit for service.  
**JAMES McPHERSON & SONS, DUNDALK, ONTARIO**

**SHORTHORNS AND SHROPSHIRE—T. L. Mercer, Markdale, Ont.**  
Have sold all the Shropshires I can spare this season. Present offering in Shorthorns—ten really choice young bulls, sired by Broadhocks Golden Fame #50018 (Imp.), and out of such noted families as Campbell-bred Claretts, Nonpareils, Marr Missies, Stamfords, Crimson Flowers, Village Girls and Charming Gems, ranging from 9 to 16 months old. All are good reds and roans.

**IMPORTED SHORTHORNS**  
Have just received from Scotland some very superior Shorthorns. All cows and heifers have either calves at foot or are close up to calving. Also four imported bulls and a number of good Canadian-bred cows. These cattle will strongly appeal to the most exacting. Visitors can be met if notified.  
**A. G. FARROW, OAKVILLE, ONTARIO**

**Shorthorns**  
Pure Scotch and Scotch topped—Booth. Also five (5) young bulls from ten to twenty months old, of the low-down, thick kind, good colors—reds and roans. Prices reasonable.  
**G. E. MORDEN & SON, Oakville, Ont.**

**SALEM SHORTHORNS**  
Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Can. National, 1914, 1915 and 1916. Can supply cattle, both sexes, at all times.  
**J. A. WATT, ELCRA, ONT.**

**Imported Shorthorns**  
35 imported cows and heifers forward in calf to service in Scotland. Our 1916 importations are all choicely bred. Have also home-bred bulls and females. Farm, half mile from Burlington Junction. Write, or call and see us.  
**J. A. & H. M. PETTIT, Freeman, Ont.**

**IMPORTED SHORTHORNS**  
Cows and heifers in calf, or with calf at foot. Yearling bulls and bull calves. One of the best importations of the year. You will be surprised when you see them.  
**WILL A. DRYDEN, Maple Shade Farm, BROOKLIN, ONT.**

**Glengow Shorthorns, Cotswolds**  
For the present, we have sold all the Cotswolds we wish to spare, but we have a choice offering in young bulls fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the purple. **WM. SMITH, Columbus, Ont., Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.**

**Maplewood Farm Shorthorns and Lincolns**  
Present offering—10 young bulls, ranging in age from 7 to 18 months. Most of them are of the most fashionable Scotch breeding, others of the dual-purpose. All are priced to sell. Also a number of ram lambs. **WOODSLEE STATION, M.C.R. L.-D. phone. GORDON SMITH, WOODSLEE, ONT.**

**Shorthorns Clydesdales Yorkshires Leicesters**  
**THE HAWTHORNS, PETERBORO, ONT.**  
We have at present several young bulls from good milking dams, and also one two-year-old bull. All are priced for quick sale. All good individuals. Write quick if you want them. Also have some nice things in Yorkshires and Leicesters. **ALLAN B. MANN, R. R. 4, Peterboro, Ont.**

IF YOU HAVE A  
**Steel Truss Barn**  
you won't be afraid of  
**Lightning**  
It is fire-proof, durable and roomy.  
ASK FOR CATALOGUE  
The Metal Shingle & Siding  
Company, Limited  
Preston, Ont. Montreal, Que.

**Bone Spavin**  
No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use  
**Fleming's Spavin and Ringbone Paste**  
Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 45-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of  
**Fleming's Vest-Pocket Veterinary Adviser**  
Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses.  
**FLEMING BROS., Chemists**  
75 Church Street Toronto, Ont.

**GET MORE MILK**  
BY FEEDING  
**Creamo Brand Cotton Seed Feed Meal**  
(Registered)  
Car lots or less. Prices on application.  
**FRED. SMITH**  
52 Front St. W., Toronto, Ont.

**H. Fraleigh, Forest**  
LINSEED MEAL  
FLAX SEED  
OIL CAKE  
COTTON SEED MEAL  
Write for Prices.

**GLENFOYLE SHORTHORNS**  
Seven bulls, big, straight, smooth, fleshy fellows, some from cows milking 40 to 60 lbs. a day. Also a few outstanding heifers that are bred. Three young cows. Prices right. Bell phone.  
**Stewart M. Graham, Lindsay, Ont.**

**Scotch Shorthorns**  
FOR SALE—1 extra good young bull of breeding age, with best Scotch breeding; also bull calves and females of different ages. Write your wants.  
**Geo. D. Fletcher, Erin, R. R. 1**  
Erin Stn., C.P.R. L.-D. Phone.

**Shorthorn Bulls** for sale, by Mina Boy 18th, sire of first prize calf at Guelph. Also one imported Clydesdale stallion.  
**GEO. B. ARMSTRONG, Teeswater, Ontario**  
Mildmay, G.T.R. Teeswater, C.P.R.

**MARDELLA SHORTHORNS**—Bulls; females; size, quality, breeding; dual-purpose cattle; over 40 years. The Duke—dam gave 13,599 lbs. milk, 474 lbs. butter-fat—at the head. **THOMAS GRAHAM, PORT PERRY, ONT. R. R. 3.**

**BROWNLEE** Offers a choice lot of young bulls ranging in ages up to nine months and sired by the Nonpareil bull, Royal Saxon. See these before buying elsewhere. Could also spare a few females. **Douglas Brown, Bright, Ont., R. R. 3. Ayr Station, C. P. R.**

**Scotch Shorthorns** We are offering five choice young bulls, Roan Ladys and Killblean Beautys, sired by Barmpton Sailor, two are fifteen months old; also Yorkshire pigs. **Arch'd McKinnon, R. R. No. 1, Erin, Ont. Hillsburgh or Alton Stn. L.-D. phone.**

**Shorthorns** We have some young cows with calf at foot or to calve, by the Augusta bull, Augustine (imp.) = 201804 =. Also 2 red and 3 roan bulls, smooth and fleshy. We invite inspection. **JOHN SENN & SONS, Caledonia, R. R. 3, Haldimand Co., Ont.**

**Dual-Purpose Shorthorns** Plaster Hill Herd—Five young bulls, seven to fifteen months old. A number of cows in our herd with high records. Visitors always welcome.  
**F. MARTINDALE & SON, Caledonia, Ont.**

### Questions and Answers. Miscellaneous.

#### Rat-Proof Granary.

Give directions for building a rat-proof granary. I want one large enough to hold 1,500 bushels.

H. A. W.

Ans.—The ordinary frame granary lined with metallic sheeting, proves very satisfactory. A frame granary set on a concrete foundation, with a concrete floor, is seldom bothered with rats. In order to hold 1,500 bushels of grain and leave a 6-foot alley-way between the bins, it would be necessary to have the building about 20 feet long, 18 feet wide and 8 feet high. If it is not desirable to fill the bins too full, the granary could be made a little higher, or a few feet could be added to the length of the building.

#### Finishing Cattle.

I have a number of cattle weighing around 1,000 lbs., and am feeding them hay, silage, oat chop and about three-quarters of a pound of cotton-seed meal in the morning. They are watered after breakfast and are given all the hay they will clean up at noon. At night they are watered and then given straw, silage, 2 quarts of oat chop and a little cottonseed meal. I want to have the cattle in as good condition as possible by the 10th of May. What improvement would you suggest in the feed?

2. What remedy do you advise for destroying lice on cattle?

3. Is there anything to be gained in feeding condition powder? L. H. V.

Ans.—1. The grain ration is hardly heavy enough to finish the cattle. If you could secure barley or corn or both to mix with the oats, the cattle would no doubt make heavier gains. The cotton seed might be increased to about 2 lbs. per day. A total of 8 or 9 lbs. of concentrates might safely be fed the last two months that these cattle are in the stable.

2. One part of hellebore to four parts of cement dusted along the backs of the cattle is recommended for destroying lice. After applying do not turn cattle out in the wet for a few days.

3. Condition powders no doubt have their place and they may aid in improving the appetite of an animal that is not up to the mark. Some feeders make big claims for condition powders.

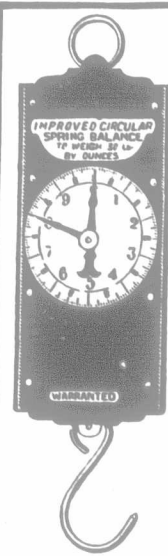
#### Roosts—Curb and Spavin.

Is there any possibility of having hen roosts fixed so that the lice cannot get on them? If I remember correctly, I read some time ago about the roosts being set in oil. Where could these cups be secured, or how could they be made?

2. I have a colt rising three years old that is very lame. It has a bog spavin and curb. It is all right when walking or galloping, but goes lame when trotting. What treatment do you advise? J. P.

Ans.—1. Having the ends of the roosts set in oil might prevent mites from getting from the walls to the roosts, but there is a possibility of the hens carrying lice to the roosts. It would be impossible to have the entire roosts set in oil. If the pen is thoroughly cleaned and the roosts washed with kerosene occasionally there is seldom much trouble from the mites. For lice the hens should be dusted occasionally with some insect powder.

2. A blister for spavin is 2 drams each of biniodide of mercury and cantharides mixed with 2 ounces of vaseline. This might be repeated in two weeks. If it fails to cure have the joint fired. Give the colt a rest. The lameness from a curb will usually yield to treatment, but it is difficult to remove the swelling. A shoe with the heel about one inch higher than the toe should be put on the foot of the lame leg to keep the heel elevated and to throw the diseased ligament in a state of partial repose. When the curb is first noticed, bathe with hot water, then apply a liniment composed of 2 ounces of tincture of opium, 2 ounces of chloroform, 1 ounce acetate of lead, 2 ounces alcohol and water to make a pint. In order to reduce the enlargement, a blister may be used, or an absorbent liniment. This latter is composed of four drams each of iodine and iodide of potassium, and 4 ounces each of alcohol and glycerine. This should be applied daily and rubbed in with smart friction. Rubbing briskly with the palm of the hand aids materially in reducing the enlargement.



Let your scales tell!  
Let your record sheet tell!

Royal Purple Stock Specific will increase the flow of milk per cow from 3 to 5 lbs. per day during the winter months. It will enable you to fatten your steers and hogs a month earlier, thereby saving a month's feed and labor.

T. G. Delamy, Toledo, Ont., states:

"I have used a part of a package of your Royal Purple Stock Specific. I fed it to one cow according to directions. She gained six lbs. of milk while using part of a package. The rest of my herd reduced in milk while this one gained. I consider it has no equal."

## Royal Purple Stock Specific

Good for horses, cattle sheep and swine. Royal Purple Stock Specific assists stock in securing all the nourishment there is in the food they consume. If you are feeding heavily for milk, or fattening stock, it assists them in digesting and assimilating all the food eaten instead of voiding it in an unused condition. Royal Purple Stock Specific is purely a digester and blood purifier. It will improve the condition of ANY run-down animal on your farm. This is our guarantee, and we will refund the money paid for it, should you fail to get results. If you have a poor, miserable, run-down, hide-bound horse in your possession, try it on him first and be convinced.

Robt. Cochran, Stella, Ont., states:

"I had a cow in very poor condition. I was induced by Thos. Hall to try your Royal Purple Stock Specific. In less than a week I found marked improvement, and I know I would have lost the use of her milk all summer had I not fed it. She is now in good condition. I also used your Royal Purple Poultry Specific for my fowl with equally good results."

Royal Purple Stock Specific is put up in 50c. packages, also \$1.50 and \$5.00 air-tight tins.

**W. A. Jenkins Mfg. Company, Limited**  
London, Canada 39

### FREE BOOK

Write for FREE booklet on the common diseases of stock and poultry. Tells how to raise calves without milk, and how to build hen houses.

## Escana Farm Shorthorns

FOR SALE—Two imported bulls, proven valuable sires; 12 bulls, 10 to 20 months old all by imp. sires and from high-class dams; also for sale, 20 heifers and young cows, several with calves at foot, all of very choicest breeding and especially suitable for foundation purposes.

Mail orders a specialty. Satisfaction guaranteed.

**MITCHELL BROS.,**

Jos. McCrudden, Manager. Farm, ¼ mile from Burlington Jct. BURLINGTON P.O., ONT.

## ROBERT MILLER Pays the Freight on his Shorthorns

I have six Lavender bulls over a year old, two Duchess of Gloster bulls over a year; four other bulls from good families, all have good bone and good feeding qualities, and they are naturally thick fleshed, but not highly fitted in some cases. They are half reds and half good roans. I have some heifers in calf, and some to be bred soon. You can get the right kind from me at reasonable prices.

**ROBERT MILLER**

**STOUFFVILLE, ONT.**

Three Males **16 SHORTHORNS** Thirteen Females

Will be sold by auction on

Wednesday, the 14th of March, 1917

Lot 35, Con. 7, West Nissouri, 2½ miles south of town of St. Mary's  
**Hugh Mackay, Proprietor** **Wm. McNeill, Auctioneer**

## BRANT COUNTY SHORTHORN BREEDERS' CLUB

Many of Ontario's leading herds are represented in Brant County. Write now for our Sales List  
**GEO. L. TELFER, Secretary, PARIS, ONT. JAS. DOUGLAS, President, CALEDONIA, ONT.**

### Shorthorns, Shrops., Clydes.

**Wm. D. Dyer, R. No. 3, Oshawa, Ont.**

Brooklin, G. T. R. and C. N. R., Myrtle, C. P. R.

If you want a good young bull, a promising stallion colt, or a young cow or heifer of Scotch breeding and beef type, having dams eligible or good enough for R.O.P. Come, see, and satisfy yourself and please the owner. Prices reasonable, that they may be sold. Visitors welcome.

### The Manor Stock Farm

**SHORTHORNS**

Bulls all sold, except the four listed in the London Sale, March 28—A Rosemary, a Wimple, a Mina and a Julia.

**John T. Gibson, Denfield, Ont.**

### Oakland Shorthorns

**John Elder & Sons, Hensall, Ont.**

Fifty-eight to select from. Twenty breeding cows and as many choice heifers, many of them bred; also a lot of choice bulls from 9 to 16 months old. The grand roan bull, Crown Jewel 42nd, heads this dual-purpose registered herd. No big prices.

### Young Bulls

**Myrtle Station—C. P. R. and G. T. R.**

of serviceable age. Young cows with calves by their side and rebred. Heifers well on in calf. A few good Shropshire ewes bred to good rams. A nice bunch of ewe lambs.

**JOHN MILLER, Ashburn, Ontario**

### Pleasant Valley Herds

from. Inspection invited. Farm 11 miles east of Guelph, C. P. R., ½ mile from station.

—For sale: Several good young bulls, reds and roans of the very best breeding; also females of all ages; all the leading families represented; 100 head to select

**Geo. Amos & Sons, Moffat, Ont.**

## SPRING VALLEY SHORTHORNS

Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nongard Ramsden 83422. Can supply a few of either sex.

**KYLE BROS.,**

**DRUMBO, ONT.**

Phone and Telegraph via Ayr

## Parkhill Shorthorns

**R. & S. NICHOLSON,**

Herd comprising over 70 head representing noted Scotch families. Bulls all sold except those listed in London sale, March 28th next. A few heifers well in calf will be sold right.

**PARKHILL, R. NO. 2, ONTARIO**

### Riverside Holsteins

in 30 days—world's record when made. His ten nearest relatives have official records that average 34.94 lbs. butter in 7 days. His daughters have made good in official test. The present R. of P. cow of Canada was bred here. Choice young bulls for sale.

Herd headed by "King Johanna Pontiac Korndyke," a brother of Pontiac Lady Korndyke, 38.02 lbs. butter in 7 days, 156.92 lbs. butter in 7 days. His ten nearest relatives have official records that average 34.94 lbs. butter in 7 days. His daughters have made good in official test. The present R. of P. cow of Canada was bred here. Choice young bulls for sale.

**J. W. RICHARDSON, R. R. No. 2, Caledonia, Ont.**

# Sixty Head of Pure-bred HOLSTEINS

In a complete dispersion sale THE ENTIRE PLEASANT RIDGE HERD will be sold at the farm, near BRIGHT, ONT.

## Wednesday, March 21st, 1917

Owing to illness, which has compelled the senior member of our firm to spend most of the last six months in the hospital at Woodstock, we have decided to disperse our entire herd by public auction on the above-mentioned date. We have only five cows in our herd above four years of age. Eight of these have qualified in the R. O. P. in their two-year-old form with records from 9,500 to 13,879 lbs. Our mature cows run as high as 14,470 lbs. for the year, and over 25 lbs. of butter in the R. O. M. There are daughters of King Lyons Hengerveld, King Lyons Colantha, Correct Change, and other noted sires. The 1916 and 1917 calves are all by Correct Change. There are several young bulls among these, and these are the best lot we ever had. Their sire is also included in the sale. Look up his breeding before you come. In writing for catalogues, write your name plainly and mention this paper.

Terms: Cash; or 6 months' credit will be given on bankable paper, with interest at 7% per annum.

Trains.—All G. T. R. trains will be met at New Hamburg and Ratho Stations on day of sale. C. P. R. connections with east and west can be made on morning and evening of sale with G. T. R. at Drumbo.

(Moore & Dean, Auctioneers)

JACOB LEUSZLER & SON, Bright, Ont., R. R. 1

# COMPLETE DISPERSION SALE OF HOLSTEINS

Twenty  
Head

The Celebrated Herd of Prize-winning Cattle, the property of Elias Snyder, Burgessville, Ont., will be sold at the farm.

Eighteen  
Females

## Thursday, March 15, 1917

We have all been to sales before now where 100 head of cattle have been sold, and in all there would not be 20 really outstanding good ones. In this sale, however, there are only 20 in the herd, but all of the 20 are good ones. There is, perhaps, no other herd of this size in Ontario that has, in the past 5 years, won more honors in the Toronto and London show-rings than has Mr. Snyder's. Nearly every cow in the stable has been out at some time or other, as there never was a whole lot to choose from. They are right individually, they are bred right—bred for type, bred for production, and live up to both. The majority of the mature cows have good official records and a number are making others at the present time. Others will be freshening before sale and tested. In so far as possible, all records will be included in the catalogues, which should be ready for mailing by March 1st. Make application now.

Terms of Sale will be Cash, or six months' credit on approved security, at 6% per annum.

Owing to the temporary cancellation of many trains, the noon train to Burgessville has been taken off. All trains will be met on day of sale at Woodstock and Norwich.

AUCTIONEER: Elias Snyder, Burgessville, Ont.  
T. Merritt Moore

### EVERGREEN STOCK FARM—High-class Registered Holsteins

To breeders who wish to make secure their future success we are offering some extra choice bull calves at living prices. Two of these are from daughters of a son of Lulu Keyes, 36 lbs. butter 7 days, and 121 lbs. milk per day, and sired by Prince Colantha Abbecker, whose dam made 32 lbs. butter 7 days, and 104 lbs. milk per day. A. E. HULET, NORWICH, ONT. Bell Phone 48-r. 3

### KING SEGIS WALKER'S

oldest daughter with first calf made 456 lbs. milk and 24 lbs. butter; with her second calf, 560 lbs. milk and 29½ lbs. butter. His first jr. daughter, through his sons, at 2 yrs. 2 months, made 440 lbs. milk and 23½ lbs. butter. A. A. FAREWELL, OSHAWA, ONT.

### Questions and Answers. Miscellaneous.

#### Succession Duty.

1. What amount has a will to be when probated for the government to tax?
  2. What difference is there when there is a family or no family? T. G. S.
- Ans.—1. Over \$5,000.  
2. It is much higher where the testator leaves no family.

#### Lame Bull.

I have a Shorthorn bull three years old that is very lame in one knee. I had a veterinarian examine him, who said it was caused by a hurt some time. He gave me some liniment to bathe it with, but it did not do it much good. The knee is quite swollen and is sore. He will not bear much weight on it although it is not stiff. Has been lame for nearly three months, has a fairly good appetite, runs in a box-stall. Would like your opinion as what to do for it. A. S. F.

Ans.—It is likely your veterinarian was correct in his diagnosis and that he gave you an absorbent liniment to reduce pain and swelling. Would advise that you consult with him again. Having seen the animal he is in a much better position than we are to prescribe treatment.

#### Hog and Cattle Stables.

We would like to get some information regarding the building of a pig pen, and the best method of building a cow stable. W. H. M.

Important qualities of the piggery are dryness, ventilation, light, freedom from drafts, reasonable warmth and convenience. The pen may be built of stone, concrete or lumber, but it is frequently found that the former two are cold and damp. A plan which is followed with considerable satisfaction is to build the foundation about three feet high of concrete, and then use frame from there up. A concrete floor is the most permanent but it is blamed for causing crippling of pigs. This difficulty is largely overcome by building a raised sleeping place and using sufficient bedding. There are different ways of ventilating. Some have fresh air brought in from outside and permit the foul air to escape through a ventilator in the roof; others provide ventilation by means of windows which are built to open inward, while some prefer having some of the glass replaced with cotton, and find that by so doing the air in the pen is kept fresh without any draft being caused. If there is a loft-pen, the ceiling may be made of poles and covered with straw, which has a tendency to absorb moisture and aids in keeping the pen dry. Pigs require a fairly warm place, but it must also be well ventilated. The individual pens may be 3 by 10 feet, or 10 by 10 feet. A type of house which is frequently used is one with

### AT SERVICE

## May Sylvia Pontiac Cornucopia

"The most perfectly bred bull of the breed," and a perfect individual. Sire, Spring Farm Pontiac Cornucopia, a son of the 44.18-lb. cow, K. P. Pontiac Lass. Dam, May Echo Pontiac, a daughter of the great May Echo Sylvia, champion milk cow of the world. The butter records of his two grandams average 42.59 lbs. in seven days, and 170.5 lbs. in thirty days, being also another world's record.

Apply early, as only a number of approved cows will be accepted. Terms, a matter of arrangement.

Owners—W. F. Elliott, A. J. Camplin, C. R. Dyke, L. M. Kennedy, G. Brownsberger.  
W. F. ELLIOT, Sec., (Bell Phone) Unionville, Ont.

## ROYCROFT FARM HOLSTEINS

FORMERLY THE HET LOO HERD

We have a few exceptionally nice, straight 9, 10 and 12-month heifers, principally all from high-record cows we have purchased in both Ontario and United States. They are all from good record sires, but as our stabling is limited we are offering these at prices away below their value, so we may keep only those of our own breeding. They will not remain with us long. Write quick if you want them.

We are at present offering the services of King Segis Alcartra Spofford to a limited number of approved cows. Write for particulars.  
W. L. SHAW, Prop. Gordon S. Manhard, Supt., Newmarket, Ont.

### HIGHLAND LAKE FARMS

Herd sire, Avondale Pontiac Echo, (under lease) a son of May Echo Sylvia, the world's record cow for milk production, and Canadian record for butter—41 lbs. Only one other 41-lb. bull in Canada. Our herd of one hundred includes nearly fifty daughters of a 33.31 lb. son of the great King Segis, brother to the sires of three world's record butter cows: Mature, 50.68; sr. 4-yr.-old, 46.84; jr. 4-yr.-old, 40.32 lbs. Junior herd sire, King Segis Pontiac Canada, a half brother to Avondale Pontiac Echo, out of a 30-lb. Segis cow. He is for sale. If this combination of breeding interests you, write for prices on either males or females.  
R. W. E. BURNABY, Farm at Stop 55, Yonge Street Radial JEFFERSON, ONT.

## Hospital for Insane, Hamilton, Ont.

The choicest lot of young bulls we ever offered

is the best description we can give you of the half-dozen we are now pricing—from our Korndyke bull and R.O.P. dams, testing 4.08 per cent. butter-fat. Ages range from three to twelve months. No females offered.

Apply to Superintendent

## SUMMER HILL HOLSTEINS

The only herd in America that has two stock bulls that the dam of each has milked over 116 lbs. a day and their average butter records are over 35 lbs. a week. We have fifty heifers and young bulls to offer, by these sires, and out of dams just as well bred. We invite personal inspection.  
D. C. FLATT & SON, R.R. 2, HAMILTON, ONT. Phone 7165

## Dumfries Farm Holsteins

175 head to choose from. We have on hand at present about 20 young bulls. Can also spare a few fresh cows. Visitors always welcome.  
S. G. & ERLE KITCHEN, St. George, Ont.

### CLOVERLEA HOLSTEINS

We have too many young bulls on hand at present. We want to sell them—our prices will surprise you. They are all from tested dams and by our herd sire, Pontiac Norine Korndyke. Write quick  
GRIESBACH BROS. COLLINGWOOD, ONT

### 2 ONLY ORCHARD LEIGH HOLSTEINS ONLY 2

We have only 2 young bulls fit for service left. No. 1.—Born November 7th, 1915. His dam was first prize mature cow at Guelph Dairy Test, 1915, R.O.M., 7 days, 27.96 lbs. butter and 514 lbs. milk. Price \$200. No. 2.—Born October 18th, 1915. His sire's 7 nearest dams average over 30 lbs. butter in 7 days. His dam, at 3 years, made 25.81 lbs. butter and 559.5 lbs. milk in 7 days. Price \$175  
JAS. G. CURRIE & SON, (Electric car stops at the gate) INGERSOLL, ONT.

two rows of pens and a passageway down the centre. A house 25 by 40 feet would give room for four pens on a side and a five-foot passage. There should be a door leading out of each pen, and it is not out of place to have a fair sized window in each pen. It could be built with or without a loft, although a loft is very handy for storing bedding. There is a type of house in use which is built with a steeper pitch on the north half of the roof than on the south side, so that a row of windows may be put in to allow the sun to shine to the back of the pen on the north side. In the issue of February 24, 1916, a number of styles of pig houses were illustrated and fully described. A number of stable plans were illustrated in the Feb. 8 issue of "The Farmer's Advocate," 1917. The layout of a stable depends a good deal on the class of stock being kept, and whether horses and young stock are to be kept in the main stable. Some stockmen prefer a large number of box stalls; some desire single stalls, while others prefer double stalls. Stone or concrete is commonly used for the foundation to a height of 8½ or 9 feet, although it is generally believed that a drier stable can be constructed by having the bottom 3 feet of stone or concrete and using timber and lumber for the remainder. It depends a good deal on the convenience and cost of the material. As will be seen by the illustrations of the issue mentioned, there are different ways of laying out a stable. One style which is very handy and proves satisfactory is to have two rows of cattle facing each other. They can then be fed from the one passageway. An idea of the width of a barn may be gathered from the fact that it is generally considered advisable to have from 6 to 7 feet for a rear passage and gutter; from 4½ to 5 feet, depending on the size of the cattle, is necessary for stalls; from 21 to 24 inches will be taken up with mangers, and a 5- or 6-foot feed passage is necessary. The same space for manger, stall and rear passage will be utilized on the opposite side of the feed passage. The width of the stable might be increased by 6 or 7 feet to permit of building calf pens behind one row of cattle. This is a great convenience where calves are raised. From 3 to 3½ feet is the average width of a stall. A concrete floor is the most permanent and is easily kept clean. Of course, it is colder than wood, and some dairymen complain that it has a tendency to injure cows' udders. However, this complaint is not general. There are other substances on the market such as cork brick, which are sometimes used for flooring. An adequate system of ventilation is also necessary. The King or Rutherford system, or a combination of both, frequently spoken of in these columns, proves satisfactory. Plenty of light should be arranged for, especially from the south side. Three by four-foot windows may be used and it is advisable to place them vertically instead of horizon-

**Giant Yoke Ropes**  
vs.  
**Leather Pole Straps**



A year ago when we introduced the Giant Yoke Ropes, many were skeptical of its wearing qualities. But a year's trial under the wear and tear of actual working conditions has proved the Yoke Rope a better buy than the Leather Pole Strap.

A pair of Giant Yoke Ropes fitted with snaps and slides will cost you less than half the price of similar equipment in leather. They are just as strong and will last as long. The 3/4-inch, hard, manilla rope used in this specialty gives the same pulling strength as leather.

Giant Yoke Ropes, per pair, cost \$1.00 (\$1.25 per pair, west of Fort William.)

Order from your dealer, or direct, if he won't supply you. Our Free booklet describes the Griffith line in an interesting way. Send for a copy of it. 74C

**G. L. Griffith & Son**  
68 Waterloo St.  
Stratford, Ont.

**16** <sup>95</sup> <sup>ON TRIAL</sup>  
**SEPARATOR**  
American  
FULLY GUARANTEED  
CREAM



**ASOLID PROPOSITION** to send new, well made, easy running, perfect skimming separator for only \$16.95. Closely skims warm or cold milk. Makes heavy or light cream. Bowl a sanitary warvel, easily cleaned. Different from picture, which illustrates larger capacity machines. See our easy

**Monthly Payment Plan**  
Shipments made promptly from Winnipeg, Man., Toronto, Ont., and St. John, N. B. Whether dairy is large or small, write for handsome free catalog and easy payment plan.

**AMERICAN SEPARATOR CO.**  
Box 3200 Balastridge, N. Y.

**LIVINGSTON BRAND**  
The purest and best.  
**OIL CAKE MEAL**  
THE DOMINION LINSEED OIL CO., Ltd.  
Manufacturers, Baden, Ont.

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

**Ontario Creameries, Limited**  
London, - Ontario

**Cream Wanted** FARMERS, if you have cream to ship write us. We pay highest prices, furnish one can and pay express charges. Satisfaction is our motto. **THE HALDIMAND DAIRY CO., Cayuga, Ont.** 'Phone 68.

**18 HOLSTEIN BULLS FOR SALE**  
Eleven months and under. Also 1 cow; 8 heifers, freshening from March till September, from tested and untested dams.

**R. M. HOLTBY, PORT PERRY, ONT. R. 4**

**Willowlea Holsteins** Offers a 20-months son of Sir Natoye Oakland. Others younger by Siepkie of Lakeview 2nd. Ask us also about our females.

**A. E. MIGHT, BRAMPTON, R.R. 6, ONT.**

**RIDGEDALE HOLSTEINS** offers three young bulls (one ready for service) at special prices. One is by Pontiac Hengerveld Pietertje, and the others are by King Segis Pontiac Duplicate. Can also supply a few females. **R.W. Walker & Sons, Port Perry, R.R. 4, Manchester, G.T.R., Myrtle, C.P.R.**

tally, in order to get the greatest benefit from the light. It is an advantage to have the upper half of these windows on hinges so that they will open inward. This aids in supplying fresh air to the stable without a direct draft striking the stock.

**Questions and Answers.**  
Miscellaneous.

**The Peace River District.**

I read W. D. Albright's article in the Christmas Number of "The Farmer's Advocate," and as I have been thinking of going to the Peace River country I thought perhaps you might be able to give information to help me. I am 50 years of age with 7 children, 5 boys. We are living on our place here, near Mission City, B.C., consisting of 75 acres. We have a good barn, house and outbuildings but our land is subject to overflow from high water from the Fraser. This trouble, no doubt, will be overcome in time, but I have decided to get out and get more land which we could develop into a large stock farm.

1. Would you advise moving there with family?
2. Is land available near transportation?
3. How about building material?
4. Does cedar grow there?
5. What do you use for roof covering?
6. Do mosquitoes bother much, and what time of year are they bad?
7. Will clover and alfalfa grow and do well there?
8. Can corn be raised for silage?
9. How about summer frosts?
10. What is your opinion of the country generally as a general farming and stock-raising proposition?
11. Do small fruits do well there?
12. And do you think a hardy variety of apples can be grown?

**B. C.**  
F. B.  
Ans.—1. I believe this would be an excellent place for you to bring your family, but would strongly advise coming up first to look over the country, as it is widespread, and available locations are somewhat-scattered.

2. Homesteads are available within 20 or 30 miles of rail; but the farther you go back the better the chance of a good quarter. All parts will be served eventually, and more construction is anticipated this year.

3. Jackpine and spruce lumber is locally sawn, and B. C. cedar and other lumber now comes in by rail.

4. No.

5. Sods, inch lumber (in two or three thicknesses with tar paper and battens) and shingles are all in use.

6. Mosquitoes are troublesome in any new country, but not so bad here as in bush. June is usually the worst month though sometimes the worst plague is later, depending upon the rains and condition of sloughs.

7. Alfalfa will give on the average from a ton to a ton and a half of cured hay per annum, but its culture under prevailing conditions requires study. It stands the winters pretty well. Red clover sometimes comes through perfectly, but last winter it killed out badly.

8. Not profitably as yet.

9. In 1915 there was on high land here no destructive frost from the first of May to early September, and none at all except one or two light ones in June. In 1916 there were many frosts, with a heavy one on the morning of Aug. 10, killing a good part of the grain. This was exceptional. In general it must be admitted that we are still subject to summer frosts, but as a rule can ripen grain successfully and mature most hardy vegetables.

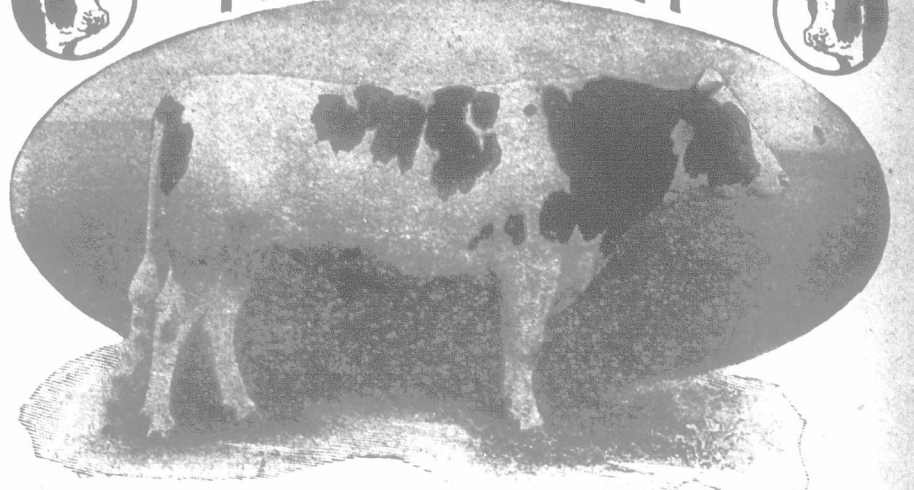
10. As a general farming and stock-raising country I recommend the Peace River country highly.

11 and 12. Many wild fruits flourish and some kinds of domestic fruits have given encouraging returns. I am experimenting for the Dominion Government with currants, raspberries and hardy apples, all set out in 1916. The first season's progress has been encouraging, and I have hopes that apples will eventually be grown successfully on a domestic scale of production, if not also a commercial scale.

W. D. ALBRIGHT.



**MANOR FARM**



**KING SEGIS PONTIAC POSCH**  
SENIOR SIRE IN SERVICE AT MANOR FARM

Sire King Segis Pontiac Alcartra (the \$50,000 Sire)  
Dam Fairmont Netherland Posch (32.59 lbs. at 4 yrs. old)

You know Manor Farm has a real reputation for cattle dealings.

Now, Mr. Breeder, no matter where you live, if you are in the market for a young sire of choice breeding to head your herd, just let me hear from you.

I can take care of your needs, whether you want a high- or low-priced fellow.

Now is a good time to buy.

**GORDON S. GOODERHAM**  
CLARKSON, ONT.

THIS IS THE LAST CALL FOR THE  
**HOLSTEIN SALE**  
OF THE YEAR

To be held at my farm, near Ingersoll, Ontario

**Wednesday, March 14th, 1917**

It is true that there will be only 22 females, 7 bulls of serviceable age (including herd sire) and a few bull calves, but for once it will be a case where quality and breeding will count, and not numbers. You will like our females, the majority of them have done excellent work in both the R.O.M. and R.O.P. tests. Our yearly records run as high as 20,889 lbs. milk for 4-year-olds; and these will all be bred, many freshening around sale time to our young herd sire, *Colantha Fayne Butter Baron* (who will also be sold). He was the *grand champion bull at Ottawa* last fall. His sire is *Grace Fayne* 2nd Sir Colantha, who has 27 A.R.O. daughters and nearly 100 A.R.O. sisters, while his dam is the ex-Canadian champion, *Queen Butter Baroness*, 33.16 lbs. butter in 7 days.

If you want a herd sire and a show bull combined, see this one. Remember also that he will have seven sons of serviceable age in this sale. Write now for catalogue. All trains will be met at Ingersoll on day of sale.

Remember the date, *Wednesday, March 14th.*

**W. B. POOLE, PROPRIETOR, INGERSOLL, ONTARIO**  
**T. MERRITT MOORE, Auctioneer**

**THE ELMS STOCK FARM**

Entire Herd of

**Registered Pure-Bred HOLSTEINS**

will be sold by Public Auction, at Unionville, on

**March 13, 1917**

The herd traces back to such sires as Count DeKol Pietertje Paul, Sir Pietertje Posch De Boer, Cornelius Posch. Several of the cows have calves at foot. Also, at same time, **REG. CLYDE. MARES, AND IMPLEMENTS.** Farm is rented.

Unionville is on Mid. Div. G. T. R., 20 miles from Toronto. Morning trains will be met. Catalogues on application.

**L. SUMMERFELDT & SON, PROPS.**  
**J. H. PRINTISS, Auctioneer**

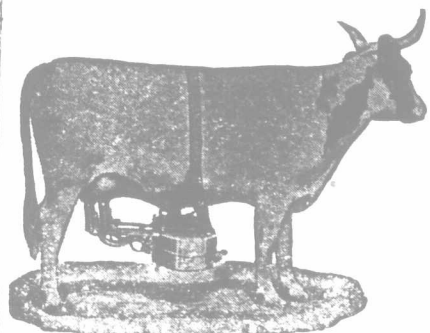


Even when grain prices are low

**Crop Feeding Pays**

but with crop values at present levels, the dollars you invest in fertilizers bring an even bigger profit which the good business farmer cannot afford to overlook. More fertilizer per acre and fertilizer on every acre together with better cultural methods will help pay the mortgage and put money in the bank account in 1917. A postal brings our free book, "Crop Feeding Pays." Canadian Division Soil Improvement Committee of the National Fertilizer Association Baltimore, Md. Dept. Chicago, Ill.

**OMEGA Milking Machines**



**Care of Milking Machines**

Excerpts from an article in the "Implement News": "One of the most important needs of users of milking machines is that of quick cleaning. It should be done properly at the proper time. The machines should never be allowed to stand until the casein hardens on the rubber tubes or cups."

**Omega has NO RUBBER TUBES**

Short transparent celluloid tubes take the place of long rubber ones. They do not decay or harbor germs, and are easily and quickly cleaned. This is an exclusive OMEGA feature; another is that the pail and milking parts are suspended from the cow's back, and the teat-cups cannot fall to the floor and suck up filth.

**WRITE TO-DAY**

for illustrated booklet describing the many exclusive features of the OMEGA.

**C. RICHARDSON & CO.**  
St. Mary's - - Ontario

**Lakeside Ayrshires**

A few young bulls for sale, from Record of Performance dams, imported and Canadian-bred, sired by Auchinbrain Sea Foam (Imp.) 35758, grand champion at both Quebec and Sherbrooke. Write for catalogue.

GEO. H. MONTGOMERY, Proprietor Dominion Express Bldg., Montreal, Que. A. McArthur, Manager, Phillipsburg, Quebec

**Dungannon Farm Ayrshires** offers two eleven-months-old bulls by Humesbaugh Prince Fortune, and from good dams. Also younger stock.

W. H. FURBER, Mgr., R. R. 6, Cobourg, Ont.

**Glencairn Ayrshires** Herd established 41 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. Thos. J. McCormick Rockton, Ont. Copetown Stn., G. T. R.

**LABELS** Live-stock Labels for cattle, sheep and hogs, manufactured by the Ketchum Manufacturing Co. Box 501, Ottawa, Ont. Write for samples and prices

Not Pampered.—Doctor (to Mrs. Perkins, whose husband is ill)—"Has he had any lucid intervals?" Mrs. Perkins (with dignity)—"E's 'ad nothing except what you ordered, doctor." —Christian Register.

**Questions and Answers. Miscellaneous.**

**Seed for Lawn—Septic Tank.**

1. How can I have an up-to-date toilet installed in the house, where there is no sewer connection and no way of getting an outlet for one? The land is level and of a sandy loam nature, with a clay subsoil. Would a cess-pool work in clay soil? When I built my house I left a small room for the bathroom, and was thinking of putting in a chemical closet. What would you suggest?

2. Two years ago I built a house and all the soil from the excavation of the cellar, cistern and well was graded around the house. I endeavored to get the clay subsoil in the bottom and the sandy loam on top. Part of the top layer is sort of a white sand. I wish to seed this down in the spring, and would like to know what kind of seed you would advise, and also how to prepare the land for the seed. I have 100 lbs. of fertilizer composed of 50 lbs. phosphate and 25 lbs. each of nitrate of soda and potash; would this be beneficial to the lawn which contains about 2,300 square feet?

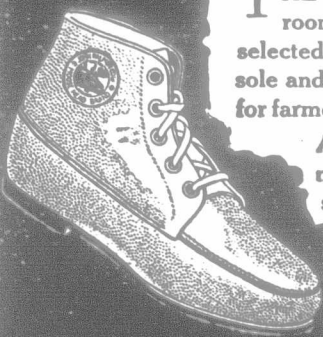
3. I have four soft maple trees in front of my house, which are all growing well. Last summer the leaves on one of them became covered with what looked like lice, but upon close examination they resembled small blisters. These were firmly attached to the leaves. What was the cause and what remedy would you prescribe?

4. I purpose building a hen-house in the spring 20 feet long, 12 feet wide, 7 feet high in front and 5 feet at the back. I plan to have a 4-foot alley-way in the middle, leaving a pen 8 by 12 feet on either side, and having the nests and feed troughs in the alley. The building will face the south, and I purpose having the front about one-third closed at the bottom, then windows about 3 feet high and from the windows to the roof open. What do you think of this plan? What kind of floor would you advise? How many hens can I keep in each pen? J. B.

Ans.—1. In order to have a cess-pool give satisfaction the soil should be of a sandy or gravelly nature. The chemical closets are in use in many buildings, and are apparently giving satisfaction. A septic tank can be installed at small expense, and gives satisfaction on any kind of soil. Two concrete tanks are built outside the house; the one tank should be about 4 by 4 by 4 feet for an ordinary-sized household. Adjoining this should be a tank of the same length and depth, but from 2 to 2½ feet wide. In this smaller tank is installed a valve. The overflow from the larger tank runs into the smaller and when it has reached a certain height the float opens the valve and allows it to escape through tile. The tanks have to be built practically on the surface of the soil, as it is not advisable to have the tiles leading from it much over 20 inches deep. However, it is necessary to cover the tanks to prevent freezing. Sewer tile, with the joints cemented, should be laid for a short distance away from the house, then ordinary farm drainage tile are used. These should be laid practically on the level, as the liquid escapes through the joints of the tile into the soil. If laid on a steep grade, it would all run to one end. The idea of the valve is to prevent the constant stream of water flowing through the tile, as when such is the case there is danger of roots of the crop growing on the soil penetrating the tile in search of moisture. This danger is overcome when the overflow is intermittent. It is necessary to have a ventilator leading from the tank. Connections in the house would be the same as for a sewer system.

2. The fertilizer mentioned should aid in giving the grass a start. We would not advise using much over one-quarter of the amount for the first application. Later applications might be made on the grass. Level off the lawn and make the soil as fine as possible. It is sometimes hard to get a satisfactory catch if there is much of that white sand, and it might pay to scatter a few loads of good loam soil over the sand so as to get a seedbed. Different kinds of seeds are used on lawns. Kentucky blue grass and red top make a nice, fine, velvety sod. To this might be added White Dutch clover. For the area in question, at least 5 lbs. of a mixture of the two grasses mentioned should be used, to which may be added from one-half to one pound of White Dutch. It will do no harm to increase the amount of the grasses, as it is doubtful if a person can

**Palmer's Summer Packs**



THE shoes for aching feet—light in weight, durable, roomy, comfortable and waterproof. Made from selected Skowhegan leather with water-proofed leather sole and heel and solid leather insoles. The ideal shoe for farmers or others working on the land.

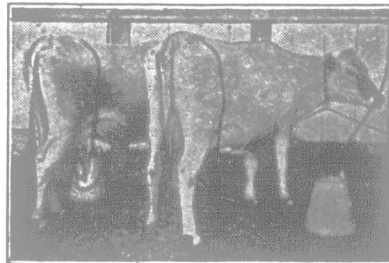
Also specially suitable for woodsmen, trackmen, millmen, sportsmen, laborers—all who require strong, easy fitting footwear.

Get a pair of Palmer's "Moose Head Brand" footwear from your dealer. They will give you foot comfort and great wear.

**JOHN PALMER CO., Limited**  
Fredericton, N. B., Canada 31

**HINMAN THE UNIVERSAL MILKER**

**Hinman Durability**



NOT ONE, of over 23,000 HINMAN MILKER PUMPS has worn out. The pump leather can be replaced once a year for 20c. Ask HINMAN users. The first machine, installed over 8 years ago by Elba D. Dye, Edmeston, N. Y., is still in use twice a day.

Write for FREE Booklet "H", which tells more about it.

**H. F. BAILEY & SON : GALT, ONT.**  
Manufacturers under HINMAN Patents

**THE MENIE DISTRICT CLUB'S GREAT AYRSHIRE SALE**

THE FIRST ANNUAL SALE OF THE Menie District Ayrshire Breeders' Club WILL BE HELD AT CAMPBELLFORD Wednesday, March 14, 1917

This will be the big Ayrshire sale of the season. The offering of fifty head includes over forty females, and seven young bulls fit for service. These choice young cows, heifers and bulls were sired by such noted breeding bulls as Auchinbrain Hercules, Hillside Peter Pan, Springhill Cashier and two other sons of the celebrated Lessnessock Durward Lely. These cattle have records and breeding to back them up. Prize winners at Canada's leading exhibitions are included. Menie district has for many years been famous for its Ayrshires. This sale will increase its fame. Lay a herd foundation on a sound basis by buying at this sale. Write for catalogue to: **W. E. TUMMONS, Secretary, Crookston, Ont.**

**GLADDEN HILL AYRSHIRES**

Headed by Fairview Milkman, our choice bull, 18 months old, from R.O.P. dams giving over 10,000 lbs. milk, testing over 4%. Bull calves up to six months of age and a few females for sale. Inspection invited. LAURIE BROS., AGINCOURT, ONTARIO

**HILLHOUSE AYRSHIRES**

Headed by Burnside Lucky Master Swell, a combination of blood so hard to equal, being of the Masterpiece and Lucky Girl families, a combination which means quality, production and constitution 90 head to select from. Special offering—20 yearling heifers and 3 bulls. Inspection invited. **F. H. Harris, Mt. Elgin, Ont.**

**YOUNG BRAMPTON JERSEYS BULLS**

For the next fortnight we are making a special offering on young bulls, bred from the highest producing families ever introduced into Canada. Brampton Jerseys and their descendants hold all Jersey R.O.P. records, save one. Females, all ages, also for sale. **B. H. BULL & SON, BRAMPTON, ONT.**

**THE WOODVIEW FARM JERSEYS** Canada's Most Beautiful Jersey Herd Present Offering—Some high-class bull calves ready for service, from Record of Performance dams, including grand champion bull at last Western Fair and his full brother also cows and heifers. State distinctly what is wanted, if writing LONDON, ONTARIO Jno. Pringle, Prop. We work our show cows and show our work cows.

**THE DON JERSEY HERD**

OFFERS: Several young bulls, all of serviceable age and all from R.O.P. dams. These are priced right. Interested parties should write or see these at once. We also have females of breeding age **D. Duncan & Son, Todmorden P.O., Duncan Sta., C.N.O.**

## Fertilizer Quality

When you buy a ton of fertilizer remember you are buying what is in the goods and not merely two thousand pounds.

When a smelter buys a ton of gold ore he insists on knowing the number of ounces of gold it contains, and you should know the amount of active Nitrogen, Nitrate of Soda, the gold of the fertilizer.

### Write for Books

**DR. WILLIAM S. MYERS**  
25 Madison Avenue, New York

**BLACK LEG** LOSSES SURELY PREVENTED  
by CUTTER'S BLACKLEG PILLS  
Low-priced, fresh, reliable; preferred by western stockmen, because they protect where other vaccines fail.

Write for booklet and testimonials.  
10-dose pkg. Blackleg Pills, \$1.00  
50-dose pkg. Blackleg Pills, \$4.00  
Use any injector, but Cutter's simplest and strongest.  
The superiority of Cutter products is due to over 15 years of specializing in VACCINES AND SERUMS ONLY. INSIST ON CUTTER'S. If unobtainable, order direct.  
The Cutter Laboratory, Berkeley, Cal., or Chicago, Ill.



**YOU GET MORE PORK**  
when your hogs are kept in perfect condition with  
**PRATT'S Animal Regulator**  
\$5-lb. pkg., \$3.50.  
Aids digestion, sharpens the appetite, puts on fat. Increases your profits. Valuable Booklet FREE.  
Pratt Feed Co. of Canada, Limited  
68 J. Claremont St., TORONTO-28

## TAMWORTHS

FOR SALE  
Large number of choice males and females. All ages.  
**HEROLD'S FARMS**, Beamsville, Ontario

Gloverdale Berkshires and Shropshires—In Berkshires I can furnish boars or sows, all ages, pairs not akin. All breeding stock imp. or from imp. stock. In Shropshires can furnish rams or ewes, any age, from imp. stock. Prices reasonable.  
G. J. LANG, R. R. No. 2, BURKETON, ONT.

### Meadow Brook Yorkshires

I am offering a splendid choice of sows bred for May and June farrow. All bred from prize-winning stock. Prices reasonable.  
G. W. MINERS, R. R. 3, Exeter, Ont. Huron Co.

**Yorkshires**—Sows bred and younger; boars 2 and 3 months, sire, Our Champion, winner of 12 firsts and 5 championships in 2 years' showing at Toronto and Ottawa. Bronze turkeys from prize-winning stock.  
W. M. MANNING & SONS, Woodville, Ont.

**Morrison Tamworths and Shorthorns.** Bred from the prize-winning herds of England. Tamworths both sexes, 140 to choose from; Shorthorns, 5 bulls, from 5 to 10 months old, reds and roans, dandies. Females of the best milking strains.  
CHAS. CURRIE MORRISON, ONT.

**Champion Berkshires**—When buying, buy the best; our present offering are sons and daughters of the two great champions, Lucky Lad and Baron Compton, and out of winners, including champions. Both sexes.  
W. W. BROWNIDGE, Georgetown, Ont. R. R. 3

**Berkshire Pigs** Registered stock, choicely bred young boars, and sows in pig, all ages. Can supply pairs not akin.  
CREDIT GRANGE FARM,  
J. B. PEARSON, Mgr., Meadowvale, Ontario

**Swine for Sale** Am offering choice stock in White swine of either sex; most any age. First-prize Poland-China herd, London and Toronto, 1915. Prices easy.  
GEO. G. GOULD, R. R. 4, ESSEX, ONT.

## TAMWORTHS

Young sows bred for April and May farrow, and a nice lot of young boars for sale. Write:  
John W. Todd, R. R. No. 1, Corinth, Ont.

seed too thickly for a lawn. A very good sod is sometimes secured by sowing timothy very thickly, but it is not considered as good as the grasses mentioned.

3. There are numerous mites and insects which cause blisters to appear on the leaves of different kinds of trees. In many cases the insect deposits an egg between the two layers of the leaf, and the result is a raised nodule or blister. There is no practical method of treating these insects on large trees. On small trees, or in orchards they may be controlled by different kinds of spray material. It would be necessary to know the nature of the insect before the kind of spray could be recommended.

4. The building of the dimensions given would accommodate about 25 birds in each pen. Having the nests drawn through from the pen to the alley-way proves quite satisfactory, and it may also be possible to have the feed troughs or hoppers so that they might be filled from the alley-way. However, it is advisable to scatter grain feed in a litter of straw on the floor, in order that the birds might be forced to take exercise in scratching for their feed. In feeding a wet mash, the trough should be of sufficient length to allow all the birds to feed at once. With a building 7 feet high in front, we doubt the advisability of having the top two or two and one-half feet open. It would be necessary to have cotton attached to a frame so that the opening could be closed at nights and on windy days. We believe that better satisfaction will be obtained by having the third of the front closed at the bottom, as you suggest, and then have the window extend from there to the top. One-third of the front may be in glass and the other third could be cotton, arranged so that it could be opened on fine days during the winter, and left open continually during the summer. A concrete floor is the most permanent, but an earth floor proves satisfactory if it is raised a foot or 15 inches above the surrounding ground.

## Questions and Answers.

### Miscellaneous.

#### Electrical Engineering.

Can you give me the address of a Correspondence School, in Canada, for electrical engineering?  
R. B.

Ans.—We do not know of a school in Canada giving a Correspondence Course on this subject. For information regarding courses in engineering, write School of Practical Science, Toronto.

#### Pump in Stable.

I have a well 70 feet from stable. It is 45 feet deep, containing about 7 feet of water. I have trouble in cold weather with frost in pumping with gas engine. Would it be possible to place engine and pump in stable so as to draw the water from that depth?  
A. N. B.

Ans.—If the water rises to within 25 feet of the level of the pump sucker, it would be possible to locate the pump in the stable and draw the water. When the depth to the water exceeds 25 feet below the sucker, water cannot be drawn satisfactorily.

#### Roup.

I have a turkey hen which has a swollen head. It is so bad that the eyes are nearly closed. There is also a discharge from the nostrils. Apparently the bird eats well and the trouble is all in the head. What remedy do you advise?  
R. W.

Ans.—The symptoms are those of a bird suffering from roup. Bathe the head with a solution of commercial roup cure, or a five per cent. solution of potassium permanganate. If tumors appear it may be necessary to lance them. This disease is not nearly so prevalent among turkeys as it is with chickens. The head swells and becomes discolored when a bird is affected with blackhead, but with this disease there is usually a lack of appetite and an inclination to keep away from the rest of the flock. For this trouble one teaspoonful of muriatic acid to one pint of drinking water is recommended. The bird should be isolated from the main flock and kept in a clean, well-ventilated pen free from drafts. It is advisable to disinfect the yards and pens occasionally, as there is danger of either disease mentioned going through the entire flock.

## Endowment Insurance at Ordinary Life Rates

The Imperial Accelerative Endowment Policy is a combination of all that is best in life insurance.

Premiums payable under this contract are only slightly higher than the Ordinary Whole Life rates, and one does not have to "Die to Win" because, under any circumstances, the face value of the policy is payable to the assured himself not later than at age 75.

All the usual options of dealing with the profits at the end of each five year period are provided. In addition, two special options are granted under which the profits may be used, to reduce the number of premiums payable, or to hasten the maturity of the policy as an Endowment.

An Accelerative Endowment will ensure your own independence in old age, if you live; the independence of your family, if you die.

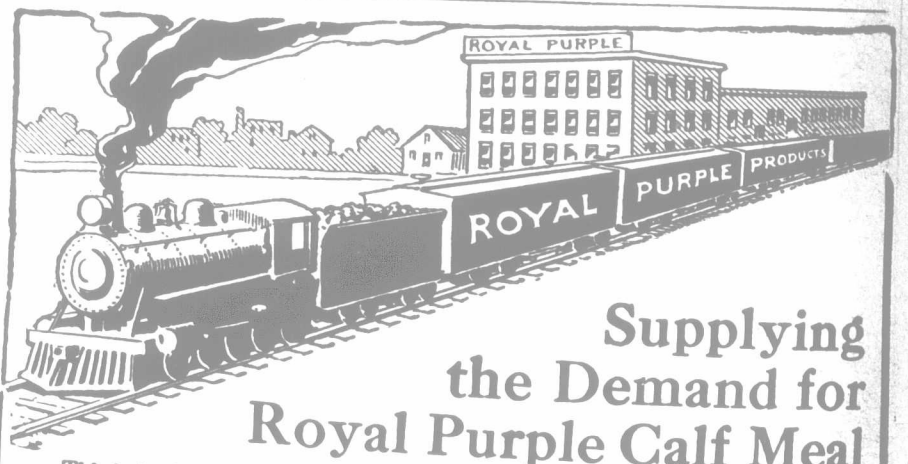
Write now for our booklet which explains in detail the distinctive features of this most desirable policy.

## THE IMPERIAL LIFE Assurance Company of Canada

Head Office, Toronto

Branches and Agents in all important centres

COPYRIGHT



## Supplying the Demand for Royal Purple Calf Meal

This baby food for young animals is partially pre-digested, and can be fed to the youngest animals with perfect safety. It WILL NOT cause stomach or bowel trouble, which are serious ailments in young animals. Royal Purple is a sure preventive for scouring.

## Calves Gain Rapidly Without Milk

When the calves are 3 or 4 days old they can be fed Royal Purple Calf Meal and raised just as well without one drop of milk. What prominent breeders remark: "Gentlemen,—In regard to your Calf Meal, I think you have the best on the market, as people who have bought it give it great praise. Some have taken their calves off sweet milk, and feed them nothing but your Calf Meal and water, and say they are doing as well on it as they did on the whole milk."

To Whom It May Concern: This is to certify that I have secured your "Royal Purple" Calf Meal from our druggist, Mr. T. C. Nicholls, of Uxbridge, and can speak of this meal in the highest terms. I have used other calf meals, but this one is the best I ever tried. I never saw a calf gain more rapidly and thrive better than mine did while using your "Royal Purple" Calf Meal. I can cheerfully recommend it to all our stockmen who wish to raise large, healthy calves.—Stanley W. Croxall.  
Note—The above Mr. Croxall keeps a large herd of pure-bred Holstein cattle, and is an excellent authority on Calf Foods.  
Royal Purple Calf Meal is equally good for young colts, lambs and young pigs. Put up in 25-lb., 50-lb. and 100-lb. bags. Secure it from our dealer in your town.

W. A. Jenkins Mfg. Co., Ltd., London, Can.

35

### FREE BOOK

Send for our 80-page book which describes the common diseases of stock and poultry; also methods of feeding and our many products. Get a copy to-day.

## TAMWORTHS AND SHORTHORNS

Young sows due to farrow within a month. Young pigs, both sexes, all descendants of Imp. and Silver Medal Stock. Ten young heifers and cows, grand milking strain, in calf to Broadlands No. 87908.  
A. A. COLWILL, R.M.D. No. 2, NEWCASTLE, ONT.

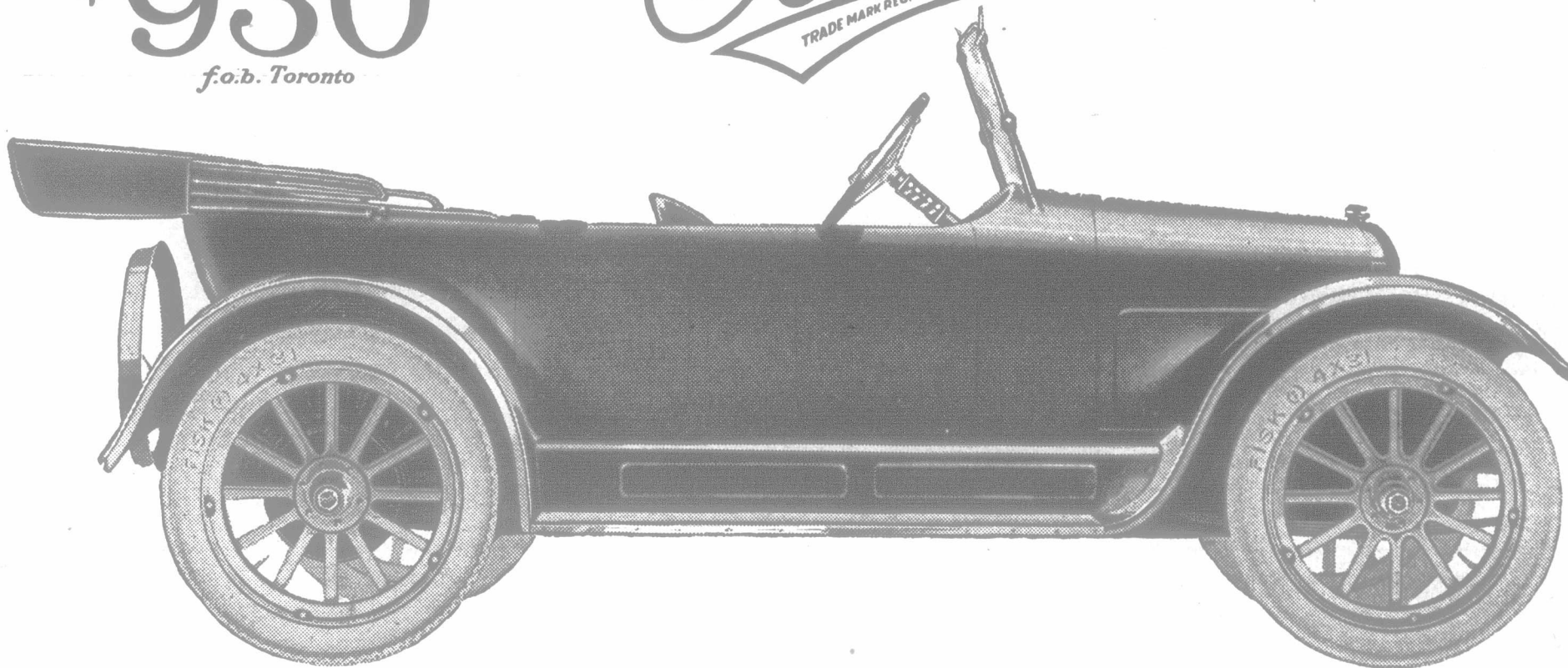
## DUROC JERSEY SWINE, JERSEY CATTLE

In Duroc Jerseys we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys, we have young cows in calf and young bulls, high in quality and high in producing blood.  
MAC CAMPBELL & SONS, Northwood, Ont.

## 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, Ont.  
Langford Station on Brantford and Hamilton Radial.

The Light Four  
5 Passenger Touring  
**\$930**  
f.o.b. Toronto



## A Comprehensive Line of Automobiles All New Values

From your point of view this announcement is most important.

For herein we set forth the achievement toward which the Willys-Overland Organization has aimed for the last eight years.

This achievement in a word is the completion of our gigantic organization to a point where we could make and market a comprehensive line of automobiles under one head.

One executive organization,

—one factory management,

—one purchasing unit,

—one sales expense,

—one group of dealers,  
plan, produce and sell the entire line.

Buying power is concentrated, Costs are distributed over all these cars. The savings are tremendous.

As a result we are producing cars of exceptional quality—and marketing them at unusually low prices.

Every car is built to a rigid standard of performance, comfort and appearance.

The new Light Four at \$930 is a striking example.

It has good style—built low with harmonious and full sweeping body lines. It is a beautiful car in every sense of the word.

The motor is powerful, quiet and of sturdy construction. The turning radius is short. The car has a quick acceleration and is built to tour safely and comfortably from the Atlantic to the Pacific.

And with all these good qualities *it rides beautifully*. The soft cushions, the long resilient cantilever rear springs, the large tires (31x4) and the proper balance in construction absorb all types of jolts—the choppy cobblestone, the cuppy macadam and the heavy ruts and thank-you-ma'ams of the highways.

Yet this is but one of the new Willys-Overland values.

Never before have the economies of vast production been available for buyers of every class of car.

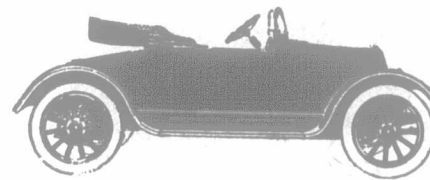
And the Overland Policy of greater production, higher quality, lower price is exemplified in every model and type.

Catalogs on request. Please address Dept. 920

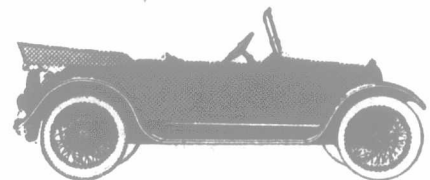
**Willys-Overland Limited**

West Toronto, Can.

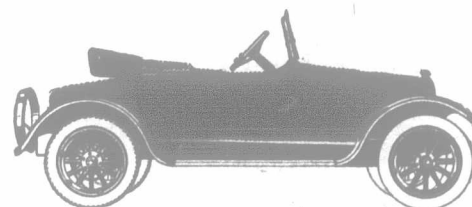
Willys-Knight and Overland Automobiles  
and Light Commercial Cars



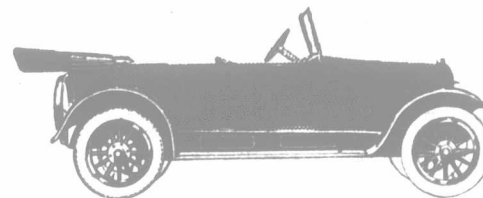
Two Passenger Roadster  
Light Four, 104 in. wheelbase, \$910



Four Seater Sport Model  
The Country Club, 104 in. wheelbase, \$1050



Big Four Roadster, 112 in. wheelbase, \$1170  
Light Six Roadster, 116 in. wheelbase, \$1360

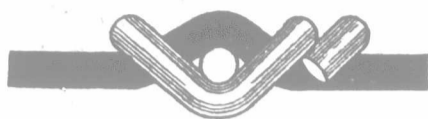


Big Four Touring, 112 in. wheelbase, \$1190  
Light Six Touring, 116 in. wheelbase, \$1380

All prices f. o. b. Toronto

# 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" are 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 Galvanizing 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.

Full size wire, Hard and well Galvanized, and carefully

woven into finished fence makes "FROST FENCE" the fence you want.

Complete fencing supplies, all kinds of wire, and plain and ornamental gates.

Lawn Fences—Wire and Iron.

Get a catalogue.

**FROST STEEL AND WIRE CO., Limited, Hamilton, Can.**