

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

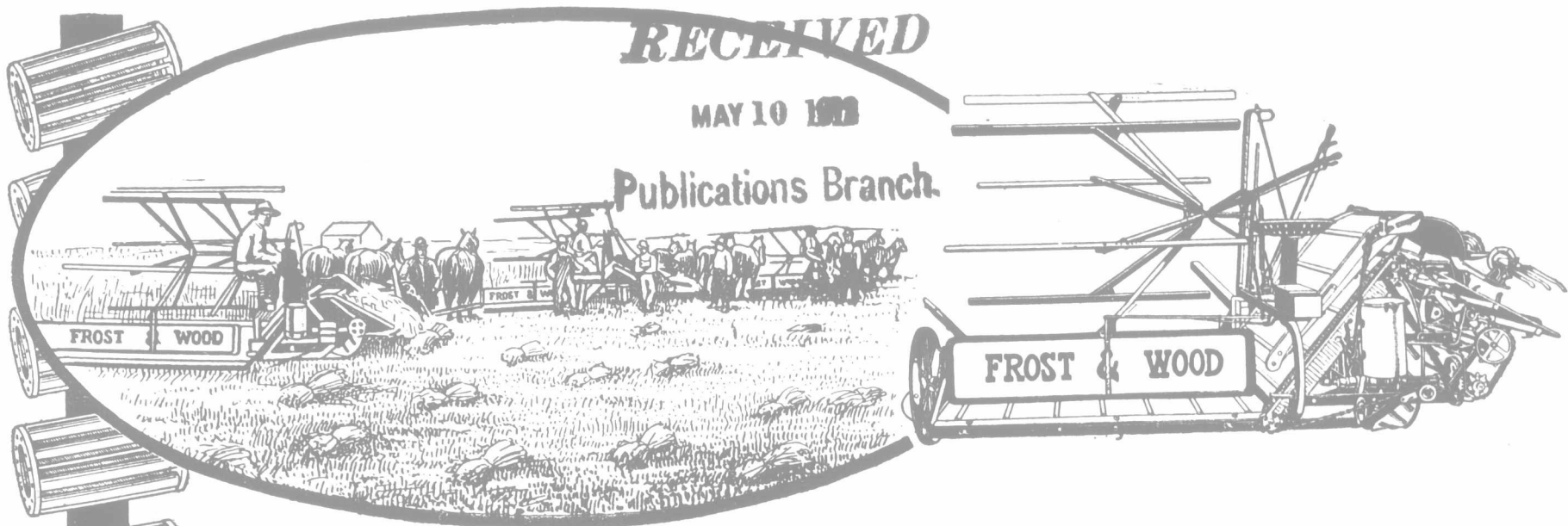
PERSEVERE AND SUCCEED  
FOUNDED 1880

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

Vol. XLVII.

LONDON, ONTARIO, MAY 9, 1912.

No. 1024



## Always Ready for Hard Work

**Long Hours or Lodged Grain Do Not Bother This Binder**

The Frost & Wood No. 3 Binder was built purposely to stand up and work satisfactorily under the heaviest and most trying conditions to be met with in Canada. Long hours in the field may tire you, but the No. 3 is always ready for more work. Lodged Grain—Short Grain—Long Grain—the No. 3 cuts and ties it all into tight, compact bundles. In buying a Binder you want to be assured of three things—a machine that will cut all your crop; that is able to elevate and bind it into sheaves without crowding on the deck or missing at the Knotter; and one that is easily handled and light in draft, yet capable of standing hard work. You'll find these in all

### Frost & Wood Binders

The Cutter bar is so arranged that the guards get down under the most tangled grain and save it all. The Reel is easy to operate—back, forward, up, down—so you can instantly shift it to suit varying conditions. That means clean work.

Elevators have ample capacity for handling the heaviest and lightest crop, and Frost & Wood Knotters have yet to be equalled for sure and positive work. Run the Binder as fast and as long as you like—you'll find it always ready to tie the next sheaf.

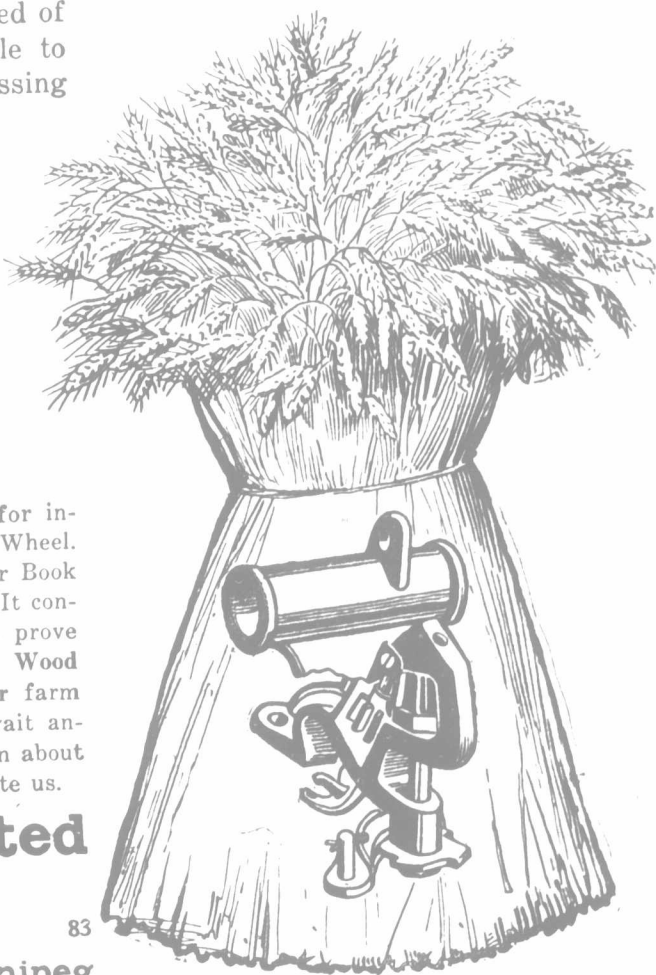
### Are Light Draft Machines

Carefully-fitted Roller Bearings are put in every part where they will make things run easier. These Bearings on Frost & Wood machines are made to last and do their work. They won't fall apart and clog as do some others. They are there to make the Binder draw light, and they do it. The No. 3 is certainly easy on horses. There are features other than the presence of many Roller

Bearings that account for this—for instance the Eccentric Sprocket Wheel. You should get our special Binder Book describing the machine in detail. It contains much information that will prove interesting to you. A Frost & Wood Binder will do the work on your farm as you want it done, so don't wait another day to get more information about it. Ask our nearest agent or write us.

**The Frost & Wood Co., Limited**  
Smith's Falls, Montreal and St. John, N. B.

Sold in Western Ontario and Western Canada by  
**Cockshutt Plow Co., Limited, Brantford and Winnipeg**





Sold Over 850,000 Acres  
in Five Years

## WESTERN LAND FOR SALE

In areas to suit purchasers, from  
160 acres upwards, situated on or  
near railways in the

Best Wheat, Oat and  
Stock - growing  
Districts of

**SASKATCHEWAN**  
AND  
**ALBERTA**

450,000 ACRES TO CHOOSE  
FROM

Prices low. Terms most gener-  
ous and helpful.

Special Inducements  
Given Actual Settlers

Our crop payment plan requires no  
payment on land bought until the  
purchaser sells his first crop. He  
can use all his capital for cultivation  
and improvements.

Write for particulars.

RELIABLE AGENTS WANTED IN  
EVERY COUNTY.

**F. W. HODSON & CO.,**  
Room 102, Temple Building  
Toronto, Ontario, Canada.  
Branch Office: North Battleford, Sask.  
Also Agents Canadian Pacific lands.

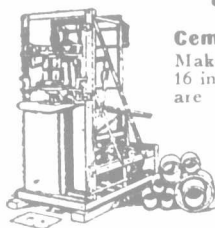
### DO YOU KNOW

THAT WORN-OUT  
LANDS MAY BE MADE  
PRODUCTIVE AND PROFITABLE  
BY THE JUDICIOUS USE OF  
THE RIGHT KIND OF  
FERTILIZER?

NOW IF YOU HAVE  
A PIECE OF LAND THAT  
WON'T GROW ANYTHING  
BUT WEEDS, TALK WITH  
US ABOUT IT AND LET US  
SUGGEST

THE RIGHT FERTILIZER  
WE FEEL VERY SURE THAT  
WE CAN SHOW YOU HOW TO  
USE FERTILIZERS  
WITHOUT GREAT EXPENSE SO  
YOUR LAND WILL PAY

CONSULT US FREELY IT IS  
OUR BUSINESS TO KNOW  
ENQUIRIES FREELY ANSWERED  
AGENTS WANTED FOR  
TERRITORY NOT TAKEN UP  
THE W.A. FREEMAN CO. LIMITED  
HAMILTON ONTARIO



### "LONDON"

**Cement Drain Tile Machine**  
Makes all sizes of tile from 3 to  
16 inches. Cement Drain Tiles  
are here to stay. Large  
profits in the business.  
If interested send for cat-  
alogue. London Con-  
crete Machinery Co.  
Dept. B London Ont.  
Largest manufacturers  
of Concrete Machinery  
in Canada.

PLEASE MENTION THE ADVOCATE.

## A Favorite with Women

An Agent of ours, who previously sold other makes  
of separators, says: "The reason I asked for your agency  
was because

# EMPIRE

## Cream Separators

seem to be the favorite with the  
women of this locality. Before  
I had Empires for sale, I've  
known women to go to a town  
ten miles farther on to get  
them."

Empire Separators well merit  
their popularity with women.  
They run so easily, children  
think it's fun to operate them.

They don't spatter oil. And  
the anti-splash steel supply can  
keep the milk from slopping  
out. They don't make a muss.  
They are clean-running ma-  
chines.

The few, simple skimming de-

vices are easy to clean. Empires  
are sanitary separators.

They are not complicated in  
construction. Nothing puzzling  
about them. They are simple  
machines. Easy to put together.  
Easy to understand.

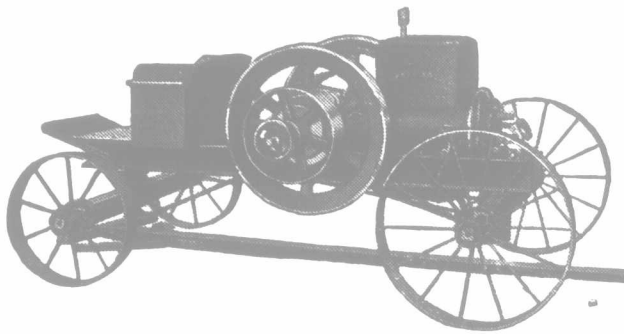
Surely madam, you would like  
to realize the pleasure and pro-  
fit there is in owning a really  
good separator, therefore ask  
our agent to let you have one  
for Free Trial. This will place  
you under no obligation to buy.

You may have a copy of our  
latest catalog, too, if you'll just  
write our nearest office. 34

The Empire Cream Separator Company of  
Canada, Limited

WINNIPEG, TORONTO, MONTREAL, SUSSEX

Agents everywhere in Canada—Look for the Empire Sign.



8, 12 and 16 H.P.  
Engines  
Mounted On  
All Steel Truck

## "Bull Dog" Gasoline Engines

are built especially for agricultural trade. Mounted outfit, shown above, is just the thing for  
work requiring a portable engine. Built without cast iron sub-base, and all unnecessary  
weight eliminated. Completely equipped. 8, 12 and 16 H.P. Also 1 1/2, 2 1/2, 4 1/2 and 6 H.P.  
sizes adapted for stationary, semi-portable or portable mounting. Strong, rugged construction.  
No complicated working parts. Write our Canadian Agents for descriptive catalog of "Bull  
Dog" farm engines.

**BATES & EDMONDS MOTOR CO., Lansing, Michigan**

General Agents for Canada:

**A. R. WILLIAMS MACHINERY CO., LTD., Toronto, Ont., St. John N. B.**

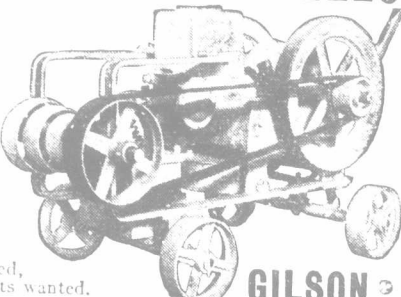
## A FARMER'S POWER HOUSE ON WHEELS

Complete with Line Shaft, Truck,  
Pump Jack and Interchangeable  
Pulleys capable of 60 changes  
of speed.

An engine that carries its own line shaft, pul-  
leys, belt tightener and hangers. The Gilson  
60 Speed Engine is a complete power plant  
in itself. You can haul engine anywhere,  
attach it and get just the speed desired—the only  
engine of its kind made. Gives 100 per cent ser-  
vice. Runs the whole farm. Goes like sixty—sells  
like sixty—has sixty speeds. 1 1/2 H. P., also 3 H. P.,  
and 6 H. P. Engines up to 27 H. P.

WRITE TODAY. Write at once for illustrated,  
descriptive literature with full information. Agents wanted.

**GILSON MFG. CO., Ltd., 61 York Street  
Guelph, Ontario**



**GILSON**  
"60 SPEED" ENGINE

## EUREKA Harness Oil

KEEPS YOUR HARNESS  
SOFT AS A GLOVE  
TOUGH AS A WIRE  
BLACK AS A COAL

SOLD BY DEALERS EVERYWHERE

The Queen City Oil Co., Limited.

## Profit From Your Fields

It is more than likely  
that new varieties or  
fresh strains of seeds  
would increase your  
grain yields by several  
bushels per acre. That's  
why it is worth your  
while to try out

## EWING'S Reliable Seeds

The extra cost of a  
few bushels of seed is a  
trifle compared with the  
profit from the larger  
crops. Ewing's Seeds,  
in thousands of tests  
during the last forty  
years and more, have  
proved heavy croppers.

Write for our illus-  
trated catalogue, and if  
your dealer hasn't  
Ewing's Seeds buy  
from us direct.

**Wm. Ewing & Co.,**  
SEEDSMEN  
McGill Street,  
Montreal.  
19

## Buchanan's Self- Compressing Long Sling



—the result of 33 years  
experience in making Pitching Machines.  
Consists of three slings and sectional pulley  
for drawing ends together. Easy to operate,  
quick to work, and exceptionally strong.  
We make all kinds of Pitching Machines  
—Swivel Carriers and Tracks, Slings,  
Harpoon Forks, etc. Write for catalogue.  
\* M. T. BUCHANAN & CO., INGERSOLL, ONT 2

## Mr. Farmer, Listen!

YOU CAN GET A

### Wilson Gold Medal Scale

Freight paid by Wilson to your  
nearest station far less than  
wholesale prices. 100 styles  
Hay and Cattle Scales. Easy  
terms to pay if you

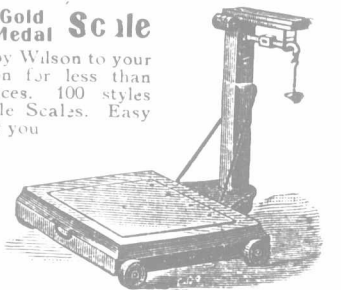
WRITE  
TODAY.

**C. WILSON**

**S. SON.**

79 Esplanade  
St. E.

Toronto, Can.



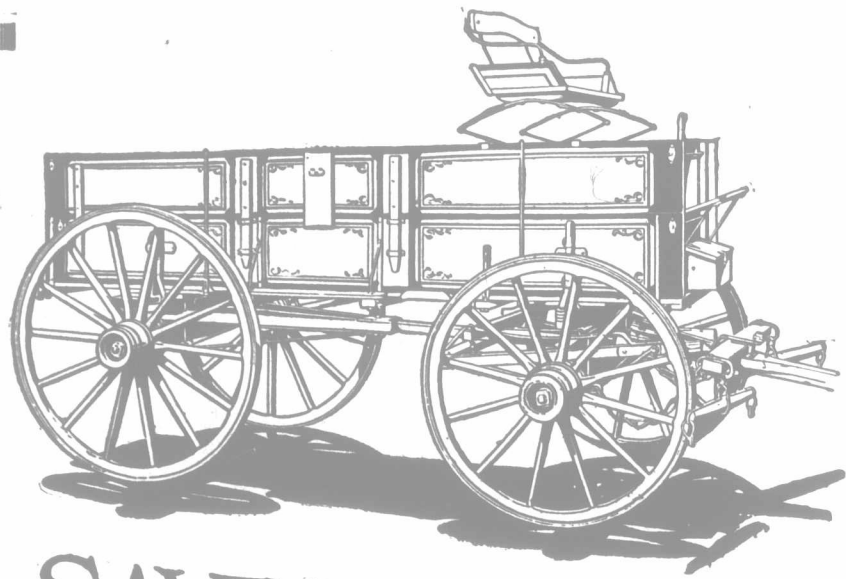
## INVENTIONS

Thoroughly pro-  
tected in all coun-  
tries. EGBERTON  
E. CASE, Registered Patent Attorney, DEPT. E,  
TEMPLE BUILDING, TORONTO. Booklet on  
Patents and Drawing Sheet on request.









## SAVE YOUR HORSES

WHEN a wagon is designed for light draft, and the workmanship carries out that design, you have a wagon that is easy on horses. You need not be afraid to make your IHC wagon work. That's what it's built for. Loads and roads that make hard hauling are expected conditions for IHC wagons. IHC wagons have every advantage that first grade material and skilled labor can give them. They back up with actual results every claim we make for them. They haul heavy loads, with least strain on horses. Ask any farmer who has driven one of them. IHC wagons:

### Petrolia Chatham

will do all the work you would ask of any wagon. IHC wagon wheels—the foundation of wagon service—are built from selected, air-dried wood. Hubs, spokes, felloes and rims are designed for strength and service, and the workmanship on them carries out the plans of the designer. Hubs are accurately bored and mortised. Boxes are forced to position in the hubs by hydraulic pressure. Therefore, they fit accurately, and, the skeins and skein boxes being paired, easy running is assured. The wheel has the proper amount of dish to make it as strong as a wheel can possibly be made. The care and thought given to wheel construction and tire setting is evidence of equal thoroughness in the building of all parts of IHC wagons. Let the IHC local agent show you the extra value of other strong IHC points of construction. You can get literature and full information from him, or by writing the nearest branch house.

EASTERN BRANCH HOUSES  
International Harvester Company of America  
(Incorporated)

At  
Hamilton, Ont. London, Ont. Montreal, P. Q.  
Ottawa, Ont. Quebec, P. Q. St. John, N. B.



The Oil You Need for Your Separator

## STANDARD HAND SEPARATOR OIL

Never Gums. Never Rusts. Never Corrodes.



Standard Hand Separator Oil feeds freely into the closest bearings and gives the best possible lubrication.

It makes your separator last longer and do better work as long as it lasts.

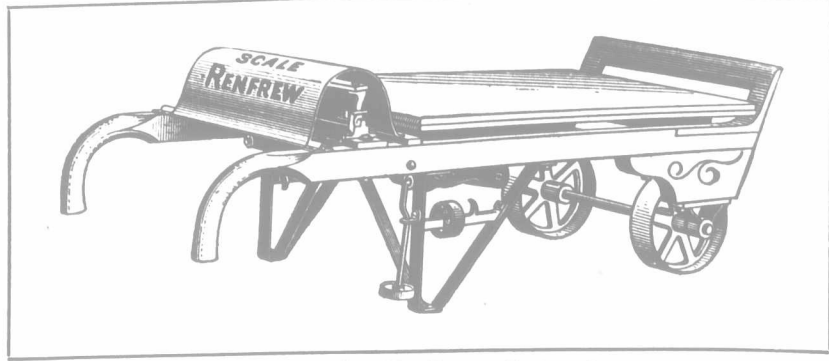
One-gallon cans. All dealers, or write to:

The Queen City Oil Company, Limited  
Head Office, 63 Bay Street, TORONTO

Also offices at Ottawa, Hamilton, London, Kingston, Stratford, St. Thomas, Windsor, Brockville, Owen Sound, Sault Ste. Marie

Subscribe for The Farmer's Advocate

"Wheel the Scale To What You Want To Weigh!"



A Necessity To Every Farmer

## The "Renfrew" Handy Two-Wheel Truck Scale

Guaranteed by Government Inspection

THE "Renfrew" is the perfection of accuracy. Weighs anything from one pound to 2,000 pounds.

Wheel the "Renfrew" to what you want to weigh—it saves time and labor.

Each "Renfrew" Truck

Scale is rigidly tested by the Government Inspector—it comes to you with his certificate attached—your guarantee.

The "Renfrew" is a strong Scale—built for service. Its success is its strongest recommendation.

WRITE TO-DAY FOR

"THE PROFIT IN THE LAST OUNCE"—our booklet—which shows you how to get the greatest profit to the last ounce on everything you sell by weight using a "Renfrew" Two-Wheel Truck Scale.

Mail  
To-day  
Coupon

Please send me free of charge, booklet "The Profit in the Last Ounce."

The Renfrew Scale Company  
RENFREW, ONTARIO

AGENTS—Western Distributors Co., Limited,  
Saskatoon.  
Reynolds & Jackson, Calgary, Alta.  
Race, Hunt & Giddy, Edmon-  
ton, Alta.

Name.....  
Address.....  
THE RENFREW SCALE COY  
Renfrew, Ont.

## Reliable help for the farmer

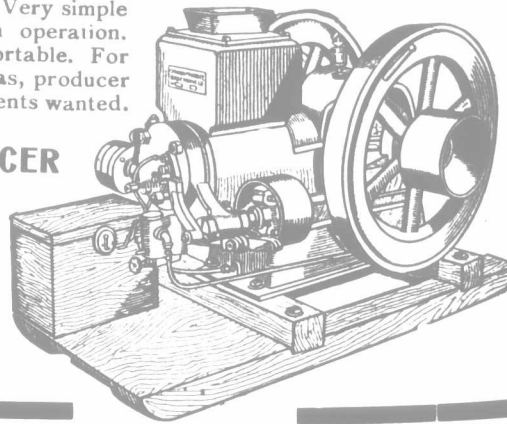
Farm labor is scarce. Wages are high. All the more need for a BARRIE ENGINE. Soon pays for itself in time and labor saved. Grinds grain, shells seed corn, pumps water, cuts straw, threshes beans, saws wood, drives churns, separators and washing machines. Does many other things, too.

## BARRIE ENGINES WORK LONG

hours without getting tired. Very simple in construction. Reliable in operation. 3 to 100 h.-p. Stationary or portable. For gasoline, distillate, natural gas, producer gas. Write for catalogue. Agents wanted.

The CANADA PRODUCER  
& GAS ENGINE CO., Ltd.  
Barrie, Ontario, Canada

Distributors:  
James Rae, Medicine Hat;  
Canada Machinery Agency,  
Montreal; McCusker Imp.  
Co., Regina



FREE STYLE BOOK FOR 1912 OF  
"Quality Line"



## VEHICLES AND HARNESS

EIGHTEENTH YEAR OF SELLING  
DIRECT TO THE USER.

Vehicle or Harness you require, and SAVE YOU MONEY. It describes and pictures just the styles, gives prices, FREIGHT PREPAID, and fully explains our method of Selling Direct and saving you the Middlemen's Profit. Remember, we pay the freight in Ontario and Eastern Canada. The Catalogue is Free, for the asking. Send for it To-day.

INTERNATIONAL CARRIAGE CO.,  
Dept. "A" Brighton, Ontario.



**GRAND TRUNK RAILWAY SYSTEM**

**Homeseekers' and Settlers' EXCURSION**

**Western Canada**

Via Chicago

APRIL 16th, 23rd and 30th

and every Second Tuesday thereafter until Sept. 17th, inclusive.

SPECIAL TRAIN WILL LEAVE TORONTO AT 10.30 P. M. ON ABOVE DATES FOR EDMONTON AND POINTS IN MANITOBA AND SASKATCHEWAN, via Chicago and St. Paul, carrying through coaches and Pullman Tourist Sleepers. NO CHANGE OF CARS.

Full particulars from any Grand Trunk Agent, or C. R. McCutcheon, Alberta Government Agent, Palmer House Block, Toronto, Ont.

The most popular route to MONTREAL, BUFFALO, NEW YORK, PHILADELPHIA, DETROIT, CHICAGO is via Grand Trunk, the only Double Track route.

Steamship Tickets on Sale via All Lines.

For Tickets and all information apply to any Grand Trunk Agent.



**SYNOPSIS OF CANADIAN NORTHWEST LAND REGULATIONS.**

ANY PERSON who is the sole head of a family, or any male over 18 years old, may homestead a quarter section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-agency of the district. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price, \$3.00 per acre. Duties—Must reside upon the homestead or pre-emption six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption may enter for a purchased homestead in certain districts. Price, \$3.00 per acre. Duties.—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

W. W. CORY,

Deputy of the Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.

**FARMS FOR SALE**

Choice stock, grain and fruit farms for sale. We specialize in high-class properties, and aim at offering good value only. We have a special department devoted to listing and selling Ontario farms. Write for list.

**UNION TRUST CO., LTD**  
Real-estate Department,  
201 Temple Building, Toronto.

**Seed Corn**

We have 4,000 bushels Seed Corn—leading varieties grown in Kent County, and cured in our own cribs, which we will sell in small quantities—ON THE COB or shelled.

Dent varieties.....\$1.40 per bushel  
Flint ".....1.75 " "

Special prices on orders of 10 bushels or more.

Terms cash with the order.

MONEY REFUNDED IF NOT SATISFIED.

**M. W. SHAW & CO.**  
JEANNETTE'S CREEK, ONTARIO

**For Sale** 25,000 rods wire fencing; 500,000 ft. belting, all kinds; 560,000 ft. iron pipe; also pulleys, shafting, hangers, roofing, vices, chains, etc. Enormous stock; 25 to 75 per cent. less than regular value. Catalogue free.  
**IMPERIAL WASTE & METAL CO'Y**  
20 Queen Street, Montreal

**Let me Tell You, Face to Face**



"Here is my question:—A \$100 roof gives a \$500 building several years of service. A \$125 Pedlar roof gives the same building 100 years of service, because it is a 100-year roof. Is the extra \$25 wisely spent?"

"I Have Learned How to Make You a Roof That Will Last One Hundred Years."

"I have been a good-roof missionary all my life. I invented Oshawa Metal Shingle for lightning protection. I made improvements in it and got my design perfect after 50 years. My roof was rain, wind, snow, ice, fire, lightning and sun proof. I still needed one thing—the longest lasting metal—non-rusting. At one step, when I found this metal, I achieved a roof to last you a whole century."

"There is No Building Made Right, if the Roof is Not Perfect."

"Guard a building on top, and you guard the whole building. The weather beats fiercest on top. I tell you, no building ever made is better than its roof. I want to see you build a good roof. Skimp the walls, if you skimp anything. See your roof is right. Your good roof gives three-fold building service.

"Why, in 50 years, a little thousand-dollar barn protects \$75,000 worth of hard-harvested product. A poor roof can easily rot, and waste, and lose for you twenty times its cost—twenty times the cost of a Pedlar Oshawa Shingle roof. With most roofs lightning may burn all—with my roof you can defy lightning to try its worst on your barn."

"I Make a Roof that Answers Every Roof Demand You Can Think Of."

"My roof has 'give' in it. It can expand in the sun. It can shrink in winter cold. It does this without drawing the nails that hold it. It is ice proof. Frozen snow cannot gouge it open. It is clean. Dirt cannot rest on it. Roof water gathered from it is pure. My roof covers its nails. They cannot loosen or rust. My roof is not too heavy or too light—it is ventilated.

"As a result, wind or storms cannot lift it bodily, like a shingle roof. It is spark proof and fire proof. It is lightning proof. It still protects a building if the frame sags. A man can lay it without special tools. He can only lay it right, the right way. Every protection, besides the protection against rust, comes with my roof. You lay my roof on ordinary framing.

"Why Do You Get Such a Good Roof from Me ALONE?"

"You can't get a roof deal like mine anywhere else in the world. This is because other metal shingles haven't my design or metal. Other metal shingles haven't my years of pioneer knowledge to back them. They haven't my ground-floor patents—my skill—my earnest and hard work of years on the one prob-

lem—a perfect metal roof. I, only, can make you a roof with the right metal in it to back the wear, because my shingle metal is the only one that make the deal honestly possible."

"Can You Lay It, and Lay It Right? Yes!"

"You, a tinsmith, anybody, can lay my roof—whoever can handle a hammer. I spent years in making my Shingle so it couldn't be laid wrong. There isn't an exposed nail, after you are done. The roof is ventilated so it is almost cyclone proof. My roof is earthquake proof, if your building under it is. It is settlement proof, sun proof—lodged ice cannot open it.

"Yes, sir, you can lay an entire Pedlar roof yourself in my Oshawa Shingle, while you are patching a few shingles on a leaky cedar roof. When you figure its service, the price of my roofing is ridiculously small. My price is very fair. Your bill for my roof is kept down, because folk all over the world are also buying. Big output means big quality at little price.

"Every Roof Owner Should Have the Help in My Big Roof Book FREE."

"My roof book, 'Roofing Right,' ought to be in your hand this very minute. I will be glad to send you a free copy. The book shows roofs, of course. It shows good buildings under them. You can get a score of hints for barn design, planning and arrangement, even if you don't buy my shingle.

"But the main point about my book is that it tells you all you want to know about Oshawa Shingles. I would like you to know its goodness. I am proud of the perfection, excellent quality, fine service, easy laying, beauty and adaptability of my clean Oshawa Shingle. It is a bigger thing than it looks to give any man weather, fire, lightning, and time-resisting protection rolled into one article. My 'Roofing Right' Book tells you all about a roof that 'Makes good' for 100 years."

"Send Me a Post-Card To-day."

"Get my 'Roofing Right' Book to-day. A post-card will bring you the whole story of my perfected Oshawa Shingle. Ask one of my branches near you. Or write me direct. Remember you better any building three-fold if you put the best roof you can get on it. People on the other side of the earth know this. You write me. *J. H. Pedlar*

**The PEDLAR PEOPLE Limited, of Oshawa**

- |                                  |                            |   |                                |                              |
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| MONTREAL<br>321-3 Craig St. W.   | HALIFAX<br>16 Prince St.   | ST. JOHN, N. B.<br>42-46 Prince William St. | LONDON<br>86 King St.          | QUEBEC<br>127 Rue du Fort    |
| TORONTO<br>111-113 Bay St.       | CHATHAM<br>200 King St. W. | VICTORIA<br>434 Kingston St.                | VANCOUVER<br>108 Alexander St. | 323                          |
| PORT ARTHUR<br>45 Cumberland St. | OTTAWA<br>423 Sussex St.   | REGINA<br>563 Third St. W.                  | WINNIPEG<br>76 Lombard St.     | CALGARY<br>1112 First St. W. |

When writing ask for PEDLARIZATION BOOK NO. 150  
Direct your enquiry to the Pedlar Place nearest you. They will answer you promptly and save you time.

\$15 00 and Upwards

**We Give a Free Trial**

of the Domo Cream Separator, which excels any other separator in the world.

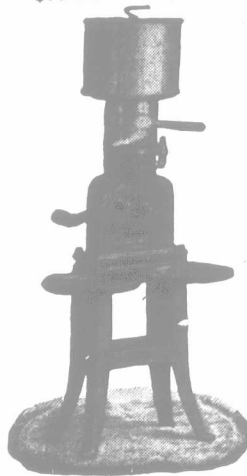
The Domo Separators are of the highest quality, well-built, and durable. They are close skimmers, turn easy, handsomely finished and guaranteed. Prices cut in two.

We gladly send a machine to you on free trial, FREIGHT PREPAID, and if you are not perfectly satisfied, return it to us at our expense. This liberal offer enables you to prove our statements, and that's what we mean, TEST IT AT OUR EXPENSE. We take ALL the risk. Can we offer anything more fair?

Write to-day for Circular which gives full particulars of our machine, trial offer, a few of many testimonials received from users. Price and easy terms of payment. It's free.

**DOMO SEPARATOR CO.**

BRIGHTON, Ont. ST. HYACINTHE, Que.



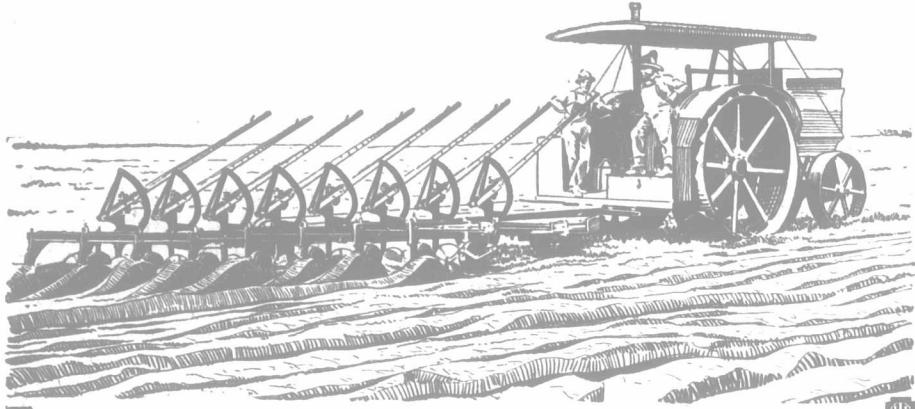
**160 Acres of Land for the Settlers**

Large areas of rich agricultural lands, convenient to railways, are now available for settlement in Northern Ontario. The soil is rich and productive, and covered with valuable timber.

For full information regarding homestead regulations and special colonization rates to settlers, write:

**The Director of Colonization**  
DEPARTMENT OF AGRICULTURE  
TORONTO.





### "Just Work"

IHC tractors are built for "just work." Whether that work be plowing, preparing and planting a seed bed, harvesting, threshing, irrigating, ditching, hauling, road making, well drilling, or the many other things that a tractor will do, the steadiest worker is an

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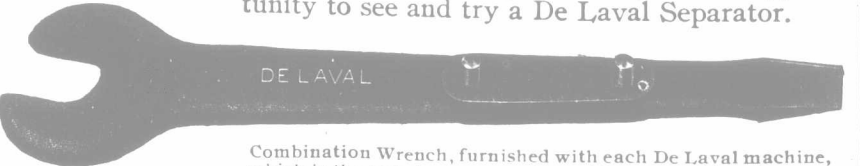
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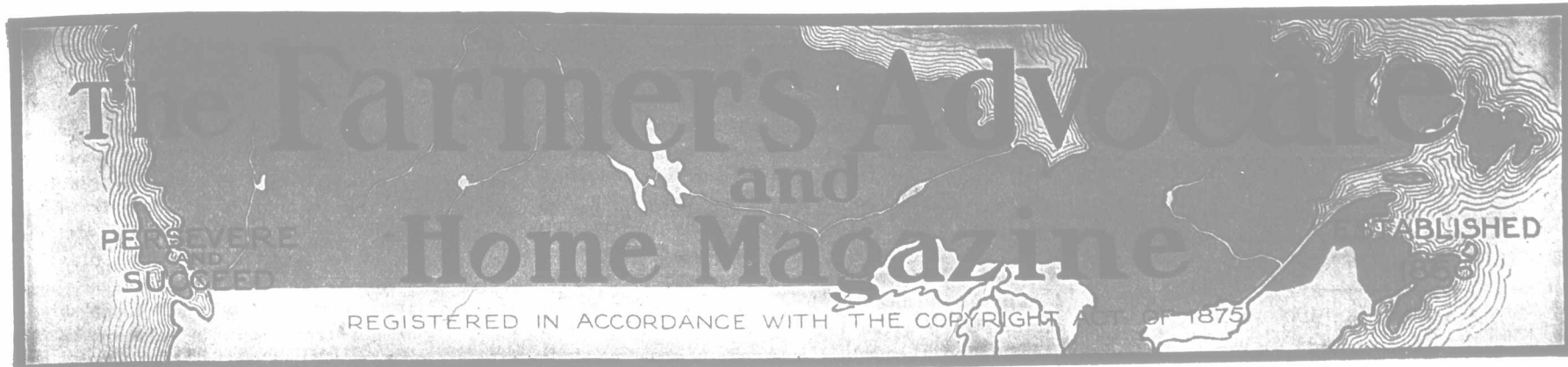
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Vol. XLVII.

LONDON, ONTARIO, MAY 9, 1912.

No. 1024

## EDITORIAL.

In calculating the profit or loss of the season's operations, do not forget the harvest of improvements in the way of stock betterment, increase of soil fertility, and new buildings erected. These alone often constitute a very satisfactory profit.

The clover in most meadows is more or less heaved, and, notwithstanding the fact that the heavy spring rains have served to pack the soil around the roots to some extent, most of the meadows would still be benefited by rolling. The roller packs the soil around the roots, squeezes down all small stones, and makes the surface much smoother for cutting later on.

In the spring, when the soil is wet from the melting of the snow and frequent heavy rains, the conservation of soil moisture does not seem very important, yet this is just the season when cultural methods tending to hold this water to tide the crops over seasons of drouth later on should be practiced to the limit. All of the commoner farm crops require much more moisture than falls during the growing season.

Perhaps the most important crop on the farm from the standpoint of live stock is the hoed crop. Last year's shortage of winter feed should cause an increased acreage of this crop this season. Nothing is more in the interest of general farming and soil fertility than a large acreage of corn and roots well manured and well cultivated. It clears the soil of noxious weeds, and puts it in an excellent condition for a cereal crop with which to seed down to that invaluable hay and fodder crop—clover.

The element of chance enters into most under-takings, but with underdrainage there is no such thing as "chance." Properly installed, a system of underdrainage is just as sure to benefit the soil as night is sure to follow day. A walk over two fields following the heavy rains of spring will convince the most skeptical. The drained land dries off quickly and gives the crop an opportunity to grow, while the water remains in the undrained soil for several days, making it sad and sticky.

Many a farmer, working long and faithfully to build up his stock and homestead, feels discouraged at times because of the seemingly meagre result. The truth is that he spends a large amount of his own time, as well as that of his hired help and teams in effecting improvements which he fails to count at their full value, because not realizing the full amount of time or even all the cash expenditure which went into them. So he toils away, with scant encouragement, until astonished some day by a dispersion sale to find how much his accumulated improvements have added to the value of stock and property. It would be more encouraging to know as he goes along, just what outlay of time and money his various improvements really represent; and, too, such knowledge might, some day, deter him from sacrificing them at less than they are worth.

### The Control of Soil Moisture.

It seems almost ridiculous to talk about conserving soil moisture at this season, when the land is supersaturated from recent heavy rains and the melting of a winter's heavy snowfall, yet this is the season when much can be accomplished to aid in preventing this water from running off, soaking away, or being evaporated and lost to the crop. If our soils were not what is often termed "too wet," crops would not be as heavy as they usually are. The land must absorb and retain considerable of this water, else the crop must suffer before it matures, as only about half the amount of moisture falls during the growing season that our common cereals require.

The soil is the source of practically all the water taken in by plants. Only when plants are in a wilted condition have they any power of taking in moisture through their leaves and stems. Very few of the common farm crops contain in their green and growing state less than 75 per cent. water. The very fact that the plants themselves are so largely composed of this material, makes it important that plenty of it be always available during their period of growing. Water is also a source of plant food, for it is by this that the soluble plant food of the soil is carried up into the plant, there to be used in building up tissue as the moisture is transpired from the leaves. The more water there is in the soil, the more will be evaporated from the leaves, and the stronger the upward flow of plant-food-laden moisture, the more rapid growth of the plant. Of course, it is well known that plants do not grow well in a saturated soil, and experiments have shown that the optimum water content for plant growth is somewhere between forty and sixty per cent., probably about fifty per cent.; but few soils contain anything approaching this amount during the midsummer months. It is necessary that steps be taken to assist the soil in holding the water.

Cultivation is the first method usually employed to place the soil in condition to hold water, yet very few of those engaged in soil cultivation think of this as one of the prime objects of their tillage operations. We know that, the finer the soil particles, the greater the soil's capacity for retaining water. Each soil particle is surrounded by a film of water. The greater the number of particles, the greater the surface holding this film, and the greater the amount of water in the soil. A fine seed-bed is of great importance. Every extra stroke of the cultivator or the harrow adds to the water-holding capacity of the soil.

The mere fact that more surface is exposed in fine soil is not the only effect which serves to aid in moisture retention. A layer of finely-pulverized soil on top serves as a mulch, checking evaporation, the most constant means of loss. Evaporation from a bare, saturated soil is greater than from a water-surface. Evaporation is much more rapid from a loose, friable soil than from a compact one. This can be proven by the fact that soil ridged up in the fall dries much more quickly in the spring than soil left over winter in the compact state. Here, again, is an argument against deep spring tillage, and in favor of the shallower cultivation, forming a mulch. This mulch cannot be retained with grain crops, but frequent stirring of the soil keeps it in action on soils being used for hoed crop or summer fallow. Well-rotted farmyard manure or green manur-

ing is an effective means of increasing the water-holding capacity, as it increases the percentage of humus in the soil, and humus is the greatest of soil constituents, when moisture retention is considered. This is a strong argument for barnyard manure and the plowing down of green crops.

Underdrainage of wet soils is another method of increasing the water-holding capacity of the soil. It lowers the water-table, allows the plant roots to descend deeper to this water, aerates, pulverizes and improves the soil, and saves a great amount of water that would otherwise be lost by evaporation for the use of the growing crop when it needs it most. Water is an essential to plant growth, and must be retained in the soil for the use of the crop throughout the entire growing season.

### Vegetable and Small Fruit Farming.

The city and town demand for fresh vegetables and small fruits, and the great quantities of these products required by canning factories, combine, with the good financial returns possible, to stimulate their production. Soil and climatic conditions are generally favorable over large areas of Canada, and just now the "back-to-the-land" awakening is leading many townsmen to think they can undertake this class of farming, with chances of easy success. But, whether people of town or country, there are certain conditions to be considered in embarking upon a venture of this sort. As usual, much depends upon the man. That he comes from the city does not mean that he will fail in the enterprise. In fact, if he is a good business man, his urban experience may be of distinct advantage in an industry requiring such alert attention to detail, and, if need be, a willingness to depart from the footsteps or customs of others.

There is first of all the question of fitness of soil and climate. There is little risk of serious error in this particular. Without venturing so far afield as to engage in what might prove a purely speculative enterprise, one can usually locate where, to some extent, at least, experience has demonstrated what can be done. Certain localities jog along for years in general or mixed farming, and suddenly wake up to find themselves famous for certain specialties, such as has been the case with Prince Edward, Lambton, Essex, Norfolk and other counties that might be cited in Ontario. The natural possibilities were there all along, and it was only a question of time when the combined enterprise of a few progressives would bring the productiveness of the district sharply into the public eye. On this score, then, no serious mistake need be made. Whether for home or market, this class of farming may well be called an art. It is necessary to be so situated as to be able to produce a variety of crops of fancy quality, and seasonably in fairly constant supply, if one is to "clean up" say \$10,000 a year, net, as reported by an Ohio man near the City of Cleveland, from 12 acres of land, 2½ acres of which he has under glass. The prospective gardener may consider himself singularly fortunate if he can combine in his plantation a variety of soils that will grow such a range of field crops to perfection as celery, tomatoes, onions and cabbage. As a rule, heavy clay soils are to be avoided in vegetable or small-fruit growing.

Nearness or accessibility to good markets is the next consideration, and, in close relation with



## 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.

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this, good roads, over which products are to be carried to market, factory or shipping points. The extra wear and tear on vehicles or horses, loss of time, and depreciation of delicate products by jolting over rough highways may almost turn a possible profit into loss. A bad road materially lessens the value of the adjacent land per acre.

Water supply is another essential in growing to perfection these classes of crops. Flowing springs are a unique advantage worth money, but a reliable well and windpower above it, with tanks for storage to use in dry times outside or in greenhouses, is a prime essential.

The aspect of "lay" of the land is important for drainage and for shelter by wind-breaks or otherwise. This is very important in a climate where winter rules for four or five months of the year.

Another problem, steadily growing more serious in most parts of Canada, is the necessity of a sufficient supply of skilled labor for the work, which must be completed at the right time if it is to be done with satisfaction at all. In many cases, extra cottages for men and families are necessary. Work and operations should be so planned as to furnish employment for men all the season through. As many as a dozen men have been employed on eight-acre farms, but it all depends upon the variety and character of crops grown, and how disposed of.

Small farms like these do not carry sufficient live stock to produce the stable manures required, so that proximity to supplies of these and other fertilizers is not to be overlooked.

Obviously, it is a business requiring especial knowledge and skill, if crops of superior quality are to be produced at a profit, running the gauntlet of the ever-growing array of insect and fungoid pests that lay in wait for their destruction. Good books and papers devoted to these subjects,

prepared by capable experts, are now available, and of inestimable value to the progressive grower, particularly the amateur, who will soon find himself in need of reliable advice in the management of hotbeds and hothouses, and at nearly every step from the time the seed is committed to the soil till the packages are ready for the consumer. Life is too short and the process too costly to learn it all by experience, but in some way or other everyone who embarks in truck-farming will find he has an apprenticeship to serve. In a given locality a number of persons usually find themselves engaged in growing similar crops, and the success and profits of their enterprise may be materially furthered by a judicious application of the principles of co-operation in the purchase of supplies and marketing, if not in the performance of field and other work. The demand for such foods was never better than to-day, and the prospects of good prices for the future seem reasonably secure.

### Good Roads, — Where?

In November, last, an association was formed in New Westminster, B. C., known as the Canadian Highway Association, with W. J. Kerr as president, and P. W. Luce as secretary. President Kerr, in a short leaflet, sent out by the secretary, is quoted as saying, "Good roads are a social and economic necessity, and good roads we will have all over Canada before I am ready to acknowledge that the work of the Canadian Highway Association is finished." It is to be hoped that his forecast becomes a reality.

What is the aim of this association? We quote from their letterhead: "Our object is the opening of a transcontinental highway from Halifax, N. S., to Alberni, B. C." The question is whether a national transcontinental highway is the best possible method of highway improvement. What class of people are likely to be most benefited by such a highway? From the same leaflet we quote: "The Canadian Highway will be an accomplished fact within the next few years, and the outside world will then know that in this broad Dominion there is a road more than 3,000 miles long, over which an automobile can travel from coast to coast in safety and with comfort. The country that offers the wealthy tourist the splendid roads that Canada will have, the magnificent scenery and exceptional opportunities of investment, will reap a large harvest from its visitors."

Does this look as though the road was going to be of great benefit as a highway for the people? It is quite evident that the proposed scheme is one to get Government aid to build a highway on which the wealthy class may ride in their automobiles, to the exclusion of other traffic. Such a road would, as suggested, be a tourists' paradise, but its commercial value as a public highway is questioned. Our transcontinental railways seem to be all that is needed for transcontinental commerce. We believe in good roads as firmly as anyone, but these roads should be at the service of the majority of the people, not the "favored few." What is needed is a system of good public highways leading as feeders to the railways of our land, and incidentally to the thriving towns and cities in each locality, these roads to be utilized by all.

A transcontinental highway is all right as an advertisement and a means of keeping up fashionable hotels and restaurants. It would be a fine thing from the viewpoint of the "goggled automobilist," but the money necessary to build it would go a long distance toward making many bad concessions passable for the farmer's wagon during seasons of mud and heavy teaming, or smoother for a pleasure trip behind his not-to-be-despised driving horse. Let us have more good roads, and let us have them in the proper place.

### Lime, Manure and Clover.

The old English proverb

"Lime and lime, without manure,  
Makes both farm and farmer poor"

was good doctrine in so far as it went, but it was rather incomplete, especially in the light of present day knowledge. In order to bring the proverb down to date, Professor Alfred Vivian, acting dean of the Ohio College of Agriculture, who is of a practical as well as of a theoretical mind, has revised it to read:

"Lime, manure, and clover,  
Make the farmer rich and his soil better."

### The Greatest of These.

An experienced fruit-grower, before the last meeting of the Western New York Horticultural Society, stated that the time to begin preparing strawberry soil was from three to five years before setting the plants. The purpose of this lengthy preparation was to increase the supply of humus in the soil. The three essentials in strawberry development were, he said, available plant food, water and humus, but the greatest of these is humus. If true of the lowly but luscious strawberry, is it not true, also, in relation to other horticultural and farm crops? After years of cropping and tillage and tillage and cropping, the very texture and composition of the soil is not as it once was when ages of forest vegetation or grass had left it covered deep with vegetable matter, carrying the nitrogen readily made available for plant growth. Then, again, as the speaker observed, the richer in humus, the greater is the moisture-holding capacity and capillarity of the soil. Had not many a reader of "The Farmer's Advocate" tangible proof of this during the last dry season, in comparing the crops on field or garden land, rich in humus through generous applications of stable manure or otherwise, with those lacking in this prime requisite. It likewise improves the texture of the soil, making it more friable and easily worked, more accessible to the air, and raising its temperature. These are conditions that promote growth, and, in dealing with a garden or field crops, like roots and corn, how much easier it is to operate against weeds than in a hard, impervious soil, largely rendered so by the disappearance of humus.

Humus, concluded the speaker, is the keystone of the arch of factors that supports the economic agriculture of to-day and to-morrow; and through the coming season, when you look at your growing crops, whether with pride or dissatisfaction, consider, in connection with their growth or lack of growth, this one factor—humus.

### Good Roads for Saskatchewan.

That the Western Province of Saskatchewan is determined to have better roads, if money will do it, seems clear, from the following statement of the amounts allotted to be expended under the Board of Highway Commissioners:

At the last session of the Legislature an appropriation of \$5,000,000 was made for highway improvements throughout the Province, and a Commission was arranged to administer this fund. Out of this, it is proposed to spend \$1,500,000 during 1912. In addition to this, about \$400,000 is expended annually from current revenue by the Government on road improvement. The Government undertakes the expenditure of this money on two classes of work, as follows: First, on the improvement of main roads leading from the market towns, over which the traffic is so heavy, and is drawn from such a large area that they may be considered Provincial, rather than local roads. Second, on improvements which are necessary, but which require such a large expenditure that they are beyond the means of local authorities.

In the first place, in Saskatchewan, the work consists principally in filling sloughs, grading up roads and putting in culverts and bridges on the main roads, and up to the present the authorities have not been able to undertake the improvement of any roads with hard materials, such as graveling, macadam, or otherwise. The second class of works include bridges, long fills, side-hill grades and works of this nature.

It is proposed to continue this work under the Highway Commission, and, in addition, to undertake the construction of some high-class work, such as gravel or macadam roads in places where development is such that these better-class roads will be consistent with it. The area of the Province is so large, and the settlement is taking place so rapidly, that, without doubt, the Commission will have to confine its efforts to the former class of improvements to a great extent, but will have in mind the probability of further improving such roads in the near future, the object of the highway improvement policy being to lay out systems of main roads throughout the country so the traffic will find no difficulty in getting to the nearest markets over roads consistent with the conditions, or from town to town on direct roads. The Government co-operates with the rural municipalities by giving them grants equivalent to the amounts they raise and spend on main roads in approved locations and to an approved standard. This work has progressed for a number of years, and much good work has been done in commencing systems of



main roads in approved locations and to an approved standard. This phase of the work will be continued as it is possible for the local municipalities to provide for it.

The Government also undertakes to disseminate information regarding methods to the municipalities, so as to bring the work they do to a higher and more satisfactory standard, both by the distribution of bulletins and by the construction of roads under direct supervision of the Government authorities, to serve as examples of how the work should be done.

A constant effort along this line has been made during the last six or seven years, with considerable success.

A. J. McPHERSON,  
Chairman of the Board.

## HORSES.

The stallion which stands for a low fee is, as a general thing, dear at any price.

The time to feed for weight is when the colt is young. Greater gains are always made while the animal is growing.

The model draft horse should show a vigorous, lively, energetic disposition, yet be docile, tractable and intelligent. He should be neither sluggish nor irritable, nor excessively nervous.

The drafter is called upon to do most of his work at the walk. It is most important, therefore, that he be able to walk fast. The time to begin such training is when the colt is young.

The cost of raising the right kind of colt, as compared with that required in producing the scrub, is the same, but selling time shows a vast difference in values in favor of the colt from the good sire and dam.

The foal from unsound sire or dam may be sound when foaled, but such animals very often inherit a predisposition to the disease or unsoundness with which the parents are affected, and if at any time the colt is subjected to unfavorable conditions or bad treatment, the unsoundness appears. Nothing but sound stock can be safely used for breeding purposes.

Feet and legs are perhaps the most important parts of the horse, and at the same time the most likely to be affected with unsoundness. In selecting a sire, brood mare, or work horse, look well to the underpinning. Clean, flat, flinty bone, with fine, silky feathering, strong, angular hocks and strong, straight knees, oblique pasterns, large hoof-heads and large, strong feet, are indications of a useful animal.

### Feeding Grain to Horses.

If one were to ask what is the favorite grain for horse-feeding, there would be a unanimous "Oats!" in reply, but, further than that, unanimity would be a lost feature. Every one would have his way, his time, and his amount to feed, hardly two of which would agree, yet nearly all of which would be a success in the right hands. The two greatest controversies that come up in horse-feeding are the amounts to feed, and whether or not oats should be chopped. In the first case, the amount fed will depend entirely upon the amount of work done, but a safe average would be a gallon of oats three times a day for a 1,200-pound horse doing heavy work, and from this feed according to amount of work done and the corresponding weight of the horse.

Regarding the crushing of oats, this is entirely optional if the horse's teeth are good and he does not "bolt" his grain. However, for old horses and fast feeders, the oats are better crushed. Many crush all their oats for the purpose of destroying weed seeds that may be in the oats. If oats are crushed, they should be milled in small quantities that will be eaten within the week. If chopped oats are left longer they will become stale, and finally go musty.

This year, when there is so much feed wheat in the country, many will put this into their ration, and rightly so. However, wheat is one of the strongest grains, and must be fed with caution and close attention to horses. For this reason, it would be well to chop it and mix it in chopped oats in a ratio of about one to two.

Mares in foal should never be fed heavily with grain, as there is a tendency to constipation that will go seriously with the mare at foaling time and the foal immediately afterwards. If she is stabled, feed boiled feeds quite frequently in place of the raw grain.—*Farmer's Advocate and Home Journal, Winnipeg, Man.*

### Hitching Teams Tandem.

Editor "The Farmer's Advocate":

The frequent reference in your paper to the various ways of hitching up more than two horses into a team has often prompted me to make the following inquiry, which I think may be of enough general interest to merit a little of your space.

Out West, where horses did some very long hauling, for a saving in wages, as many as sixteen or eighteen were sometimes hitched into one team, all under the care of one teamster and one roustabout. Putting them abreast was, of course, out of the question, so they were stretched out one span in front of the other. For a team like this, there would usually be four wagons, hitched one behind the other by a "bull" or short tongue, the heavier wagons being forward or nearest the team. The horses pulled on what is called stretchers—two whiffletrees spread apart by a four-foot stick or a piece of small gas-pipe, and connected by a piece of chain with a ring in the middle, into which the draw chain was hooked.

As many as six horses, and sometimes eight, can be fairly well managed by the "ribbons" or "checks"—i. e., a line for each horse, so long as the work is on the road; but when it comes to guiding the long teams, or even the shorter ones, in the fields, a very much simpler method must be used. This is called the "jerk" line, and consists of a single line stretching all along the nigh hames, and snapped to a chin-strap on

against it, but it can never be more clumsy on the turns, nor awkward to handle, than the beam-like evener of a four-horse hitch. Neither can the loss of power due to the stretcher be any greater than having one or two horses walking on the plowed ground. And how simple is the hitch, compared with the multiplication of lines and forks we see in some of the illustrations in "The Farmer's Advocate." One can but conclude that at least some of them are designed by the hired man without a time-card, and not the boss.

The training is not a difficult task, and any young chap who has the confidence of his horses and a little patience may be sure of success. The line-leader must be intelligent and cool enough to be able to take an order, without dwelling on the punishment he deserves if he refuses. He should never, through fear, hesitate to push his mate promptly around. This is sometimes serious at heavy work on dangerous roads. Both leaders should be willing enough to keep out of their followers' way.

In the case of a green team, we used to use "ribbons" on the leaders, or more, if necessary, until all pulled up together when ordered. As soon as all are familiar with their places, the "jerk" line may be introduced. It will greatly concern any but the one leader after the first few manœuvres. Until he is perfectly easy, someone he is not afraid of should walk beside him and prompt him in obeying orders.

The "jerk" line—to begin with—is connected to a fork over the horse's neck. This fork is a little shorter on the nigh or left side than on the "off" or right, so that when the line is pulled steadily the leader will always "haw." From the right hames ring to the "gee" or right bit ring a line is fastened just loose enough that it will tighten only when the head is raised higher than usual, so that when a sudden jerk is given to the line, sufficiently hard to make the leader raise his head, the line from the hames will pull him "gee." After the leader has become quite reliable, the fork may be dispensed with, and the line snapped directly to a ring on a chin strap. The hitch



A Typical Clydesdale Mare.

the bit of the nigh leader. The "off" leader is guided by a rod or pole some five feet long, from the hames-ring of his mate. The other horses are, until well broken, all guided by a line fastened to the stretchers just in front of them, except when on the road with heavy loads.

It is here that the fancy or scientific work is done, for these long teams are often hauling loads of a ton to every horse, over roads that would make many a venturesome teamster in our Province shiver to travel with a light wagon and span. The teamster, then, rides in a light saddle on his nigh-wheeler, which, with his mate, and the two "swingers"—the first span ahead, and fastened to the end of the tongue—he has to keep more directly in hand. Next to the leaders, these four must be good horses, for their's is all the extra-heavy work on the turns. I have seen the "swingers" at the order "gee!" or "haw!" swing, jump the chain and pull their best almost at right-angles to the road, with the "wheeler" on the opposite side, when his mate was walking in loose traces, so as to keep the hind wagon out from a corner. The "wheelers" are held back by "stay" chains, so that either one can help the "swing" a great deal to counteract the "in-pull" of all the other horses.

I have described this plan with considerable detail, at the risk of being tedious, because I thought there might still be some of the boys in the East who do not feel called to the West, and would like it. I have in mind the Pacific slope, for I don't know that it is used in the Prairie Provinces. Of course, we don't need any very big teams, but the four-horse is common enough, and the six will soon be along. Why not adopt this very simple method? I know the arguments

is then reduced to the simplest I know anything about, except the single chain and yoke of the ox-team.

GORDON S. LAMB.

Prescott Co., Ont.

### Co-operation in Horse Breeding.

Co-operation in its truest sense is being worked out by a Farmers' Club Horse Association, of L'Amable, Hastings County, Ontario. This Association, which is at present capitalized at \$1,200, was financed by a scheme whereby each and every member became financially responsible for the indebtedness of the Association, thus banding the members together in a sort of community interest that is solidified by the common responsibility felt and borne by all. The second annual meeting of the Association was recently held, and the finances were found to be in a flourishing condition, a dividend of 25 per cent. being paid. Stockholders are, as far as possible, allowed only one share of \$10. This makes the interest general.

The County of Hastings is to be congratulated upon the success of this movement, and every farmer in Canada can well afford to consider the advantages of "working together."

After seeding is over and the rush of spring's work past, give every horse a chance to clean out his system by a run on good pasture. Pasture grass is the very best spring medicine, acts as a laxative, cleansing and toning up the animal's system after a winter's dry feeding.



### Veterinary Prescriptions for Farm Use.

#### COLIC DRENCH.

Tincture of opium— $1\frac{1}{2}$  fluid oz.  
Tincture of belladonna— $1\frac{1}{2}$  fluid oz.  
Sweet spirits of nitre— $1\frac{1}{2}$  fluid oz.

Mix with a pint of cold water and administer as a drench, or with  $\frac{1}{2}$  pint of water and administer with a 2-oz. dose syringe.

The above may be said to be a standard drench for the different forms of colic. If necessary, the dose may be repeated in from two to three hours, and if the second dose fails to give lasting relief, the owner must decide that the case is a serious one and requires professional attention. Even in serious cases the drench will tend to control pain until professional attention can be obtained. If more than two doses are given, it is wise to omit the opium and increase the quantity of belladonna and nitre, as opium tends to constipate.

#### DIURETICS.

Diuretics, or medicines that increase the activity of the kidneys, are many. The following may be said to be a standard:

Nitrate of potassium—3 drams.  
Powdered resin—3 drams.

Mix and administer in a little cold water as a drench, or roll in tissue paper and administer as a bolus. The popular opinion that sweet spirits of nitre is an active diuretic is a mistake. It has a slight diuretic action, but its chief actions are stimulant and antispasmodic. Another too common idea is that horses should be given diuretics once or twice weekly in order to "keep their water right." Horses should not be given diuretics or other drugs unless there be some deviation from health. The periodical administration of diuretics tends to weaken the kidneys from over-stimulation.

#### PURGATIVES.

Purgatives, cathartics, or medicines that increase the activity of the mucous glands of the digestive tract, and hence an evacuation of liquid or semi-liquid feces, are many. Some drugs of this class act with reasonable certainty on some classes of animals, but have little action on others. In most cases a mixture of drugs gives better results than one. Aloes is the principal purgative for the horse. The following makes a reasonably reliable purgative for a horse of ordinary size, say 1,200 to 1,400 pounds:

Barbadoes aloes—7 drams.  
Calomel—2 drams.  
Ginger—2 drams.

Mix with sufficient treacle, glycerine or water to make plastic, roll in tissue paper and administer as a ball; or mix with a pint of cold water and give as a drench.

Epsom Salts is the principal purgative for ruminants. The following makes a reliable dose for an ordinary-sized cow:

Epsom salts— $1\frac{1}{2}$  pounds.  
Gamboge—4 drams.  
Ginger—1 ounce.

Syrup of buckthorn is said to be the principal purgative for dogs, but where active purgation is desired, we find that it is not reliable, hence it is used only for puppies and delicate, weakly dogs, the dose being from  $\frac{1}{2}$  to 3 ounces, according to size. The following makes a reliable purgative for a dog of say 20 to 30 pounds:

Jalap—2 drams.  
Calomel—5 grains.

The above doses are, as stated, for animals of ordinary size; the dose for smaller or larger animals would be according to size. When slight action is required, the dose should be about two-thirds of the purgative dose. This is called a laxative.

#### FEBRIFUGES.

Febrifuges, or medicines that reduce fever, are indicated in cases where the temperature is high. Nitrate of potassium is a good febrifuge, given in 2 to 4 dram doses three or four times daily. When prompt febrifuge action is desired, as in cases of acute inflammations, liquor ammonia acetatis gives good results, administered in 1-ounce doses, mixed with a little water, and repeated every two hours until its actions are established, or until the temperature is reduced. "WHIP."

## LIVE STOCK.

Oats are the best concentrate to feed the young calf.

Cross-breeding is always uncertain, and never should be practiced.

Palatability is important as a measure of the actual value of a food. A food which the animal relishes increases the flow of digestive juices and thus aids digestion.

It is generally believed that, by breeding from animals at an early age, maturity can be hastened. Early maturity is desirable to a degree, but when such matings are carried too far, early maturity is produced at the expense of size and constitution, which is a questionable advantage to the breed.

The advantages from maintaining a good condition of flesh in pregnant animals include the following: (1) They have the reserve fund stored in the system which is drawn upon for the advantage of the young after they are born; (2) they are possessed of more vigor, which is turned to good account in the processes of digesting and assimilating the large amounts of food fed; 3, they are much less liable to reach that low condition of flesh which is not favorable to high production or profitable breeding.—(Thomas Shaw, in "Feeding Farm Animals.")

Grading is entirely different from cross-breeding. Shaw defines a grade as the offspring of a pure-bred and an animal of common or mixed breeding. Either one, male or female, may be pure, but, in common practice, the male is usually pure and the female of mixed breeding. This is followed because it is much easier to get a pure-bred male than a herd of pure-bred females, and there is an improvement in the offspring, instead of a retrogression, as would be the case if a sire of mixed breeding were used. Grading up the stock should be encouraged on every farm where pure-breeds are not kept exclusively.

### Our Scottish Letter.

In every walk of life, only one subject bulks large this week. It is the loss of the mammoth Atlantic liner, Titanic, on her maiden voyage from Southampton to New York. Doubtless there were many Canadians among her 2,300 passengers, and the awful tale which wireless telegraphy flashed across the ocean will have cast its sinister shadow over Canadian, as well as British and American homes. Out of the awful darkness of that April night there shines the splendid story of British seamanship, with its grand ideal of women and children first, and the infamous tale of American journalism, with its teeming falsehoods and heartless mendacities. Surely something should be done by the American people to rid themselves of such a upas tree as the yellow press, which cherishes no reverence and regards not the sacred sorrows of bereaved friends and kindred. The disaster is the most appalling in the history of the British mercantile marine, and surely, in view of it, we will hereafter hear less of the last word in luxurious shipbuilding and the system of living as though there were neither a Divine Providence above us nor moral and spiritual destinies within us.

The month or more which has elapsed since I last wrote has, agriculturally, been most disappointing. The third week of April, now closing, has given us most delightful spring weather. These days have been warm and dry, but March and the first fortnight in April were, in the west of Scotland, as wintry as could well be imagined. Rain and storm were our appointed portion, and the land was so wet that spring work was greatly retarded. The fine sunshine of the past week has, of course, wrought an immense change, and vegetation has come away with rapidity. In the east of Scotland the rainfall is much less, and there tillage operations are far advanced. The prospects generally are now fair all round, and should the last week in April and the whole of May give us seasonable weather, with alternate sun and shower, we may look for a fairly successful year. Prices for almost every kind of produce are high, and, in the main, the prospects of the farmer are fairly bright. Horses are now going on to their seasons, and the prices of horses of every grade are kept still. Good work horses have seldom been as dear, and pedigree fillies for export are in keen demand.

Death has again been busy among farmers, and Alexander McRobbie, Aberdeen, a well-known owner of Clydesdale stallions has joined the ever-swelling majority. He was held in high esteem,

being a kindly, shrewd business man, whose horses were of the big, weighty type, and he always showed a few at the Glasgow and Aberdeen shows. At the dispersion sale of Mr. McRobbie's stud, 12 stallions made an average of £122 8s. 3d.

Lord Polwarth, personally one of the most respected noblemen in Scotland, has fallen upon evil days, and his whole movable property has been sold by public auction for behoof of his creditors. His twenty Clydesdales, mostly mares and fillies, made an average of £71 5s. 10d., which was regarded by everybody as extremely satisfactory. His Booth Shorthorns made a miserable trade; 82 of them, of all ages and both sexes, made an average of £17 5s. 4d. Trade was slow to a degree. Nobody seems to want these great big, coarse animals, with prominent hooks and most unsatisfactory, big, coarse bones. Between them and the favorite Scots type, long, low and level, there is no sort of affinity. The highest-priced animal in the whole day's sale was the three-year-old stallion, Knight of the Borders (15910), which made 445 gs., to A. M. Rennie, Paisley. Altogether, Clydesdales redeemed the Polwarth dispersion, and, had everything sold as they did, there would have been a substantial composition for creditors. The best part of Lord Polwarth's stock is yet to be disposed of. This is the flock of Border-Leicesters. They are to be sold in September, and experts affirm that no man in Great Britain has a flock of ewes like those at Mertoun. It is quite a possible thing that these ewes will make record prices, and everyone will be delighted should this be the case.

Cattle sales have recently been numerous. All the breeds have been represented, but Shorthorns have far outstripped all other breeds in price. At Belfast, 284 Shorthorns, mostly young bulls and heifers, made an average of £23 13s. 6d. At Penrith, in Cumberland, the center of a district in which a very high-class type of Shorthorns are bred, 117 head made an average of £29 2s. 10d. At the Dublin Spring Show, this week, there was a big two-days' sale of Shorthorns, and a young dark roan named Leix President, from Viscount de Vesce's herd, made the unprecedented figure, for an Irish-bred bull, of 400 gs. There was a very large and good show of Shorthorns at Dublin, and the supreme trophy went to Matthew Marshall, Stranraer, for a fine, lengthy, level, short-legged roan named Marlborough, and home-bred. This is an ideal Scots Shorthorn; he is sure to be further heard of. The same owner had the reserve with his Glasgow champion bull of last year.

England has recently had a run of very satisfactory sales. At the Edgcote Shorthorn Co.'s herd, near to Banbury, Oxford, a draft was sold last week, when 61 head, nearly all yearlings, of both sexes, made an average of £82 14s. 2d. The top price was 32 gs., paid for a yearling heifer. Messrs. Wallace & Gresson, the proprietors of the Edgcote herd, have been splendid buyers at the Scots autumn sales for several years past, and Scots breeders made this their first sale. They bought several of the highest-priced lots. Ayrshire yearling bulls were sold in large numbers at the Lanark Bull Sale, in March, when 237 head made the splendid average of £12 4s. 6d. The highest price was £65, as against £60 last year. This sale used to be held much later in the season, but the alteration into March will no doubt be fully justified.

Shire horse-breeders are proposing a raid on Canada. They are disappointed with the meagre demand for Shires from your side, and would like to convert you from the error of your ways. Their idea is that Canadians do not know Shires, or they would be more favorably disposed to them. It is therefore proposed to send out some carefully-selected Shires to your autumn fairs, and so captivate your hearts. My opinion is that Shires will hardly be wanted in Canada until horse-breeding for heavy street traffic becomes urgent. So far as Northwest Canada is concerned, there will be little of this horse-breeding for many a long day. The excessive roughness of hair about the legs of Shire stallions is bound to be a great hindrance to their popularity with Canadians. Clydesdale breeders have much greater cause to dread the opposition of the Percheron. He is in favor with the American farmers who have crossed the line and are settling so largely in the Northwest. The Clydesdale has, however, the big following, and so long as exporters send out the right type of Clydesdale, no breed will ever surpass the Scots draft horse in the good opinion of Canadian farmers.

Great changes have taken place in the administration of agricultural affairs in Scotland. The new Board of Agriculture came into existence on 1st April. It has been invested with great powers, and the whole control of agricultural education passes to it. The President is Sir Robert Patrick Wright, so long Principal of the West of Scotland Agricultural College. His colleagues are B. B. Groig, late agricultural lecturer in St. Andrew's College, Aberdeen. Both of these gentlemen were members of the Agricultural Com-



mission which toured through Canada a few years ago, and doubtless are known to many of our readers. They both have had a good training, and should do good work for the country. A third member of the Board is John D. Sutherland, Oban, a well-known man in the West, and one who will do his best for the small holder, who is coming into visibility with remarkable clearness. Over 2,000 persons have already applied for small holdings, and before very long the Board and the Land Court will have plenty to do in squaring their differences and getting possession of the needful land. The great problem will be to make such holdings financially successful. Much is hoped from the adoption of the co-operative movement by such small holders. They are being urged to give heed to petite culture—the rearing of poultry and eggs, and possibly stock-raising. The holdings contemplated will be much too small to admit of any serious attempt being made in this direction. Very little can be done with 50 acres of rough Scottish land, but a good deal can be done with a dairy farm of such a size as will necessitate the keeping 1½ pairs of horses. This type of farm has been most successful in the past, and it is a great pity that more was not done to encourage this last when these Land-holding bills were passing through the House of Commons. Such were often the backbone of agriculture in the past, and it is a bad policy which aims at rooting them out, or, at least, does nothing to encourage them.

The coal strike is at an end, and in the rush of tremendous news, such as great loss at sea, we have almost forgotten that such an experience was passed through. The calmness of the country while, for five weeks trade was paralyzed, was a marvellous tribute to the self-control and calm fortitude of the Anglo-Saxon race. With a restricted train service, and the glorious uncertainty attending every journey as to getting home, it is wonderful that the trade of the country went forward as it has done. There was no panic, no confusion, and no rioting worth speaking about. Now that men are working in the pits, things are gradually assuming a normal appearance, but I am sceptical as to transport means ever becoming as liberal as they were before the strike. One result was the abandonment of Castle-Douglas Show, which should have been held on 6th April. Kilmarnock Show is to be held to-day (Saturday). Happily, the strike is over, and men are working. Had it been otherwise, Kilmarnock would probably have followed Castle-Douglas and abandoned its show. "SCOTLAND YET."  
20th April, 1912.

### Hogs Go West.

A new method of getting value out of frozen wheat is being tried by a Western farmer, Herbert Wright, of Highwater, Sask. A recent report states that Mr. Wright has 7,000 bushels of frozen wheat, which he cannot dispose of at more than 40 cents per bushel. The railways, according to Mr. Wright, will not furnish the farmers with cars, so he has decided to feed his wheat, and has come East to buy hogs to ship to his Western farm to feed, and, when ready to market, the hogs are to be sent to Vancouver. Some 500 hogs were sent out for this purpose. Mr. Wright decided that if he couldn't get the wheat to the hogs, he would take the hogs to the wheat. These hogs were all purchased in Wellington County and vicinity. The purchaser expects to double the price offered for his wheat, which means a neat sum of about \$2,800 more than offered by dealers. If a profit can be made on buying the pigs here, paying for shipping them West, and feeding them here, surely there is a profit in feeding them here, and surely there would be a profit for the Western farmer to raise more of his pigs there and save the cost of the long haul.

## THE FARM

### A Gravel Truck and Roller Combination for Good Roads.

Road improvement is a timely question; its aspects are so wide and varied that one would need to publish a book to do it justice. I have watched for some time the process of road-building, with a good deal of resentment; the extravagant waste of public money is deploring. Putting loose gravel on the road and leaving it for the thoroughfare to pack, which they will shun until the sides become impassable, and by this time the gravel is so full of water that it will splash out and cut a deep rut in each wheel track, which is ruinous to it, is little better than building; and the same might be said of the grading. I will challenge anyone if this is not a fair sample of present conditions, and the loss we obtain from it is beyond conception.

For example, Mr. L— lives eight miles from town; he has 500 bushels beans, 400 bushels wheat, three or four loads of hay, a load of potatoes, and three loads of hogs in a year to haul to market, which will cost him nearly \$100; he could save at least \$60 of this if we had permanent roads. Then, there is the weekly trip of the family to town for the mail, groceries, etc., on which he could save another \$25. Then, the weekly trips of the cream wagon, egg, grocery and meat wagon, which expense adds to the high cost of living that we hear so much about. I have heard of people on Chatham market offering two or three dollars a ton more than market price for hay, and then have to get it shipped in, because the farmers wouldn't pull it over the bad roads; and when the roads became good, hay took a drop. In December, 1904, Mr. T— was offered \$1.20 a bushel for 600 bushels of beans; the roads were too bad to haul them out, and he afterwards took \$1.00 for them. Mr. S— had a fine horse taken ill; he sent for the veterinary, which meant a five-mile trip there and back, over extreme roads. The doctor was too late; he said a few minutes sooner might have saved the horse. Mr. D's wife took inflammation; they telephoned for the doctor, but he was three miles the other side of town. He drove home, changed horses, and made the seven-mile trip to Mr. D's. The extreme roads necessitated two hours for the trip; a neighbor met the doctor, took his horse, and told him he was too late. While these are not actual cases, many very much like them occur yearly. It is impossible to estimate the actual loss in dollars and cents caused by bad roads.

Then, the lack of interest in church work, social gatherings, co-operation, farmers' meetings, short courses, etc., which are far-reaching, and aid to encourage the exit to the cities, may be attributed to some extent to bad roads.

The time has come, I believe, when we must look for improvement; public sentiment demands it. Last December was an awakener that was hard to endure at the time, but no doubt will result in much good; but, as public interest is not personal interest, it will take some most self-sacrificing persons to effect a change, and the thanks tendered them will doubtless be sarcastic criticism; but a change must come, regardless of this.

The great question is, "How shall we go about it?" If I were the township council, to begin with, I would ask the Provincial Government to present to each township in Ontario a gasoline traction truck. A large number should be bought for \$3,000 each, and there is no way they could spend that amount of money more economically, to the best interest of the whole public. They are spending thousands each year to build up militia and corporations to feed on the public; it is time now they were doing something for the public, and they will, if we say so. This truck should be delivered 1st May, 1913, and be 20 feet long, 8 feet in front for engine and traction attachment, and 12 feet for box, which will be 3 feet wide and 7 feet high, the hind axle to pass through the box, so the box may ride 20 inches off the ground, 3 feet at each end of bottom to be on an angle to allow gravel to slide off, the remaining 6 feet to be hinged at front end, and to drop on the road at the hind end when dumping, the whole to be operated with a gauge, so that it may be put on all the way from 2 to 20 inches of gravel at one course. This, then, would reduce the unloading and levelling of 10 yards of gravel to a few minutes' work, as that is what the truck would carry, which means about 13 tons. The wheels of the truck should be 3 feet wide, and large behind; the front wheels are to come under the frame, within a foot of each other. The object is that it shall act as a road-roller, as well as a truck. It is worse than folly to try to build roads without a road roller, and also to pay \$10 to \$15 a cwt. for iron to weight it, when gravel will do even better.

This truck could be made travel four miles an hour loaded, and five empty, and consequently should last a number of years.

To describe my idea of a permanent road, I will take for example a 2½-mile strip that lies from the 6th concession in Howard Tp., to the Pere Marquette station, on what we call "Easy Street, North." This spring, about first of May, I would begin to drain this road by putting a four-inch tile up center of it where needed, which will take about two miles (leaving out knolls), at a cost of \$400, complete. I would then grade it to 12 feet wide, with a 4-inch crown, and the sides cut off with an even slope, at a cost of \$500, with road grader and teams. This completed first July, I would contract with a man to keep this road in shape till the following June with a split-log drag, at an expense of \$100. By this time it should be free from bogs, ruts, etc., and in ideal shape for capping. In the meantime, I would replace old wooden bridges with cement concrete, and also arrange with the Government, through the Good Roads Act, to ship me sufficient crushed stone to put a 4-inch face on it, 10 feet wide. June, 1913, with truck de-

livered, I would begin to cap this road by hauling clean gravel from a pit seven miles distant. To make fast work, I would buy an elevated box that would hold a load for the truck, and an elevator and small gasoline engine to drive it to fill box.

With two men to shovel into elevator, one man and team to keep pit in shape, and an expert to run the truck, I would put gravel on said piece of road at the rate of 30 yards a day, at a cost of \$14 a day, or less than 50 cents a yard, where it would cost \$2.00 a yard with ordinary team work. I would begin at near end of road, by dumping gravel 14 inches deep, three widths of truck, which would roll down to 12 inches deep and 11 feet wide. Thus I would run each load over the gravel put on, and when the strip was completed I would roll to a finish any portions not packed already. This done, I would proceed with the crushed stone in the same way, only putting it 4 inches deep.

This should make a lasting road, at a cost of \$3,000 for gravel and \$500 for crushed stone, it being delivered at station, which is on this road—all told, \$4,400, or at the rate of \$1,760 a mile; that is, tiling and grading included. Howard Tp. has about 50 miles of main road that should be made permanent, which would cost about \$100,000, and should increase the assessed value of 50,000 acres of land at least \$20 an acre, which would mean \$1,000,000. Who, then, would attempt to discredit the proposition for permanent roads?

The five great essentials to good road-building are

1. Thorough drainage.
2. The forming of an evenly-graded road-bed, thoroughly packed.
3. Rolling in a course of clean gravel not less than 12 inches thick, which should be three times the value of the same put on loose.
4. Surfacing with 4 or 6 inches of crushed stone, which in itself would cement and make a waterproof, macadamized finish.
5. And not least, by any means, a constant and vigilant watchfulness to maintain this road. For this, I would send the man with truck and crushed stone in stock to make a continual over-site of the entire road for the month of April and earlier, if frost is out, and November or December, if excessively wet. In the intervening months a monthly trip would do, to fill up every noticeable depression and roll it in. Good road-building is poor economy without this maintenance, and persistent maintenance is the greatest of all economy.

CHAS. WHITMAN.

Kent Co., Ont.

[Note.—This article was consigned for our recent essay competition, and, while not in the prize-money, contains some new ideas which may interest road-makers.—Editor.]

### Changes in the Seed Branch.

The March Census and Statistics Monthly reports some changes in the permanent staff of the Seed Branch, looking to extending the work and making it more thorough and effective. A district officer has been appointed for British Columbia, with headquarters at Vancouver. This is a new position, as previously British Columbia has been under the general supervision of the representative for the Prairie Provinces. Alfred Eastham, B. S. A., who for some years has been connected with the Seed Branch staff, as Assistant Seed Analyst at the Calgary Seed Laboratory, has been transferred to Vancouver, and given direct charge of the Seed Branch work in British Columbia. A representative for the Province of Alberta has been appointed in the person of A. D. Campbell, B. S. A., District Representative of the Provincial Department of Agriculture at Morrisburg, Ont. Mr. Campbell will have headquarters at Calgary, Alta., and will take up his duties on June 1st. The Province of Ontario has been divided into two districts, and W. J. W. Lennox, B. S. A., has been appointed district representative for Western Ontario, with headquarters at Guelph. T. G. Raynor will continue on the staff as representative for Eastern Ontario. F. H. Reed remains in charge of Manitoba and Saskatchewan, with an oversight over Alberta. J. C. Cote represents Quebec, and S. J. Moore Nova Scotia and New Brunswick. A district representative has also been appointed for Prince Edward Island, with headquarters at Charlottetown. Garnet Lelacheur, who has had extensive experience in field-husbandry work at Macdonald College, Que., and at the Experimental Farm at Charlottetown, will have charge of the Seed Branch Work on Prince Edward Island.

York County, Ont., has taken up road improvement in earnest this season, with seven outfits of machinery and 100 men on the chief highways. With favorable weather, Engineer E. A. James expects to complete half a mile per week, fit for traffic.



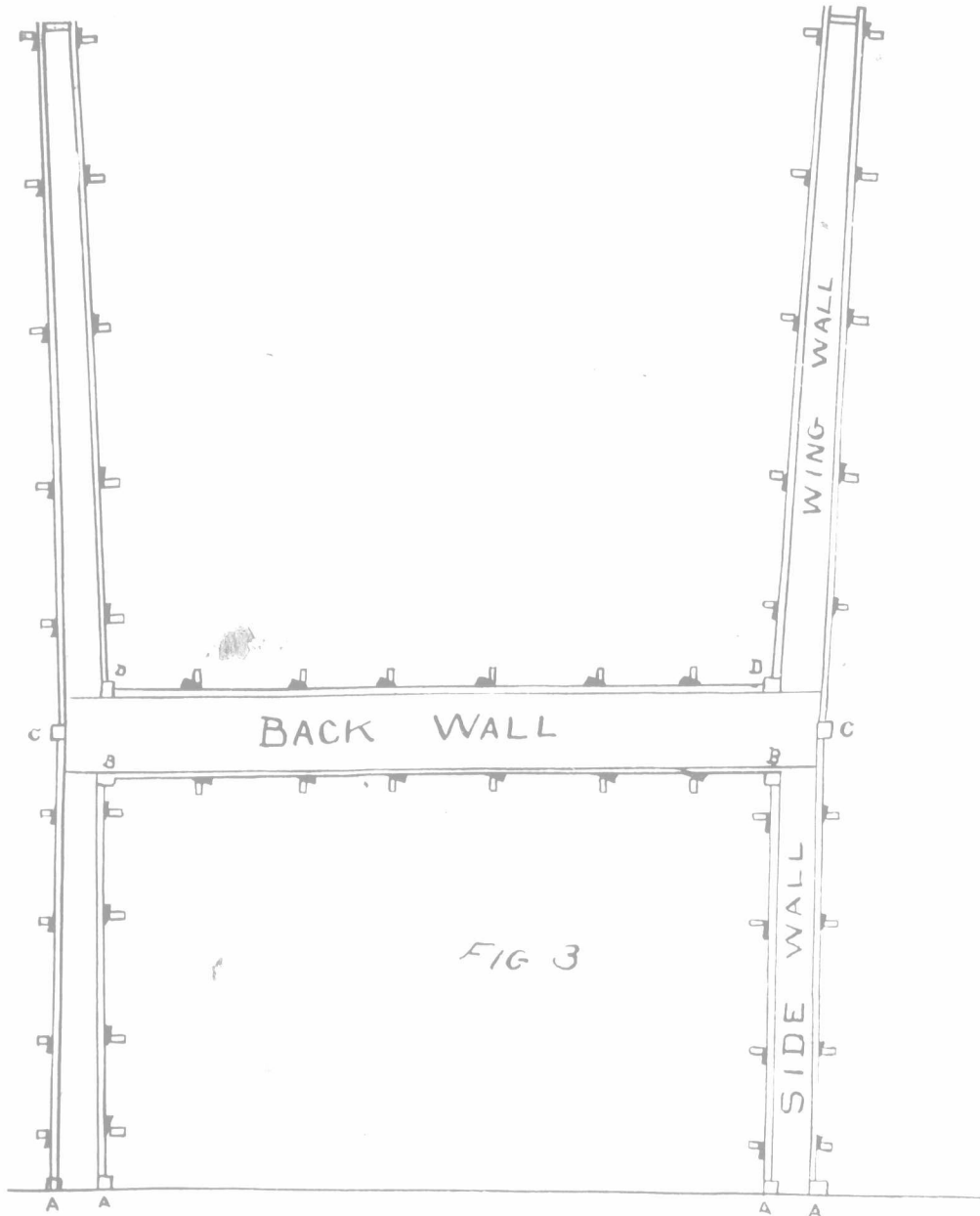


Diagram of root cellar and wing walls showing studding, etc.

**Root Cellar under Barn Approach.**

Among the various improvements effected on "The Farmer's Advocate" farm during the summer of 1911 was a cement-walled and cement-topped root cellar, constructed under the barn approach, the side walls of the root cellar extending out as retaining or wing walls to hold the clay filling. The interior dimensions of the root cellar are 15 feet by 25 feet 5 inches; average height, 7 1/2 feet; estimated capacity, about 1,700 bushels. This cement root cellar replaces an old stone-walled and planked-topped one of about half the capacity, built under the double driveway leading to a barn with a part-stone and part-wooden basement, the lower three feet of the wall being stone. It was constructed eighteen or twenty years ago, and two or three years ago a building was erected overhead to protect the plank from decay. When this old covered approach was torn down, it was found that the joists were all rotten at the lower ends, and one of them broke in two from its own weight when being removed. The barn sill and the lower end of the central door-post were likewise badly decayed, rendering the whole approach very unsafe and even threatening the stability of the barn.

**FOUNDATION.**

Within the lines stretched to mark the foundation, trenches were dug two feet deep, fourteen inches wide at the bottom, and thirteen at the top, excepting the trench for back wall of root

cellar, which was made three feet wide. No excavation was made along the barn, since the 3-foot stone foundation of the basement was merely to be raised by building a cement wall on top to the height of joists. The foundation trench was filled with cement grout, mixed 1 to 9, and many large stones from the old wall were worked in, care being taken, however, to keep the stone away from the clay sides of the trench.

**PLACING STUDDING.**

A rather expensive system of studding was required. Ten 4 x 4-in. were used at various points to end the curb plank against. Of these, A A A A, B B and D D were corner studs. B B, inside corner studs, were set first of all. One horizontal stay connected the two studs at the top. A similar stay ran from each corner stud to a similar stud, A, at the barn, and, in addition, each stud was braced with a 6-inch board running to a stake driven into the bank, this brace being so placed as to avoid interference with wheeling cement concrete up to the wall.

All the 4 x 4's, except D D, were similarly plumbed and stayed. D D were not set till later, for reasons that will presently be stated. C C were purposely spaced from A A the length of a 16 foot plank. All the 4 x 4's were set flush with the face of the wall, constituting a part of the curbing. Their essential purpose was to provide true edges to set the ends of the curb plank against.

It is perhaps unnecessary to go into further

details covering the construction of the wall. Suffice to say that the side and wing walls were made twelve inches thick, while the back wall, against which the earth filling crowds, was made three feet thick at the bottom, battered on the outside face to a thickness of twelve inches at the top. In the last course of the side walls a row of heavy spikes and old iron was set upright, in order to attach the woven-wire fencing subsequently used to reinforce the top slab.

**REPLACING WOODEN WALL WITH CEMENT.**

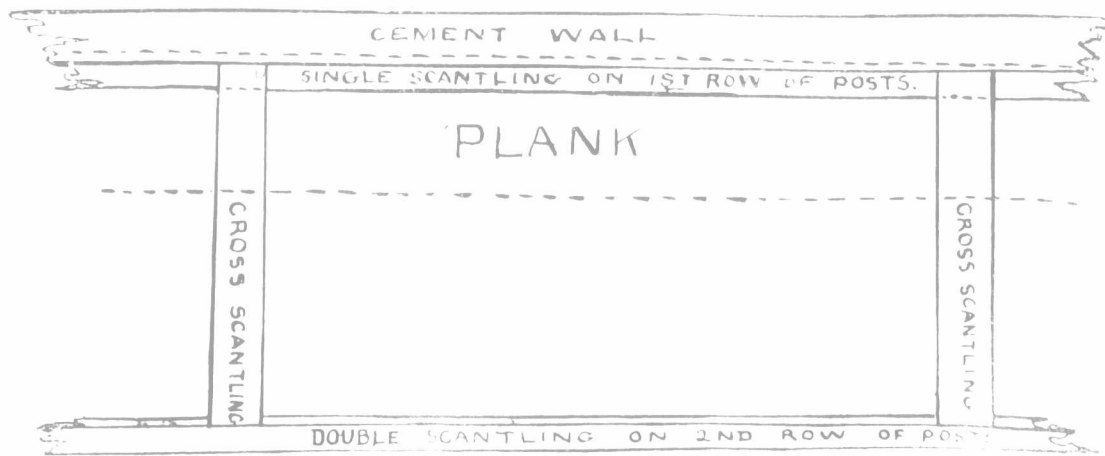
All the sides of the root cellar were carried up together; that is, there was no raising of one wall several feet high, and afterwards raising the wall which stands at right-angles to it, as with this method of procedure it is almost impossible to get a thoroughly strong bond at the corners. Therefore, when the sides and back of the root-cellar wall had been raised to the height of the stone footing of the basement adjoining, construction was ceased, and demolition recommenced. The frame portion of this part of the basement wall consisted of three short posts supporting three bent-posts or door-posts above. The posts were set on double-plank wall-sills, and supported the square-timber sill above; the outside was boarded with short pieces of sheathing nailed upright. The joists of the barn floor rested, of course, on the square-timber sill previously referred to as having been badly decayed. It was decided to remove the central short post and to shift the other pair east and west, respectively, a little way from the corner of the root cellar, so that they would not stand in contact with the cement wall, as in this case their durability would be reduced. It accordingly became necessary to jack up the joists so as to permit the removal of these posts. A 2 x 8 plank, 28 feet long, was placed under them, jacked up with ordinary jack screws at six places, and supported with six 8-foot cedar posts, standing on a plank laid on the cement stable floor (see illustration, published on p. 685 of "The Farmer's Advocate," April 11th, in connection with article on "Remodelling Stables at Weldwood"). These posts were purposely placed just three inches away from the stone footing on which the cement wall was to be reared. They thus served later as substitutes for curb studding. The short posts were now removed, the two outer ones each set a foot to one side. The sill was now cut so as to project just one foot beyond where these short posts were to come, temporary posts having been placed under the wall before the sill was sawn. The three door posts above were now clear of the sill altogether, and ready to be supported by cement built up under them when the wall should be raised to the required height. The cement wall under the joists was now carried up with the other three walls of the root cellar.

**AN ARCHED DOORWAY.**

Previously, however, the stone wall had been torn down for a length of about four feet opposite the feed passage, leading from the root cellar to the feed alley of the stable. Here an arched doorway was constructed. The door mold consisted of two vertical sides, with a separate arch set on top. The inner and outer faces of the arch were made from 2 pieces of 18-inch boards sawn on the semi-circle, with 14 pieces of 3-inch strips nailed over these. The vertical slides of the door-mold were 5 feet 2 inches in height, made of upright inch boards, with two pieces of board between as bracers or dividers. The door mold is 3 feet across, inside measurement. To bevel corners on the inner (root house) edges of the door, A-strips were tacked along the straight edges of the mold. The concrete around the door was reinforced with an old scythe-blade and a piece of heavy wagon tire, placed about 6 inches above the top of the arch. To provide attachment for the track of a sliding door, a horizontal scantling 12 feet long was embedded above the reinforcing, its outer edge being flush with the stable face of the wall. Likewise, to provide means of nailing on a door-frame, four blocks of 3 x 4 scantling, about 10 inches long, were embedded, two on each side of the door frame, and each one about two inches from the edge of the door. The ends of these pieces, of course, came flush with the stable face of the wall. To secure against these blocks pulling out, spikes had been driven in them before they were embedded. The 12 foot scantling for the door track had eight such spikes.

**OTHER ATTACHMENTS.**

In each wing wall, a tie-ring, attached to a 6-inch shank, bent down at the end, was imbedded about 4 feet from the ground; also, two blocks of 2 x 2 scantling were bedded crosswise in each wing wall, in opposite pairs. Through these pieces holes have since been bored, and steel brace rods passed through, drawn up with nuts on threaded ends to resist the outward thrust on the walls by earth filling against them. The ends of the rods might better have been bedded in the wall as built, but this would have involved cutting the inside curb planks, and this the



Showing method of piecing out at one end the curb plank for...

FIG 7



mason (who supplied the curbing) could not be persuaded to do without a consideration. These rods, valued nominally at \$2, were the only part of the old structure (except stone) used in the new. Inside the root cellar, again, eight blocks were imbedded flush with the inside face of each side wall. These were to tack studding onto, so that the wall might be lined up with rough lumber to keep the roots away from the cement; otherwise, they are liable to freeze when touching the wall. In each side of the root-cellar wall, a 12-inch-square window frame was set.

MIXING THE CEMENT.

After the foundation course, the cement-concrete was mixed in the proportion of one part cement to eight parts clean, sharp, but rather fine gravel. The mixing and tamping was done in the same manner as described in the article on the building of the silo (issue February 1st). Several cords of stone lying handy were embedded in the wall as built, care being taken, always, to keep every stone an inch or two from the surface of the wall. But for the abundance of stone to be worked in, the side and wing walls would have been made only ten inches thick. It is a mistake to make these root cellars too weak, for many of them show the effect of strain. With all the care taken, our own shows a couple of checks in places where they would not be looked for. We might add that tile were laid under the earth filling along the back wall and inside the wing walls.

CONSTRUCTING SLAB FOR TOP OF ROOT CELLAR.

When the front wall of the root cellar had been laid to within 8 inches of the bottom of the 8-inch joists in the barn, with the side walls sloping an inch to the foot, the wall was left for the time being, and the cement top put on. All the inside studding was now taken down, and 54 old cedar posts set in nine rows of six each (rows extending from front to back, parallel to side walls) were placed to support the temporary planking; the posts of each row were sawn off at varying lengths, corresponding to the intended slope of the top, and each row of posts was stood on a plank on the floor of the root cellar. Upon the top of each row of posts was placed a double thickness of 2 x 4 scantling, the upper scantling coming to within 3 inches of the level of the parallel side walls. At the higher end, towards the barn, these studding were ended solidly against the wall, but at the lower end, towards the back, there was a 2 1/2-inch space between the end of the scantling and the wall, so as to facilitate the subsequent removal of the crib-work. All the posts were carefully braced one to another, to prevent shifting latterly. Plank were then carefully laid across the scantling-strainers, two lengths of 12-foot plank being required, with some material to piece out the remaining space of a foot and a half at one end. This was filled out with plank laid north and south on short cross-scantling of which one end rested on a single strainer supported by a row of posts right beside the wall, while the other ends rested on a lateral projection of the lower thickness of the second strainer, the top of the cross-scantling coming thus flush with the top of the upper scantling of the double strainers. The cedar posts were now wedged up at the bottom to grade them up uniformly until the plank resting upon the strainers above them should all be even.

To make a trap-door space, a bottomless box, eighteen inches wide, by 2 feet long, was made by nailing together boards 10 inches wide. This bottomless box was set on the plank, between the two driveways, and about 4 feet from the barn door. The outside wall curbs were now raised ten inches, and all was ready for filling the cement concrete over the mold.

An inch and a half of cement, mixed one to eight, was now spread over the plank, whereupon six 16-foot lengths of old 60-pound steel rails, procured from a railway company, were laid lengthwise of the span, with six inches of each one resting on front and 6 inches on back wall. These rails were spaced 3 ft. 7 1/2 in. apart, the two outside rails being that distance from the inner edge of the root-cellar wall. When the rails had been placed, the spaces between them were filled with cement-concrete to very near the top, leaving slight depressions between the rails. Four widths of galvanized woven-wire fencing, each 9 wires wide, were now laid crosswise of the rails, the ends of each length being hooked over the upright spikes and irons that had been set in the wall, as previously detailed. More cement was now placed on top of this woven wire, to a height of about eight inches above the surface of the plank beneath.

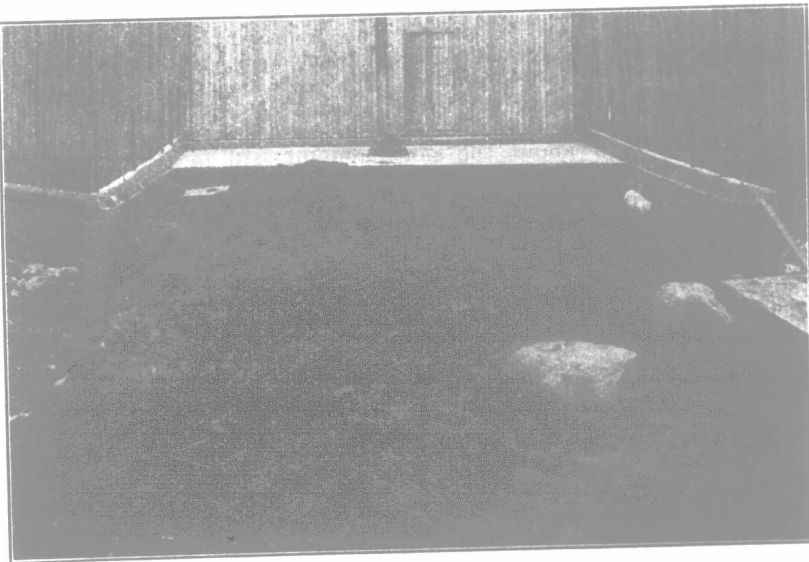
CEMENT WORK UNDER BARN DOORS.

The next step was to finish the cement work under the barn. Two widths of 2 x 6 plank were laid under the ends of the joists, and cement-con-



Constructing Cement Walls. Showing studding, curb plank, wedges, etc.

crete packed under them. Inch boards the width of the joists were now sawed out just long enough to reach from one joist to another. These were set on edge four inches back from the ends of the joist against cleats tacked in to hold them in place. The cement was now packed in against these pieces of boards the full depth of the joists,



Root Cellar and Extending Wing Walls.

Photo taken in October before much filling had been done.

and rounded off on the outer edge. This method of construction gives the joist a 5-inch bed in the cement and a 7-inch exposed rest upon the plank, to afford support in case the embedded part should decay. The side walls were now raised 12 inches higher than the top of the root cellar, the thickness of the walls being, however, reduced. They were now made 8 inches thick at the bottom of

the course, and 6 inches at top, plumb on the outer edge, bevelled on the face towards the driveway, to guard against danger by frost, and also to give a slant or slide to wagon wheels that might accidentally be backed against them. This battered kerb, as it might be termed, extended out to the full length of the wing walls. On the kerb wall on each side of the driveway, five 3 1/2-foot pipes, 2 inches thick, and threaded on their upper ends, were set to afford support to a side rail intended as a guard for horses and persons. To provide offset for trap-door and to kerb the manhole intended for the filling of the root cellar, provision was made as follows:

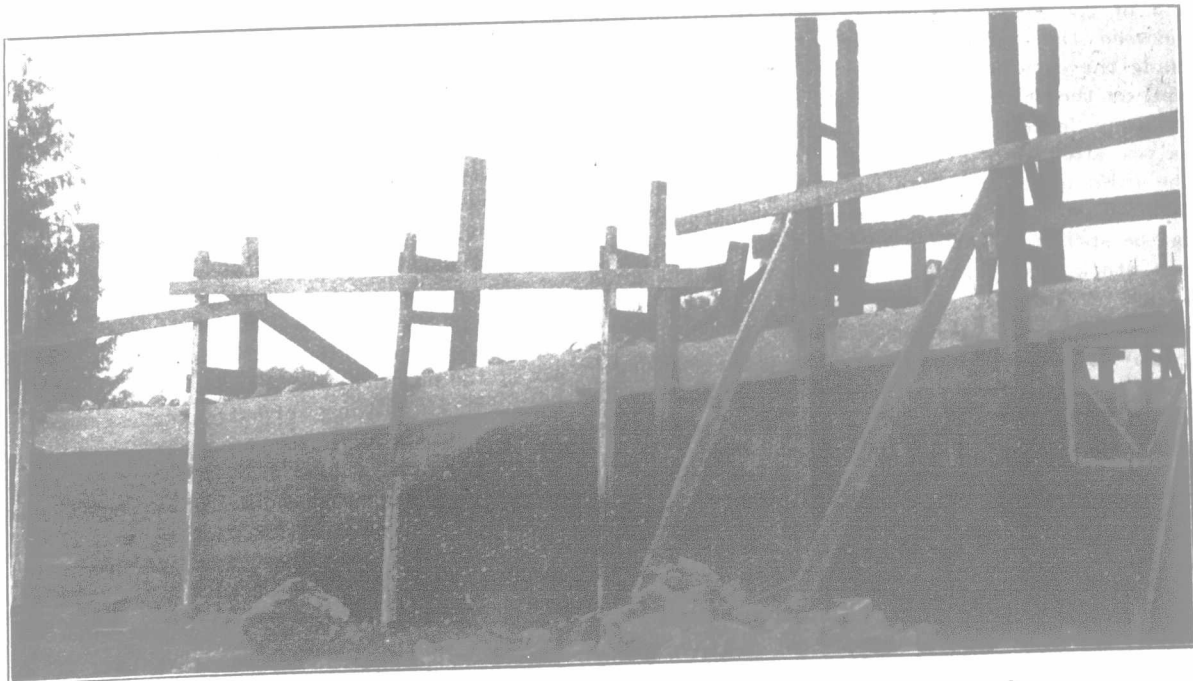
A second box, 2 inches longer than the lower one, already mentioned, was set on top of the first one, and slightly toe-nailed to it. Another frame, 6 inches high, and 5 inches larger at the bottom, and 2 1/2 inches larger at the top, was made and placed around the upper box. Filling in between with cement-concrete, gave us a cement kerb for the manhole. The difference in length of the first and second boxes gives an inch of offset 6 inches below the top of the kerb, on which to rest a door of boards or plank. An upper trap of 2-inch plank, nailed to battens of the required thickness, raises the trap to the level of the kerb and provides an air-space between the two doors.

Removing now the inside wall plank, and the outside box used to construct the manhole kerb, the whole surface was given a half-inch water-proofing coat of cement-concrete, mixed one to four, made quite wet, and trowelled over smooth. This again was subsequently washed with a pure cement wash, as was also the exposed faces of the walls. Over the cement top six inches of earth is to be spread, and, when all is completed, the curb wall along each side of the approach will be just about six inches above the surface of the earth filling. The floor of the root cellar was left for the last, and is to be laid 2 inches thick with cement-concrete, mixed one to five. For the construction of the approach, walls and root cellar, 331 hours-time were required. Two men worked most of the time together, but for putting the top on the root-cellar, four men were needed, as it was considered important that all except the water-proofing coat should be completed within a day.

CARPENTER WORK.

For the barn-floor entrance, longer doors had to be made. They were constructed on the sliding plan. These, with windows and small root-cellar door, contributed to the cost. On the other hand, we have recovered some old material suitable for future building operations.

Over a hundred loads of earth have been hauled for the approach, and more is still needed. Sudden setting in of winter prevented it all being drawn last fall, and also prevented covering the top slab with earth, as planned, this covering being left off till the last minute to give opportunity for a second washing with cement. It is not surprising, therefore, that the roots froze considerably in this cellar last winter, though, fortunately none were spoiled, as they thawed out gradually. Another winter we expect little trouble.



Studding, with braces, for erecting cement wall of barn approach.



**COST OF BARN APPROACH AND ROOT CELLAR COMPLETE, TO END OF MARCH, 1912.**

Material for cement work:	
Cement, 38 barrels, at \$1.65.....	\$62.70
Grave, 26 loads, at 26c.....	6.76
Stone .....	
Steel rails .....	29.55
Woven Wire Fencing, 6½ rods, at 32c. ....	2.08
Old pipes for railing .....	1.32
Rings embedded .....	.25
Lumber embedded, 40 ft .....	1.00
Tile, fifty 3-inch .....	.65
Reinforcing for wing walls (old rods, new swivel and wire), say .....	3.00
<b>Total material for cement work..</b>	<b>\$107.31</b>
Materials for doors, windows, etc.:	
2 large barn doors, with small one cut out of one large door, 400 sq. ft. 1 x 5 V matching .....	\$12.00
6 pcs., 1x8x12 ft., dressed all round .....	1.68
6 pcs., 1x4x14 ft., " " " " .....	
4 pcs., 1x6x16 ft., " " " " .....	2.10
50 ft. metal track for barn doors .....	3.00
½ pound leather .....	.35
Cars, rollers, pins, etc. ....	2.75
Nails .....	.60
Hinges for small door .....	.20
Material for root cellar door 4x7 ft.—lumber, 45 ft. ....	1.10
Track and rollers .....	1.33
Nails .....	.10
Windows—2 frames and sash .....	3.00
<b>Total cost of doors and windows</b>	<b>\$ 28.21</b>
<b>Total cost of all material.....</b>	<b>135.52</b>
Estimated value of material recovered from former approach.....	25.50
<b>Net cost for material in making change.</b>	<b>\$110.02</b>
Actual cash outlay for material (\$2.00 worth old rods used) .....	133.52
Labor:	
Building cement work, 331½ hrs....	\$82.65
Carpenter's time, 81 hours .....	17.82
Excavating, filling, etc., men's time, 114 hours .....	18.23
Excavating, filling, etc., horses' time, 97 hours .....	7.55
Hauling 38 barrels cement .....	3.52
Hauling 26 loads gravel.....	30.68
<b>Total labor .....</b>	<b>\$160.45</b>
<b>Total cost, complete .....</b>	<b>295.97</b>
<b>Total net cost, allowing credit for old material .....</b>	<b>270.47</b>
<b>Total cash outlay, material and labor...</b>	<b>293.97</b>

**THE DAIRY**

**Raising Skim-milk Calves.**

Editor "The Farmer's Advocate":

Raising calves on skim milk, so that they may some day equal their whole-milk-fed sisters, is not such a problem as some would have us believe. Taken on the whole, my experience is that calves fed properly on skim milk are in the end quite as good, perhaps hardier, than those fed on whole milk. We have fed calves on skim milk for the best part of four months, and have fed them on new milk for the same period, after which they were turned out on grass. At the end of the year it would be hard to distinguish between them, for, although the new-milk calf made the greater gains at first, he did not do so well as the skim-milk one when he went on grass.

Many feeders advise cooking a porridge for calves after they are weaned, to be mixed with the skim milk, and take the place of the butter-fat. We tried this plan for several years. Began in the spring or early winter with healthy, vigorous stock, fed carefully with a porridge made either of linseed, oilcake, shorts or corn meal, mixed with the proper amount of milk. The grain we began using at first was used throughout, lest a change should cause trouble. In spite of all our care and the advice given by others, our calves would be inferior in the end.

Finally, one year, owing to circumstances, it was not convenient to make porridge, or perhaps we were tired of making it for such poor returns. At any rate, we fed the uncooked grain, and our luck turned, as far as raising good calves went. I fed the first calf for three weeks on whole milk, then I gradually substituted for skim milk, a little at a time, till he was getting only skimmed milk, fresh from the separator. As I gradually reduced the whole milk, I added at first

a couple of tablespoonfuls of raw oilcake, later a handful of shorts, and still later a handful of oat chop. By the time he was getting no new milk he was getting all of this grain ration, just thrown raw into the milk. I also provided plenty of nice clean hay, which he soon learned to eat up greedily. At the end of four months he was actually nearly as big as some of the previous year's stock. The other calves, as they came, were treated in like manner, and did quite as well. Since that I have fed no more cooked food, and have had the healthiest, thriftiest lot of calves you could wish to see. I find that calves fed on whole milk produce the most flesh and have the sleekest appearance while they are being fed nothing else, but once the whole-milk ration is discontinued, no amount of grain feed will put them in the condition at the end of the year that calves accustomed to it and skim milk from the first would show.

I am in favor of taking the calf away from its mother as soon as practicable after birth, as it can more readily be taught to drink from the pail than if it had an opportunity to feed from the udder. It also does away with considerable fretting and worry attendant on calves being weaned. A great many dairymen contend, though, that it is beneficial to the cow and gives the calf a better start, if it gets its first drink straight from its mother. In any event, the calf should always get the first milk, as it has the effect of clearing out the intestinal tract. I sometimes have trouble getting calves to drink from the pail, but this can be easily overcome by simply starving them for twenty-four hours. Very often the cause for unthrifty, badly-shaped calves is too much feed. For the first three or four weeks, five pounds of milk in the morning, five in the evening, and one at noon, is quite sufficient for a large, well-developed calf. Ten pounds of milk a day is a good feed for a small calf. It should never be fed all it will drink, for a calf is unlike some animals that will stop when they have enough. It will drink pretty nearly all you give it—at least, until its holding capacity gave out. The changing from whole milk to skimmed must be brought about very gradually, and only half a pint of skim milk be used at first to replace the same amount of whole milk. Increase the amount of skim milk substituted each day by about the same amount, till in two weeks' time all skimmed milk will be the ration, the grain ration being gradually introduced, as well. We always make sure that the calves are free from vermin before being turned out to pasture, and also that plenty of pure fresh water and shade are available, for they will not thrive if subjected to the scorching sun's rays all summer. One of our neighbors has had extra-good results in feeding them extra feed after the grass has begun to dry up. To provide for this, he cultivates about half an acre of good land as near the barn as possible, and sows rape broadcast. When the plants have got a good start, the calves are turned in for a short time each evening, beginning with a ten minutes' feed for the first few nights, until they have become accustomed to it, after which half an hour was the usual time to leave them.

Carleton Co., Ont.

C. C. S.

**GARDEN & ORCHARD.**

**Topical Fruit Notes.**

The 1910 annual report of the Fruit Branch of the Provincial Department of Agriculture contains some interesting figures with reference to fruit plantings in the Niagara district. These were collected in a fruit survey of the district made by the Department during 1909 and 1910, and should be valuable at least to show the distribution of the various fruits in the district. There are seven townships taken account of, run from west to east, as follows: Barton, Saltfleet, Grimsby, Clinton, Louth, Grantham, and Niagara, and the parts of these townships below or north of the escarpment, comprise what is properly known as the Niagara Fruit District. Since this survey was made, the seven have been reduced to six by the practical engulfment of Barton into the City of Hamilton, broad avenues now being opened up through the orchards and vineyards, leading to their subdivision into city or suburban lots. Saltfleet easily leads in plantings of grapes, plums, pears, cherries and apples, and is a good second to Niagara in peaches. It stands more than double any other township in grapes and pears; it is practically double any other in cherries and apples; it is equal in plums to all the others put together; it is only 20,000 less than leader in peaches. This came as a surprise to the

writer, and will appear the same, perhaps, to all those who have travelled the route of the H. G. & B. and Stone Road from Barton to Winona, which, for the greater part, traverses the worst part of the township, and is thus sparsely planted. These figures may also roughly settle a controversy that periodically crops up as to the relative volume of fruit shipped from the district with St. Catharines as a center, and that from the district running from Vineland to Stoney Creek, with Grimsby as the center. The advantage appears to be in favor of the west end, but probably Robt. Thompson will get at these statistics, and put a different face on them; for, what they set out to explain is not always clear. For instance, there are said to be 55,992 pear trees in Saltfleet, with an acreage of 281.36, and in Grimsby only 15,819 trees, with the comparatively high acreage of 212. In the former case this means an average of 199 trees per acre, or, roughly, an average planting distance of 15 x 15; and in the latter instance an average of 74.6 trees per acre, with an average planting distance of 24 x 24. This would be explained, very probably, if dwarf trees were largely used in Saltfleet and standards in Grimsby; and, further, if the trees in the latter case were old-established, and probably in many orchards every alternate tree had been removed.

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The idea seems prevalent in this district, and the opinion is often expressed, that a co-operative society can only be successfully run as a joint-stock company paying dividends on the stock invested, with the proviso, however, that the stock should be taken out by the growers interested. Many dealers, whose business is more or less hurt by the growth of the co-operative idea seem foremost with this advice. I wonder why? Why would it not be just as well if the association were run on a non-profit basis, and dividends returned in the increased price of fruit obtained by selling and operating at cost, so that each member would be benefited proportionately to the value of his fruit, and not to the amount of his stock in the concern. It is a well-known fact that trouble follows any attempt to regulate dividends on stock in a co-operative concern, unless a settled rate is established to merely pay for the money as a loan. According to the Western Fruit-grower, the Grand Junction (Col.) Fruit-growers' Association, which is one of the largest on this side of the Rockies, is having considerable trouble just along this line. Many of their members have given up fruit-growing, but still retain their stock, and naturally desire a big dividend, and those who hold a big interest are also naturally in the same ship. Smaller stockholders and growers who are actually supplying the fruit wish the rate of interest to be kept down as low as possible. Consequently, there is trouble, which is likely to remain, so long as two incongruous conflicting interests, represented by dealers or investors and growers, remain in the association. The California Fruit-growers' Association, in its early years made peace with the dealers, but the understanding did not last one year. Two such incongruous elements cannot work together to the advantage of the co-operative society. Their objects are totally different.

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The first or dormant spraying with lime-sulphur is finished, and we are not delighted, for spraying, under proper conditions, is not a bad job, after all, and is much easier than many other farm operations. However, it is good to get any work done. There was considerable difficulty this year in getting Beachville lime, owing, no doubt, to increasing demand for the best lime to be got. Our formula for home-boiled, unconcentrated this year was 14 pounds lime, 14 pounds sulphur, to 40 gallons water. We boiled double strength; that is, used only 20 gallons of water in the actual boiling of the above, and added the extra twenty gallons of cold water directly to the spraying tank. This method gave our boiling plant double capacity, and was perfectly satisfactory as a spray mixture—going on plenty warm enough, not clogging in any way, and not so hot that it would rapidly destroy the washers used in the outfit. As a rule, with this formula, our hydrometer test read from 1,060 to 1,070 in the boiling tank mixture (after cooling and settling). This was reduced to 1,030, or slightly above, by adding the cold water. How often we still have to learn, by costly experience, that it pays well to have all valves, packing, oiling, etc., seen to before starting to spray; (2) to clean out the tank thoroughly after a day's spraying; (3) to wash much out of the first east wind as possible. There are many other points, but for everybody's sake, have patience when anything goes wrong for there are usually three irritable persons and two horses with every outfit; perhaps also, a boss and a dozen kindly advisors. Westworth Co., Ont. W. R. D.



**Insects Attacking Vegetables. II.**

By Arthur Gibson, Chief Assistant Entomologist, C. E. F., Ottawa.

**ROOT MAGGOTS.**



The Cabbage Maggot.  
1, maggot; 2, pupa case;  
3, fly; 1, 3 and 4,  
enlarged.

Among the insects which attack such vegetables as cabbages, cauliflowers, turnips, onions, radishes and beans, there are few which are more regularly inquired about than the three different kinds of root maggots which we have in Canada. These maggots are similar in appearance, being whitish in color, and shaped as shown in the figure herewith. The adult flies are also of a sameness, being rather slender, and in size smaller than the common house-fly. The species which attacks cabbages, cauliflowers, turnips and radishes is known as *Pegomya brassicæ*; that which injures onions is *Pegomya ceparum*, and the one which works in beans and corn is *Pegomya fusciceps*. In spring, when cabbages and cauliflowers are set out, or when radishes, onions and beans appear above the soil, the adult flies may be seen flying about close to the ground. Very soon afterwards the female flies lay small, white, elongated eggs on the stems of plants. The eggs hatch in a few days, and the small white maggots burrow down and destroy the roots. There are several broods of these maggots in a season, and injury may continue from May till autumn. These insects are chiefly injurious in the latter part of May and during June. Early cauliflowers and radishes are particularly attacked, some seasons whole crops being entirely ruined.

In our experiments in the control of these very injurious insects, very many different preparations have been tried, the object being chiefly to make conditions unfavorable for egg-laying by the female flies. When plants show infestation by these maggots, it is a difficult matter to destroy the larvae, and in most instances it is useless to try to save the plants. If growers of cabbages and cauliflowers will watch their plants closely to see when the eggs are deposited, much can be done when the latter are seen on the stems, by simply removing a little of the earth around each plant and brushing away with the hand all eggs or newly-hatched maggots which are seen. Such a method, of course, is laborious, and would not likely be followed by large growers, but many market gardeners and others adopt such a practice with good results. In the cases of cabbages and cauliflowers, the old adage, "an ounce of prevention is worth a pound of cure," is very applicable, for in the tarred-paper disks which are used by many growers, and the value of which we have often demonstrated, a protection is given to the plants which is almost perfect. Other than the use of such disks, we unfortunately have not as yet found a remedy which has been entirely successful every season when root maggots are abundant. In years of excessive outbreaks, liquid or dry applications of various kinds have not given the results which had been hoped.

The tarred-paper disks mentioned above are made from tarred building paper, preferably of a thin grade, cut into hexagonal form, as shown in Fig. B. These disks are quickly cut out by means of a tool made as shown in Fig. A. The blade of the tool, which can be made by any expert blacksmith, is formed from a band of steel, bent in the form of a half hexagon, and then taking an acute angle, reaches nearly to the center, as shown in Fig. A. The part making the star-shaped cut is formed from a separate piece of steel, so attached to handle as to make a close joint with the blade. The dotted lines shown in Fig. C indicate how the tool is used. When cabbages and cauliflowers are being planted out, care must be taken to see that the disks are applied properly. The disks should be placed as indicated in Fig. D, not as shown in Fig. E; the points of the star-shaped cut in the center should point upwards, and fit back closely against the stem. These disks are used extensively by large growers in the United States, and this protective measure should be adopted more in Canada. A single firm in the United States has used in one season as many as 20,000 of these disks, at an estimated cost for material and labor of about \$1.00 for the protection of 1,000 plants.

For such vegetables as radishes, onions and turnips we have experimented with many mixtures, but only a very few have given any degree of success. The carbolic mixture, which is often recommended, has some years protected plants to a marked degree. It consists of a pound of

hard soap boiled up in a gallon of water; when the soap is all dissolved, a pint of crude carbolic acid is added, and the whole boiled together for five minutes. This makes a stock emulsion. When required for use, one part of the emulsion should be added to fifty parts of water. The diluted wash may then be sprayed directly upon the growing plants, or applied by means of a watering can around the roots. It is important that the mixture be applied as soon as the plants appear above ground, and repeated about once a week for several weeks; in the case of radishes, until they are almost ready for the table, and with onions and turnips until the plants are large and strong enough to resist attack. The chief damage by root maggots is effected when the plants are young and tender.

In addition to the carbolic wash, we have also had good success in the use of pyrethrum insect powder, in the proportion of from two to four ounces to a gallon of water. The decoction is easily applied (except, of course, on a large scale) by means of a watering can. White hellebore, applied in the same manner as pyrethrum insect powder, has also given very fair results. These mixtures should be applied when the plants first appear above ground, and further application made once a week, as in the case of the carbolic wash.

**THE FARM BULLETIN.**

**A Visit to Englehart.**

Editor "The Farmer's Advocate":

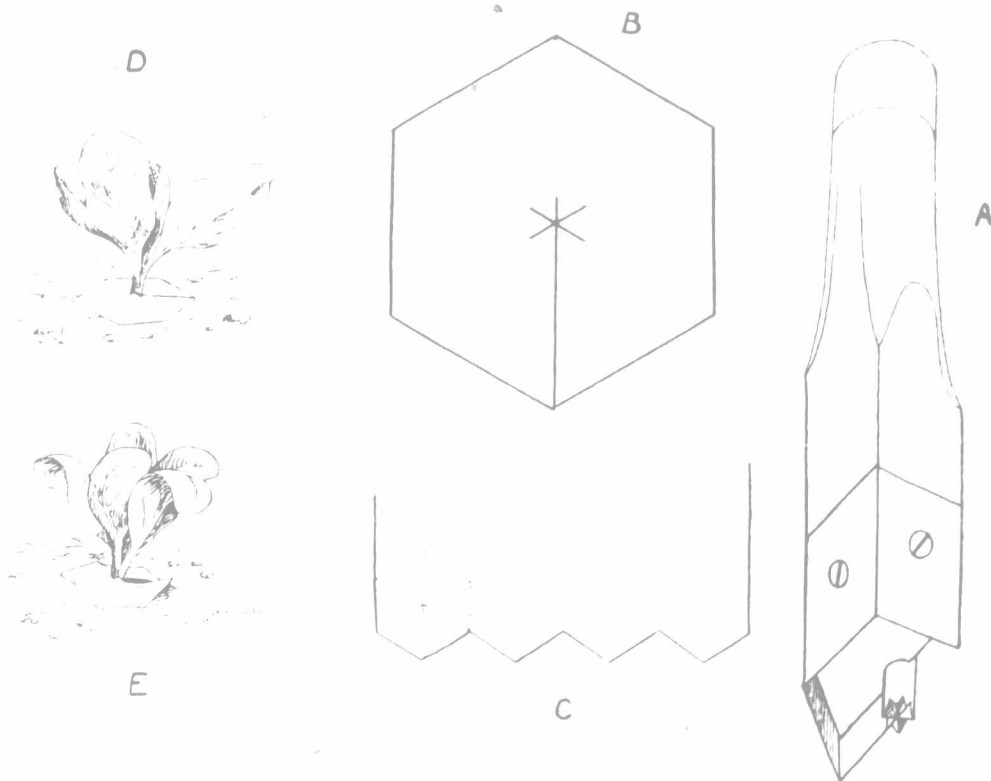
Have been spending a few weeks at Englehart, New Ontario. Many of your readers may be interested in knowing the conditions existing in that part of the Province this spring. The snow was not as deep as usual the past winter, and began going away early in the spring. There were no floods of water at any time. The snow was all away in the clearings and open forests where the second-growth poplar, balsam and birch prevail, ten days ago. In the forests of pulpwood, spruce and balsam there was still quite a depth of snow then. It takes hot weather, with warm rains, to melt the snow rapidly under the close shade of the evergreen, spruce and balsam forests. Under those conditions, we expect the rivers and creeks to send out a greater volume of water than has taken place any time this spring. Lumbermen have been busy for some time rolling their saw-logs and pulpwood into the streams, to be prepared to float their logs out when the rush of water comes. Many logs and pulpwood are sent down to the lower end of Lake Temiskaming, where they enter the Montreal River, and afterward the Ottawa River, and find their landing place in some of the large mills near Ottawa. It often takes two seasons or years to bring them to their landing-place. Some of the settlers in the neighborhood of Englehart had started to do some work on their land. On Monday, April 22nd, we disked a piece of land and sowed some spring wheat, afterwards finishing with the harrow; also worked a piece for oats. The snow falls before the frost enters the ground, and nearly always, when the snow leaves in the spring, there is little or no frost in the ground. When there are larger areas cleared, and the winds have more chance to drift the snow, conditions

may change, and we may have a greater depth of frost.

After five or six years' experience in that part, have never failed to notice potatoes growing where they had been raised the previous year. Three years ago this summer we had potatoes on a piece of land; two years ago it was sown to spring wheat; potatoes grew with the wheat. Last year it was in clover, and after the clover was cut and removed there were strong stalks of potatoes growing on the land. In the number of years mentioned we have never missed having a good crop of potatoes. The land is a sandy loam, and lies up high and dry, and has not been affected by summer frosts. Mangels, carrots and turnips did exceedingly well. Fall and spring wheat, oats and barley, were fine crops last year. Our experience with peas for a year or two was that the vines grew too long and rank, but believe the Crown pea varieties would be ideal for New Ontario.

There is no doubt about the fertility of the soil in the great Clay Belt of Northern Ontario. The drawbacks are the need of good leading trunk-line roads, with the concession lines cut out the full width of roads to let the sunlight and wind in to dry them and help to make them passable until the settlers can have time to improve them with their own labor. Then there is the difficulty of clearing the land and fitting it for a crop. With the liberal grants of money that the Government has made for the development and assistance of the settlers of New Ontario, we are looking forward with confidence to great advancement of its agricultural interests in the near future. Last summer, many members of the Toronto Board of Trade—about one hundred and twenty—had a trip through the country along the Temiskaming and Northern Ontario Railway, and were surprised to find such a fine country lying so near the City of Toronto, and ready for the hardy and industrious settlers to enter in and take possession. Since the time of their visit, the members of the Board of Trade have never ceased to press on members of the Ontario Government the advisability of doing all they can to induce settlers to go in and take up land and make homes in that part of the Province of Ontario, and we believe they have been a strong factor in getting the Government to set apart the large sum of \$5,000,000 for the development and opening up of that new country. It is expected that arrangements will be made with the railways to have excursion trains, at greatly reduced fares, run in this summer, and it is expected that many members of boards of trade, representatives of agricultural societies and farmers will go in and see for themselves the great heritage we have in that great stretch of country known as the great clay belt of New Ontario.

On my way back to Woodstock, we noticed that the fall wheat and clover had been badly injured by the severe winter we have had this year. In part of Oxford County the fall wheat is badly injured. Clover, and especially the alfalfa crop, is injured very badly. It is certain that the prospects for an abundant hay crop are anything but encouraging. Feed is scarce, and many farmers have purchased large quantities of very dear grain feed. It is a question as to what many farmers would have done with their stock if they had not had their silo feed to help them through the winter. Spring seeding is starting very late—April 25th, and very little grain sown. The prospects



Goff's Tarred-paper Device for the Cabbage Root Maggot.



for cheaper foodstuffs for the people are not at all bright, as the cost of production will be greater than it has been in the history of our country.  
 WILLIAM SCHELL.  
 Oxford Co., Ont.

**Labor and The Angel.**

By Peter McArthur.

Because I have heard much about the article in which I told how Mr. Clement showed me that a man can do farm work like an artist, I am venturing to return to the subject. One of our Canadian poets has dealt with the same theme in a way that should delight many readers. In his poem, "Labor and the Angel," Duncan Campbell Scott pictures even the most sordid labor as accompanied and watched over by a spirit of divinity and hope. It is too long to quote as a whole, but a few extracts will give a taste of its quality:

"Down in the sodden field,  
 A blind man is gathering his roots,  
 Guided and led by a girl;  
 Her gold hair blows in the wind,  
 Her garments with flutter and furl  
 Leap like a flag in the sun;  
 And whenever he stoops, she stoops,  
 And they heap the dark-colored beets  
 In the barrow, row upon row.  
 When it is full to the brim,  
 He wheels it patiently, slow,  
 Something oppressive and grim  
 Clothing his figure, but she  
 Beautifully light at his side,  
 Touches his arm with her hand,  
 Ready to help or to guide:  
 Power and comfort at need  
 In the flex of her figure lurk,  
 The fire at the heart of the deed,  
 The angel that watches o'er work.

This is her visible form,  
 Heartening the labor she loves,  
 Keeping the breath of it warm,  
 Warm as a nestling of doves.  
 Humble or high or sublime,  
 Her's no reward of degrees,  
 Ditching as precious as rhyme,  
 If only the spirit be true.

And Oh! in the cages and dens,  
 Where women work down to the bone,  
 Where men never laugh but they curse,  
 Think you she leaves them alone?  
 She, the twin sister of Love!  
 There, where the pressure is worst  
 Of this hell-palace built to the skies  
 Upon hearts too crushed down to burst,  
 There, she is wiser than wise,  
 Giving no vista sublime  
 Of towers in the murmurous air,  
 With gardens of pleasure and pride  
 Lulling the fleetness of time,  
 With doves alight by the side  
 Of a fountain that veils and drips;  
 She offers no tantalus-cup  
 To the shrunken, the desperate lips;  
 But she calms them with lethe and love,  
 And deadens the throb and the pain  
 And evens the heart-beat wild,  
 Whispering again and again  
 'Work on, work on, work on,  
 My broken, my agonized child,  
 With her tremulous, dew-cool lips,  
 At the whorl of the tortured ear,  
 Till the cry is the presage of hope,  
 The trample of succor is near."

There must be labor always, but "The trample of succor is near." It will not be true always that one man does the labor, while another takes the profit. Labor will not always be brutalizing. A better day is dawning, and it will need its poets and artists, as well as its ditchers. And even the ditcher will have his share of the joy of the poet.

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It is when we try to define art in connection with farm work that we get into trouble. It seems even more unnecessary than "science," and more mirth-provoking. And yet I know from letters I have received that there are plenty of farmers who have a thorough grasp of it, even though they are not saying much. And there are others who are real artists in their work, without any pretence of the sort. If we could only get a good working definition of art, which we could all agree, it would be easy to discuss the matter in an intelligent way, but definitions of art vary as much as the individual artists themselves. Art may be defined in a general way as "that which makes worth while," but that is not true of us anywhere. One man may create a quantity worth while, and another nothing at all. I prefer defining art as joyous work, and an artist uses the creative faculties of his mind in his work with a complete idea of what he is doing

like when finished, and strains every nerve to make the result in keeping with his idea. The artist sees things whole. He doesn't simply blunder ahead and make the best of things. He knows what he is going to do, and does it, if possible. Whether he is going to paint a picture, chisel a statue, or raise a field of corn, he knows from the beginning what the result should be like, and gets his joy from making it as close to his ideal as possible. And he is none the less an artist if he makes the highest possible profit from his work. But if he does his work as an artist, no cash profit will equal his joy in overcoming difficulties and achieving what he had in mind when beginning his work. And always, if he works sincerely, he will find that, like the master artist, "He builded better than he knew."

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The terrible disaster to the Titanic has called forth many dirges from our poets, and has caused the re-publication of many sea poems. Strangely enough, none of our editors seem to realize that some of the finest sea poems in the language have been written by a Canadian, Bliss Carman. None of his pieces have been quoted, and yet the Titanic could not have a better epitaph than this:

"And strange unearthly creatures  
 Make marvel of her hull,  
 Where far below the gulfs of storm  
 There is eternal lull."

And what could better express the peril of those who go down to sea in ships than the strange poem, "The Gravedigger."

"Oh, the shambling sea is a sexton old,  
 And well his work is done,  
 With an equal grave for lord and knave,  
 He buries them every one.

"Then hoy and rip, with a rolling hip,  
 He makes for the nearest shore;  
 And God, who sent him a thousand ships,  
 Will send him a thousand more;  
 But some he'll save for a bleaching grave,  
 And shoulder them in to shore—  
 Shoulder them in, shoulder them in,  
 Shoulder them in to shore.

Oh, the ships of Greece and the ships of Tyre  
 Went out, and where were they?  
 In the port they made, they are delayed  
 With the ships of yesterday.

He followed the ships of England far,  
 As the ships of long ago;  
 And the ships of France, they led him a dance,  
 But he laid them all arow.

Oh, a loafing idle lubber to him  
 Is the sexton of the town;  
 For sure and swift, with a guiding lift,  
 He shovels the dead men down.

But though he delves so fierce and grim,  
 His honest graves are wide,  
 As well they know who sleep below  
 The dredge of the deepest tide.

Oh, crooked is he, but strong enough  
 To handle the tallest mast;  
 From the royal barque, to the slaver dark,  
 He buries them all at last.

Then hoy and rip, with a rolling hip,  
 He makes for the nearest shore;  
 And God, who sent him a thousand ships,  
 Will send him a thousand more;  
 But some he'll save for a bleaching grave,  
 And shoulder them in to shore—  
 Shoulder them in, shoulder them in,  
 Shoulder them in to shore."

**Sheep and Swine also Barred.**

George Hilton, V. S., Acting Veterinary Director-General, informs us that the United States authorities have interpreted the word "cattle," in the recent embargo on cattle entering the States from Great Britain, Ireland and the Channel Islands, on steamships carrying horses from Continental Europe, to cover sheep and swine, and that the Canadian authorities will also adopt the same interpretation.

The Ontario Game and Lands, under Dr. Jas. W. Roberts, of the Canadian Conservation Commission, this season continue the survey of representative farms undertaken in 1911, and has also planned the organization of groups of farmers for land improvement associations. The means of this is hoped, about July, to publish a selection of nearly half a dozen of the best farms in the province.

**Grain in Farmers' Hands.**

The Census and Statistics Office issued from Ottawa, on April 29th, a bulletin on crops and live stock.

The reports of correspondents show that, out of a yield of 215,851,300 bushels of wheat harvested last year, 188,255,000 bushels, or 87 per cent., were merchantable, and that, at the end of March, 58,129,000 bushels, or 27 per cent. of the whole were yet in farmers' hands. The quantity held by farmers in the Maritime Provinces on March 31st was 329,000 bushels; in Quebec, 350,000 bushels; in Ontario, 3,874,000 bushels; in Manitoba, Saskatchewan and Alberta, 53,528,000 bushels; and in British Columbia, 48,000 bushels. At the same date last year the quantity in hand in all Canada was 33,042,000 bushels, or 22 per cent., of the total crop of 149,989,600 bushels, of which 141,006,000 bushels, or 94 per cent., were of merchantable quality.

Oats, which last year gave a yield of 348,187,600 bushels, was merchantable to the extent of 310,074,000 bushels, or 89 per cent., and the quantity in hand at the end of March was 153,846,000 bushels, or 44.18 per cent. In the Maritime Provinces there was in hand at that date, 4,007,000 bushels; in Quebec, 12,780,000 bushels; in Ontario, 24,870,000 bushels; in Manitoba, Saskatchewan and Alberta, 11,735,000 bushels; and in British Columbia, 454,000 bushels. In the preceding year, the quantity in hand out of a total harvest of 323,449,000 bushels was 127,587,000 bushels, or 39.44 per cent., and there was a total of 301,773,000 bushels, or 93.29 per cent., of merchantable quality.

The barley yield 1911 was 40,641,000 bushels, and of this quantity there was in hand, at the end of March, 13,235,000 bushels, or 32.56 per cent. The merchantable yield was 36,683,000 bushels, or 90.26 per cent. The barley crop of 1910 was 45,147,000 bushels, and the quantity on hand at the end of March last year was 13,135,000 bushels, or 29 per cent. The merchantable quantity of that crop was 41,505,000 bushels, or 91.93 per cent. Ontario's crop last year was 13,760,000 bushels, and that of the three Northwest Provinces, 24,043,000 bushels.

The merchantable yield of corn last year was 84 per cent. of the whole crop; of buckwheat, 84 per cent.; of potatoes, 89 per cent.; of turnips and other roots, 85 per cent.; and of hay and clover, 88 per cent., as compared with last year's percentages of corn 84, buckwheat 87, potatoes 77, turnips and other roots 87, and hay and clover 88. The quantities on hand at the end of March were, in bushels: Corn, 3,659,000, compared with 4,734,000 in 1911; buckwheat, 1,728,000, against 1,750,000; potatoes, 20,404,000, against 23,564,000; and turnips and other roots, 14,055,000, against 16,159,000. Of hay and clover there were on hand at the end of March, last, 3,134,000 tons, compared with 5,287,000 tons on hand at the end of March, 1911. The condition of live stock at the end of March, expressed in the percentage of a standard representing a healthy and thrifty state, and denoted by 100, was, for horses 96, milch cows 92.58, other cattle 91.53, sheep 93.40, and swine 91. Only in Prince Edward Island, for cattle, in Nova Scotia for milch cows, in Ontario for cattle, and in British Columbia for cattle other than milch cows and for sheep, do the figures representing condition fall below a percentage of 90.

A. BLUE,  
 Chief Officer.

Dr. J. H. Bailey, of the New York College of Agriculture, says the general conditions attending farming are much better now than they ever were before, at least in his lifetime. He never knew them to be so favorable. Ten, even twenty, years ago, there was no inducement for a man to take to the soil. The prices of produce were not high enough; there were not enough facilities, like telephones and transportation of all kinds. Then, again, it is only recently that the sentiment of the people at large has come to uphold a man who goes into farming—that he can farm and be regarded as a gentleman. Years ago men did farm, and were gentlemen, even as they farm now and are gentlemen; but an intelligent change has come over the public opinion which held farming in wrong esteem."

Mr. R. Terry, formerly assistant poultryman at the O. A. C., Guelph, Ontario, and since January 1st, 1911, Provincial Poultry Instructor for British Columbia, has been appointed Chief Poultry Instructor for that Province. The vacancy caused by Mr. Terry's promotion has been filled by H. E. Epton, who for the past two and a half years has been poultry instructor under Professor A. Brown, at the University of Maine, Orono, Me. Mr. Epton is an ex-student of the O. A. C., Guelph, Ontario.



### A Warning.

A circular, issued by C. Gordon Hewitt, Dominion Entomologist, states that very large numbers of eggs of tent caterpillars, which have been present on apple, wild cherry and other trees during the past winter are now hatching, and the young caterpillars will soon make their conspicuous webs on branches and twigs of the trees.

During the spring and early summer of 1910 these caterpillars were extremely abundant in Eastern Canada, and were responsible for widespread and serious defoliation of fruit and shade trees. In all probability, they will be even more numerous and destructive during the present year. These caterpillars are very easily controlled in orchards, ornamental grounds, along roadsides, and on shade trees of town and city, if the webs in which the caterpillars shelter at certain periods of the day are removed. This can readily be accomplished by either burning the webs by means of a torch, or by cutting off and destroying the small branch bearing the web or nest. The best time for destroying the webs is during the early or late hours of the day; in the middle of the day the caterpillars are generally out of the webs feeding. If these webs are not removed while the caterpillars are small, many trees will, of course, be entirely defoliated, and, in consequence, seriously injured. When the caterpillars are seen to have spread over the trees, they may be killed by spraying the foliage with a Paris green mixture (using one pound of Paris green, one pound of unslaked lime, and 160 gallons of water), or arsenate of lead, three pounds in 40 gallons of water.

Orchardists and all citizens interested in the protection of our fruit and shade trees, should destroy as many of these webs as possible during the month of May.

### South Ontario Notes.

Editor "The Farmer's Advocate":

Spring has again arrived, but unfavorable weather conditions have so delayed the drying of the soil that little work was done on the land before May 1st. Wheat has come through in fine condition, and, owing to satisfactory returns last fall, a larger acreage than usual was sown. The new seeds which managed to survive the summer's drouth are looking well. From the demand for seed, we anticipate a large sowing to barley. Will we have \$1.00 barley next fall?

Clover-seed prices have taken a slight drop—at least locally—probably due to the fact that last year's crop was not nearly all threshed until this spring, on account of the quantity of snow making it impracticable for the traction engines to move from farm to farm.

Feed is unusually scarce, and the stock is coming out in rather poor condition, but healthy. Feeders of beef have not realized as much as they at one time expected, and, looking at it, we fail to see a very large margin of profit. Cattle were bought here all the way from 4½c. to 5c., and sold at from 6c. to 7c. for good stuff; the 7-cent cattle had to be good. But then, we find a large pile of manure or a nice-sized field already spread, and this is not to be despised, particularly the latter. We are looking for a shortage of feeders next fall, and, with the increased population, we are unable to see much chance of cheaper living for our urban friends.

Potatoes have been exceedingly scarce, but where good crops were harvested as high as \$100 to \$150 per acre was realized, in some cases (in our northern township, Uxbridge) on land worth less than \$50 per acre. Talk of the West no more. These were exceptional cases; in others the bugs took as toll more than their share, and the result was no potatoes.

The scarcity of farm laborers is being keenly felt, the railway construction taking the few available men, and they pay larger wages than the farmer can afford. The Government Immigration Offices were not much help, as they were away behind in filling applications.

We are expecting two railway lines to be run through the district quite close to each other, viz., the Electric, along the Kingston Road, touching the towns and villages; and the Canadian Pacific, which has actually commenced work; we certainly have no chance to complain at lack of railway facilities.

We are anticipating a change in the mail routes, thus giving more people the chance to benefit by the Rural Free Delivery. The rate-payers were unable to attract the attention of the late Government in this matter, but the present Government immediately took steps to investigate, upon receipt of a well-signed petition asking for the necessary change. May they not stop here.

Many silos are going up. Solid concrete is taking the lead. The feed scarcity has proved the value of the silo, still we occasionally hear prosperous farmers condemning them; but we think, upon close investigation, the cause of their disapproval will not stand. Everywhere last winter we heard the expression, "Was your silage frozen?" and the answer was always the same, except in a few cases where the silo was south of the barn, when the answer was "No." We heard one man state he intended to use building paper when filling, between silage and wall, in that part which would be fed during the coldest part of winter. He thinks he can then keep the frozen part level with the rest, and also prevent freezing to a certain extent. It may be worth a trial, anyway.

The spring freshet was the largest ever seen by the writer, yet no severe damage was done.

The scarcity of teachers is seriously felt. The trustees find they must pay higher and higher salaries, and a male teacher is almost a novelty. Ontario Co., Ont. F. H. W.

### Egg-laying Contest in B. C.

The International Egg-laying Contest, being carried on under the joint auspices of the British Columbia Poultry Association, Vancouver Board, and the Provincial Government, completed six months of its course on April 20th last. In Class No. 1, including Mediterranean breeds, one pen of White Leghorns produced 404 eggs, another 367 eggs, and a third 326. The first eight pens are White Leghorns, with a Buff Leghorn pen in ninth place, followed by five more pens of White, and then a pen of Brown Leghorns. In Class No. 2, composed of utility breeds, the pen of Buff Orpingtons leads, with 350 eggs; Rhode Island Reds are second, with 320 eggs; White Wyandottes third, with 317 eggs, and Rhode Island Reds in fourth place, White Wyandottes fifth, Silver-laced Wyandottes sixth, and Barred Rocks seventh. In all, there are 39 pens, of six pullets each, competing. The average price received for the eggs was 33 cents per dozen. It is interesting to note that the fowls in Class No. 1 consume more green food than those in the heavy class.

contested, and kept the enthusiasm of the vast audience at fever heat.

The entries for the breeding classes were more numerous than usual, that for Thoroughbred stallions being particularly noteworthy for the high-class character of the entries. Seldom, indeed, in a Toronto show-ring has a quartette of the famed old English breed, of so choice a type and quality, been seen together. Hasting, the entry of Patterson Bros., of East Toronto, who has carried off the premier colors on so many occasions, had his colors lowered by the beautiful entry of James Bovaird, of Brampton, in the bay six-year-old Selwick, Nasbaden, from the stables of Thayer Bros., of Aylmer, having to be content with third place; but he certainly did the color credit, and in less illustrious company is quite fit for much higher honors.

In the class for Standard-bred stallions, only two came out at the bugle's call, and both from the famous stables of Miss Wilks, of Galt. Mograzia, the invincible, was again to the front, ably seconded by his gray stable mate, Euxg.

Considerably more interest was manifested in the class for Hackney stallions on the line. Five of the world's greatest breed of equine aristocrats lined up for comparison, where, after being put through their paces, amidst the thunderous applause from their various admirers, the leader was found in the many-times champion, Derwent Performer, owned by G. H. Pickering, of Brampton. He is a horse of superb type, intensely classy in his style and action, but was closely pressed by the high-class entry of Miss Wilks, of Galt, in the Toronto champion of past days, Crayke Mikado, whose splendid carriage and style of going were favored by the judges over the brilliant quality and sensational all-round action of the Ottawa champion, Terrington Semaphore, from the Bedford Park stables of Graham & Renfrew.

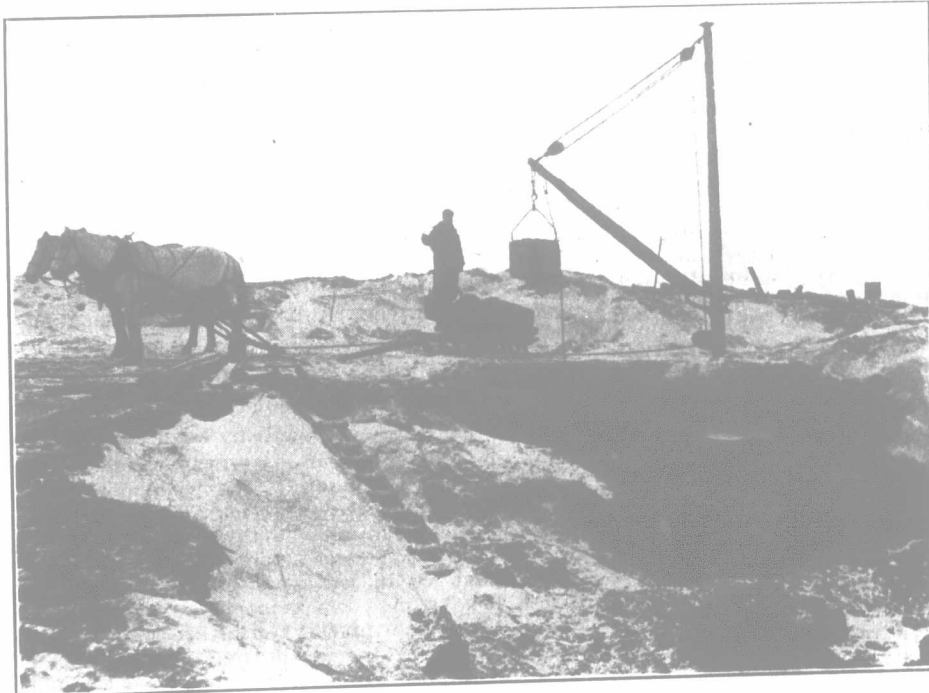
It was a little difficult from the outside to understand the placings in the class for Hackney mares, any age, shown on the line. The sensational entry of the Hon. R. Beith, of Bowmanville, looked like a sure winner, but she was not in favor with the judges. The entry was an essentially high-class one, the awards going to Lochryan Princess, owned by E. B. Clancy, of Guelph; Lounsbrough Madge, owned by Crow & Murray, of Toronto; and Holyport Polacco, owned by Dr. McPherson, of Toronto, in the order named.

Stallions in harness, although open to any breed calculated to improve the type of heavy-harness horses, were represented by Hackneys only. Terrington Semaphore and Terrington Narcissus, both exhibited by Graham & Renfrew, of Bedford Park, and Brookfield Laddie, exhibited by A. Yeager, of Simcoe, were awarded the ribbons in the order named.

Clydesdales in harness were splendidly represented by entries from the stables of the Dominion Transport Co. and John Larmon, Toronto. The Dominion Transport Co. won all the awards in the singles, and first and second in the teams, Larmon getting third on team.

### HEAVY HARNESS HORSES.

The entries in the several classes for horses in harness, both in double and single events, showed a falling off, compared with entry in the same classes for the several years past. Whether this is in any measure due to the invasion of the automobile on the sacred precincts of the horse-breeding industry, or whether the owners of high-class harness horses were tardy in making entries, does not on the surface appear to be easily explained. Our own opinion is that the auto is gradually replacing fancy harness horses. Although, in the majority of events, both double and single, tandem and four-in-hand, the competition was light, the quality of the entries was never higher. A. Yeager, of Simcoe, came out to win, and win he did; his entry was particularly strong, and he won considerably the largest number of awards of any one exhibitor, including the single and double championships, the King Edward challenge cup, four-in-hand, and best collection of three harness horses. Next in order of winnings was T. A.



Hoist for Raising Gravel.

See article, page 838, issue of May 2.

### Canadian National Horse Show and Military Events.

Favored with ideal weather, and in the presence of upwards of three thousand of Toronto's elite society, the eighteenth annual Canadian National Horse Show, with military events, was officially opened by His Honor Lieutenant-Governor Gibson, in the Armories, Toronto, on Tuesday evening, April 30th, who, in a few well-chosen remarks, congratulated the management on the remarkable growth of the show, which, from a modest beginning eighteen years ago, had developed into an institution whose reputation was not confined to this side of the line, nor to this side of the Atlantic. Greater effort and care appeared to have been exercised this year than usual in the decorations, which presented a truly magnificent picture, backed up as they were by the brilliant costumes that filled the fifty-odd boxes and long tiers of seats. It is the society event of the year in Toronto, and that Toronto society is loyal to the show, was manifestly evidenced by the large and representative crowds that attended every session from the first blast of the bugle to the crowning event for the premier honors of high-jumping. It is a great show, and well worthy of the attendance, for the picture presented within the four massive walls of the Armories, with the performances of the equine aristocrats in harness, on the rein, and under the saddle, is one of extreme interest. Many of the events were closely







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ESTABLISHED 1867

Capital, paid-up, \$11,000,000.

Rest, \$9,000,000.

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MARKETS

Toronto.

At West Toronto, on Monday, May 6, receipts of live stock numbered 121 cars, comprising 2,415 cattle, 867 hogs, 30 sheep, 23 calves; quality of cattle generally good, with a few choice loads. Exporters, \$7.25 to \$7.50, and one load at \$7.60; butchers' steers, heavy weights, 1,100 to 1,200 lbs., at \$7 to \$7.25, and one load \$7.50; steers, 1,000 to 1,100, \$6.75 to \$7.10; medium, \$6.40 to \$6.70; common, \$6 to \$6.35; inferior, \$5 to \$5.75; cows, \$3 to \$6.50; bulls, \$4.50 to \$6; milkers, \$4 to \$7.50; one at \$85. Sheep—Ewes, \$6 to \$7.35; yearlings, \$8 to \$9 per cwt.; spring lambs, \$4 to \$7 each. Calves, \$1 to \$8 per cwt. Hogs, \$8.75 fed and watered, and \$40 f. o. b. cars.

REVIEW OF LAST WEEK'S MARKETS The total receipts of live stock at the City and Union Stock-yards last week were as follows:

Table with 4 columns: City, Union, Total. Rows for Cattle, Hogs, Sheep, Calves, Horses.

The total receipts of live stock at the City and Union Stock-yards for the corresponding week of 1911 were as follows:

Table with 4 columns: City, Union, Total. Rows for Cattle, Hogs, Sheep, Calves, Horses.

The combined receipts at the two yards for the past week, show an increase of 8 carloads, 1,969 hogs, 959 calves, and 14 horses; but a decrease of 122 cattle, and 1,756 sheep, in comparison with the corresponding week of 1911.

Receipts were moderately liberal in most classes of live stock last week. Trade was good, with a firm undertone in every department. While prices were firm at the latter end of the week, the prices recorded were no higher than those quoted on Monday at the Union Stock-yards.

Exporters.—Export steers sold from \$7 to \$7.50, but only one load at the latter figure. Export bulls, \$5.75 to \$6.25, or an average price of \$6.

Cow, Inc. & Co. bought an order for the S. & S. Co., 173 export steers, 1,250 lbs. each, at \$7.39 average price.

W. J. Mcintosh bought for J. Shilling & Son, 141 export steers, 1,225 lbs. each, at \$7.39 average price, with \$6 average price.

Butchers.—Steers of export weights were bought by Toronto and Montreal abattoirs at \$7 to \$7.30, and some medium animals of choice quality, at \$7.50 to \$7.50, and \$7.60 prime cattle, butchers' weights of 1,000 to 1,400 lbs., at \$7.50 to \$7.70; good steers and heifers, \$6.75 to \$6.75; medium, \$6 to \$6.40; inferior, \$5.25 to \$5.75; inferior steers, \$4.50 to \$5; cows, \$3.50 to \$6.50; bulls, \$5 to \$5.75, and some choice quality bulls, 1,200 to 1,500 lbs., were bought by the abattoirs at \$6 to \$6.50.

Feeders and Stockers.—A few lots were offered and sold as follows: Steers, 900 to 1,000 lbs., \$5.75 to \$6.15, the latter price being paid for one load on Thursday, weighing 1,000 lbs.; stockers, 450 to 800 lbs., sold at \$4.75 to \$5.25.

Milkers and Springers.—Trade in milkers and springers has been active during the week, and more of the good to choice cows would have sold. Two carloads were shipped to Quebec at an average of \$73 each, and one carload to Montreal, at an average of \$64 each. The bulk sold at \$60 to \$70 each, some few brought \$75, \$80, \$85, and one \$90, and another \$100.

Veal Calves.—Receipts large; prices steady. Bobs sold at \$2.50 to \$3 each; and medium to good, \$4 to \$7 per cwt.; choice veals, \$8 to \$8.50, but few brought these figures.

Sheep and Lambs.—Market firm, and prices higher. Ewes, \$6 to \$7; rams, \$4.50 to \$5.50; spring lambs, \$3.50 to \$7 each.

Hogs.—At the close of the week hogs sold at \$8.85 for selects fed and watered, and \$8.50 f. o. b. cars at country points.

Horses.—The regular weekly auction sale at the Union Horse Exchange, Union Stock-yards, was attended by buyers from many outside points. The horses offered were principally heavy drafters of choice quality, many of which were purchased by the local cartage companies. The prices realized were as follows: Drafters, \$175 to \$250; general-purpose horses, \$160 to \$200; expressors, \$160 to \$220; drivers, \$75 to \$150; serviceably sound, \$30 to \$90 each. These are average prices.

BREADSTUFFS.

Wheat.—No. 2 red, white or mixed, \$1 to \$1.01, outside points; Manitoba No. 1 northern, \$1.20; No. 2 northern, \$1.17; No. 3 northern, \$1.14, all rail, Toronto. Oats—Canadian Western, extra No. 1 feed, 53c; No. 1 feed, 52c, all rail, Toronto; Ontario No. 2, 49c, to 50c; No. 3, 47c, to 48c, outside points; No. 2, 50c, to 51c, track, Toronto. Rye—No. 2, 85c, per bushel, outside. Peas—No. 2, \$1.20 to \$1.25, outside. Buckwheat—72c, to 73c, per bushel, outside. Barley—For malting, 85c, to 87c. (47-lb. test); for feed, 55c, to 60c. Corn—American No. 3 yellow, all rail from Chicago, 85c. Flour—Ninety-per-cent, Ontario winter-wheat patents, \$3.90 to \$4, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.70; second patents, \$5.20; strong bakers', \$5, in jute; in cotton, \$5.10.

HAY AND MILLFEED.

Hay.—Baled, scarce, and prices higher. No. 1 offered, and No. 2 is quoted at \$20 per ton, car lots, track, Toronto. Straw.—Baled, car lots, track, Toronto, \$9 to \$10 per ton. Bran.—Manitoba bran, \$25 per ton; shorts, \$27; Ontario bran, \$25 in bags, shorts, \$27, car lots, track, Toronto.

TORONTO SEED MARKET.

Following are the prices at which cleaned seeds are being sold to the trade: Alsike No. 1, per bushel, \$15 to \$15.50; alsike No. 2, \$13 to \$14; red clover No. 1, per bushel, \$15 to \$15.50; red clover No. 2, per bushel, \$13.50 to \$14.50; alfalfa No. 1, per bushel, \$11 to \$12; alfalfa No. 2, per bushel, \$9.50 to \$10.50; timothy No. 1, per cwt., \$17.50 to \$18.50; timothy No. 2, per cwt., \$15.50 to \$16.50.

COUNTRY PRODUCE.

Butter.—Receipts liberal, and prices lower. Creamery pound rolls, 30c, to 31c; creamery solids, 27c; separator dairy, 27c; store lots, 25c.

Eggs.—Receipts large, but owing to high prices of most more eggs are being consumed, and prices are firm, at 23c, to 24c, for case lots of No. 1 eggs.

Cheese.—New, 15c, for large; 16c, for twins; old, 16c, for large, and 17c, for twins.

Beans.—Market steady, at \$2.40 to \$2.50 for primes, and \$2.60 to \$2.75 for hand-picked, in broken lots.

Potatoes.—Ontario, stock, car lots, track, Toronto, \$1.75, to \$1.85; New Brunswick, Delaware, \$1.90, car lots, track, Toronto.

Poultry.—Receipts light, but equal to demand, as spring lambs and veal have

largely taken the place of fowl. Chickens, dressed, 18c, to 22c; fowl, 14c, to 16c; turkeys, scarce, at 18c, for gobblers, and 23c, to 25c, for hens, but few of the latter are being offered.

Honey.—Extracted, 13c; combs, per dozen sections, \$2.50 to \$3.

HIDES AND SKINS.

Prices for hides and skins at Toronto for the past week: No. 1 inspected steers and cows, 12c; No. 2 inspected steers and cows, 11c; No. 3 inspected steers, cows and bulls, 10c; country hides, cured, 11c; green, 10c; calf skins, 13c, to 16c; sheep skins, \$1 to \$1.45 each; horse hides, No. 1, \$3.25; horse hair, per lb., 33c; tallow, No. 1, per lb., 5c, to 6c.

FRUITS AND VEGETABLES.

Apples.—Spies, \$4 to \$6 per barrel; Baldwins, \$3 to \$4.50; Ben Davis, \$3 to \$3.50; Russets, \$2.50 to \$4.50; Canada Reds, \$2.50 to \$4.50. Onions, Egyptian, sack, \$3.50; parsnips, per bag, \$2.25; turnips, 85c; carrots, per bag, \$1.90; cabbage, per case, \$4.50; beets, per bag, \$1.50; celery, \$2.50 to \$3.50; cucumbers, per dozen, \$1.75; cucumbers, hamper, \$3.50; evaporated apples, 10c, to 12c, per lb.

Montreal.

Live Stock.—The local market for cattle was good this week. The quality of the offerings showed an improvement, and the attendance of buyers was very good and demand was fairly brisk. Some choice steers sold as high as 7c, per lb., while fine stock sold at 7c, to 7c, good at 6c, medium at 6c, to 6c, and common at as low as 4c. The market for sheep was firm, owing to a slight scarcity of stock, and sales took place at 6c, to 6c, per lb. Spring lambs were in good demand, and prices ranged from \$4 to \$7 each. Calves sold well, and the milk-fed stock brought from 10c, to 11c, per lb. Milch cows were steady, at \$75 to \$80 each, for choice, common selling down to \$60, while springers sold at \$40 to \$50 each. The demand for hogs was good, and prices ranged from 9c, to 9c, per lb., weighed off cars. Shipments of live stock from the various ports from which Canadian stock is shipped were as follows during the past season: St. John, N. B., to London, 2,012 cattle and 1,798 sheep; from Portland to Liverpool, 4,094 cattle and 5,102 sheep; from Portland to London, 2,215 cattle. The total for the season amounted to 8,351 cattle and 6,900 sheep.

Horses.—The market for horses is very strong. There is a good demand here for the heavier types of draft horses, these being evidently in favor with the transportation companies which perform the work of carting. Navigation should be getting its swing in a day or two now, and as it has been delayed this season, it is likely that there will be a rush of work for the horses for some time to come. The supply of choice horses in the country is anything but large, and holders are asking high prices for everything they own. The result is that dealers are compelled to pay up for their stock. Prices may even be \$10 to \$25 above the following quotations in some instances: Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$300 to \$350 each; light draft, 1,400 to 1,500 lbs., \$225 to \$300 each; light horses, 1,000 to 1,100 lbs., \$125 to \$200 each, and broken-down animals, \$50 to \$100. Choice driving and saddle horses, \$350 to \$500.

Dressed Hogs.—The market for dressed hogs is exceptionally strong, in sympathy with the market for live. Fresh-killed, abattoir-dressed hogs sold as high as 13c, to 13c, per lb.

Potatoes.—The market for potatoes continues firm. Green Mountains are costing \$1.75 to \$1.80 per 90 lbs. carloads, track, here, and other qualities range all the way down to \$1.50 and less. They sell, bagged, at about 20c, more in loads of a dozen or more bags.

Syrup and Honey.—The make of syrup was of fair-sized volume and quality this year, though it was nothing extra. The

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INCORPORATED 1855

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market holds firm, and demand very good. Syrup is about 7c, to 7c, per lb. in wood, and 65c, to 75c, per tin. Sugar sells at 11c, for choicest. The market for honey is dull and steady. White clover comb is 10c, to 11c, per lb., and extracted is 8c, to 10c. Dark comb is 7c, to 8c, and extracted is 7c, to 8c, per lb.

Eggs.—The market continues exceptionally strong for this time of year, there being practically no indication of a decline. Country points seem to be demanding 22c, and prices here are 23c, wholesale, and 24c, in smaller lots.

Butter.—This market is one cent better than a week ago, Cowansville selling at 27c; prices here ruling at 27c, to 28c. The grass has hardly begun to grow here yet, the season being exceptionally late.

Cheese.—The market continues to decline, and the quotations are now down to 12c, and 13c, here.

Grain.—The market for oats showed very little change. No. 2 Canadian Western was 54c; No. 1 extra feed was 51c; No. 1 feed, 51c; No. 3 Canadian Western, 50c; No. 2 feed, 49c; No. 2 local, 50c; No. 3 local, 49c, and No. 4 local, 48c.

Flour.—The market for flour is steady. Manitoba spring wheat, first patents, \$6.10 per barrel; seconds, \$5.60, and strong bakers', \$5.40 in wood. Ontario patents, \$5.10 to \$5.35 in wood; straight rollers, \$4.65 to \$4.75. Bags are 30c, per barrel less.

Millfeed.—There is a very active demand for millfeed of all kinds, and the lateness of the spring makes this demand all the keener. Bran is \$25 to \$26 per ton, in bags, and shorts \$27 to \$28; middlings, \$29 per ton; pure grain mouille, \$31 to \$38, and mixed, \$28 to \$32.

Hay.—The market is extraordinarily strong. No. 1 hay, \$17.50 to \$18.50; No. 2 extra, \$16.50 to \$17; No. 2 good, \$11.50 to \$15; No. 3 hay, \$11.50 to \$12; clover mixed, \$10.50 to \$11.

Seed.—Timothy, 14c, to 19c, per lb., and red clover and alsike are 22c, to 26c, per lb.

Hides.—The change last week was in calf skins, these being up to 16c, per lb. for No. 2, and 18c, for No. 1. Seldom have prices been as high as this before. Beef hides are 11c, 12c, and 13c, per lb. for Nos. 3, 2 and 1, while sheep skins are \$1.10 each, and horse hides \$1.75 and \$2.50 each, according to quality. Tallow, 1c, to 2c, per lb., for rough, and 6c, to 6c, for rendered.

Buffalo.

Cattle.—Prime steers, \$8.10 to \$8.75; butcher grades, \$4 to \$8.25.

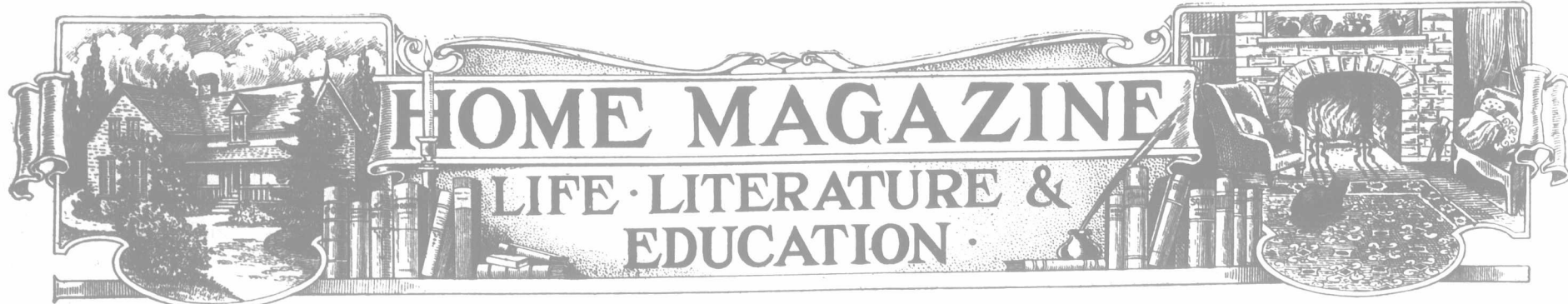
Calves.—Cull to choice, \$6 to \$9.25.

Sheep and Lambs.—Choice lambs, \$9.25 to \$9.50; cull to fair, \$7.25 to \$9; wool lambs, \$9 to \$10; yearlings, \$7.75 to \$8.25; sheep, \$4 to \$7.50.

Hogs.—Yorkers, \$7.80 to \$7.90; pigs, \$6.90; mixed, \$7.90 to \$8; heavy, \$7.95 to \$8; roughs, \$6.50 to \$7; stags, \$5.50 to \$6.

(Markets concluded on page 902.)





**The Sand Dunes of Prince Edward County, Ont.**

By A. B. Klugh.

On the Lake Ontario shore, two miles east of Wellington, Ontario, there is a locality of unusual interest. It is a region of active sand dunes. Here one may gaze over billows, hills, and almost mountains of sand, as far as the eye can reach; here one may see the tall elm trees, which a few years ago stood in a luxuriant pasture, buried so that only the top projects; here one may gather apples from the higher limbs of apple trees without reaching upward.

This is the condition of the locality to-day. Let us inquire as to the origin of these dunes, and as to their condition in the past.

The requisites for the formation of dunes are a gradually sloping, sandy shore, and exposure to prevailing heavy winds. The waves carry the sand up on the beach; here, when the storm subsides, it dries, and is carried inland by the wind. At the dunes in Prince Edward County, it is the south-west winds which are the main sand-carriers. The sand is carried inland until the force of the wind is broken by some obstacle, such as a piece of driftwood, a stone, or more usually a plant. Then the load of sand is deposited around and just beyond the obstacle. Thus an embryo dune is formed. As the dune grows, it buries inanimate objects, but if the obstacle is a plant, such as the beach grass or a clump of one of the sand-inhabiting willows, the plant elongates, and more and more sand is deposited.

This goes on until the death of the plant, when the sand is once again picked up by the wind and carried inland to a distance where the force of the wind is diminished. Here there is formed a dune with a gentle slope of about five degrees towards the water, and a steep slope of about 30 degrees (which is the steepest angle at which dune sand will lie) towards the land. As the wind brings more sand up the gentle windward slope, it rolls down the steep lee slope, and thus the dune advances. It is now known as an active dune, and advancing inland buries fields, houses, orchards and forests.

At some period in the history of the dune but little sand may be brought inland. Then the dunes become clothed with herbs, such as the beach grass, beach wormwood, rye grass, and finally with trees. The dune is then spoken of as a "fixed dune." This was exactly the condition of the dunes of Prince Edward County about 100 years ago. They were near the shore of the lake, and covered mostly with cedar, with some cottonwood, paper birch, poplar and elm intermingled. That these dunes were fixed at some period is evident to the botanist from the remains of the fixed dunes still existing, and that this condition existed about 100 years ago is vouched for by Mr. William Hyatt, whose grandfather was one of the first settlers in the region.

About 75 years ago the cedars had been cut from these dunes to such an extent that the wind was able to get at the sand and the dunes became "rejuvenated," and again sand dunes. First, troughs, or "wind-swept" as they are termed, were made, and the roots of the trees on their windward sides exposed, and the trees fell on the sides of the trough. This condition of the dunes near Wellington is shown in the picture painted 50 years ago, in the possession of Mr. Whattam, of the Lake Shore House.

To-day, there remains but a few remains of the fixed dunes in the position indicated on the map. Some of these at

the east end of Big Sandy Bay are about 150 feet in height. On their crests are cedars and other trees over which bitter-sweet and foxglove climb luxuriantly.

The main body of sand has travelled inland until, where the dunes stood 50 years ago, is now a moist, sandy flat, which is covered with water in the spring, and in the summer and fall supports a scanty growth of rushes, flat-topped golden-rod, Kalm's lobelia, silverweed, old witch grass, and young willows.

little whenever a strong wind blows. Then the sand may be seen sifting over the surface of the dunes exactly as snow drifts in the winter time. But the main advance takes place, according to local testimony, in the winter, when a mixture of sand and snow is carried along with tremendous force.

Some efforts have been made to stay the advance of the dunes, but these have been misdirected and practically useless. On the crest of the dunes, near the Evergreen House, willow stakes have been

should alternate with those of the next. Two plants of beach grass should be placed in each hole, and the sand pressed in firmly with the foot.

After the beach grass has become established, one of the sand-inhabiting willows (*Salix sylvicola*) should be planted among it, and after this young cedars and white pines should be set out. Thus may a forest be established, and the dunes fixed.

Visitors to this interesting locality will find accommodation at the Lake Shore House, reached from Picton by stage, which is right in the area of the highest dunes.



Map Showing Dunes.

In many places may be seen the remains of trees once buried and killed by the dunes, and now resurrected, as the dunes have passed on. Old soil-lines also mark the level at which turf once existed.

Now the dunes have swept inland and occupy the position shown on the map. The advancing lee slope is about 60 feet in height, and advances, according to local estimates, about 40 feet per year.

planted. Many of them are nearly buried, and nearly all are dead or dying. Further north a close fence of cedar brush has been placed, and this has temporarily retarded the sand from advancing on the road.

In order to check the advance of sand dunes, it is necessary to work on the area from which the sand comes, and not on the area it is going to. The first step is to plant beach grass extensively



Elm tree (at left) and poplars (at right) buried by dune.

At the east end, the dunes are burying a mixed forest, and the road from Wellington has had to be lifted three times during a comparatively few years.

To the north they are coming down the hill and are burying some of the best crops, and are also burying the Evergreen House, and a new hotel. To the south they are burying an orchard, and a few years ago they covered all but a few rods of a 70-acre farm. The wind is still advancing and will take the same advance a

on the windward slopes. The beach grass should be taken from areas where it is thick enough to stand the removal of a portion of the plants without injury. There are several such places on the dunes near Wellington. Two-year-old plants should be selected—these may be known by the fact that they have two nodes. Holes should be made, by a backward and forward movement of a straight-bladed spade, in a row at right angles to the prevailing winds, and 20 inches apart. The rows should be 20 inches apart, and the holes of one row

**A Potato-Growing Contest.**

Those who have been interested in the Pearson Flower Garden Competition for Peel County, will also be interested to hear that a competition has been instituted in Carleton County—this time in potato-growing. This competition is restricted to boys between twelve and eighteen years of age, and the prizes, donated by Mr. R. B. Whyte, of Ottawa, the well-known horticulturist, and originator of the "Herbert" raspberry, are as follows:

- First prize—\$15 and silver medal.
- Second prize—\$12 and silver medal.
- Third prize—\$10 and silver medal.
- Fourth prize—\$8.
- Fifth prize—\$6.
- Sixth prize—\$4.

The stipulations in regard to the contest are: That each competitor must operate a plot of exactly one-tenth of an acre; that the variety of potatoes grown must be of good quality, such as Carman No. 1, Vermont Gold Coin, or Green Mountain; that each competitor must do all the work himself except in case of the younger boys, who may be assisted with the heavy work, as plowing; that an accurate account must be kept, showing total expense and profits of the enterprise, the scale of charges to be estimated as follows: Rent of land \$3 per acre; each horse 10 cents per hour; each boy 10 cents per hour; each man 20 cents per hour; stable manure \$1 per ton; seed, at market price per bushel; spraying material at current prices. Finally, a complete record of the work, etc., is to be kept, and written out in full in story or history form.

To facilitate the success of the enterprise, pamphlets containing directions for successful potato-culture have been prepared and printed for distribution among the competitors, and a committee has been appointed in charge of the contest. As will be seen, the names of those on the committee are sufficient guarantee of the enthusiasm and thoroughness with which the venture will be supervised:

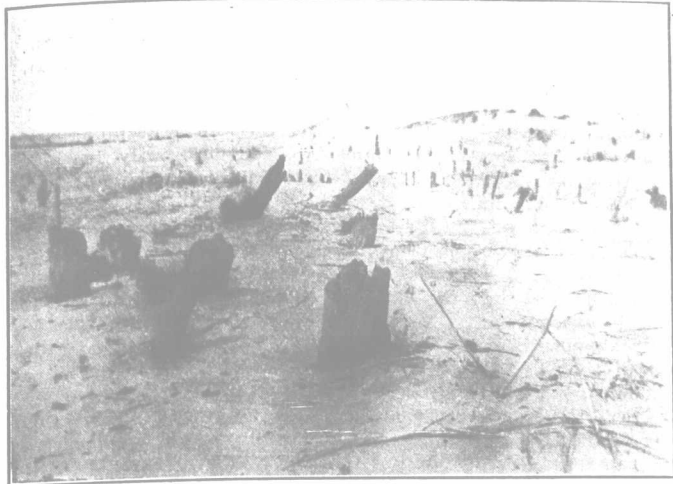
- Chairman—Mr. R. B. Whyte, Ottawa.
- Secretary—Mr. L. H. Newman, Secretary Canadian Seed-growers' Association, Ottawa.

Mr. W. D. Jackson, Agr. Rep. for Carleton Co., Carp.

Mr. W. T. Macoun, Horticulturist Central Experimental Farm, Ottawa.

It is with pleasure that we give space for these details. Such competitions are good for the country. They promote none of the spirit of a harmful emulation, and they provide a stimulus to much greater ends than may at first appear. Two store-keepers living side by side may, perchance, look with envy and bitterness on each other's successes, and, in so feeling, be so much the worse men. Two boys living side by side may engage, say, in this potato-growing contest. One may win a prize, the other none, yet the latter has much to the good. He has learned something of the spirit of independence, of depending upon





Resurrected Forest.

Now on windward slope of dunes. The trees were mostly cedars.



Apple-picking Made Easy.

A Russet tree half-buried by a dune.

himself for certain results; he has found out something of the absorbing interest of growing things; he has learned that physical labor is really good for both body and soul, that, furnished with a sufficient motive, digging and hoeing may be as enjoyable as football or baseball, perhaps immeasurably more so; and, lastly, he has something to show for his summer's work,—his potatoes, potatoes of which he may be proud, potatoes better, it may be, than any his father has ever grown!

He has had the whole summer's fun of the contest, he has learned many things by experience, he has formed a good foundation upon which to work the next year, and he has provided a fine fund of conversation to boot.—How he and Jack Jones over the way, who won the prize, will talk potatoes!—In short, he has gained a new interest in life.

A new interest in life.—Just think of it! Did you yourself ever yet do anything with perfect satisfaction unless you had a real interest in it? The boy needs interest and interests. He needs to form a habit of having interests and of being interested. It is all very well to grow an Al potato, or to sell potatoes at a good price. It is all very well to grow flowers and to realize their aesthetic value. But, after all, does not the greatest value in any of these undertakings lie in just this—their power to add a something to care about and think about in life that was not there before.

It is interest that makes labor light and life worth living. Put a boy into a potato-field and tell him he "has to work it or take a thrashing," and it is a heavy-handed, soured boy who drags up and down the rows, a worse boy in so far than he was before. Put him in it, however, with the spur of growing an Al potato on his own hook, in contest or for exhibit, and you furnish him with a motive. You may expect to see him make the hoe fly thinking it as good a game as football every minute of the time. If you don't believe this, try it on your own boy, and if the experiment does not succeed, you may probably lay it down to some mistake in your own handling of the matter.—If you don't believe this last statement, pay a visit to the Broadview Boys at work on their "farm" in Toronto some day, and have a chat with the superintendent.

Boys need some such motive. They are only boys. You can't expect them to have old heads on their shoulders, nor that they shall be willing to work lustily, steadily, and enthusiastically, year in and year out, for your sole benefit, without any personal interest whatever in the matter. You wouldn't do it yourself for any other man. Stimulate their interest while young, however, and you need have no fear that it will drop just as soon as direct home influence and the age for such boys' competitions has been past. The thoroughly interested boy makes the thoroughly interested man, liking work for the work's sake, bent on producing the best results possible, alert, eager to learn, to put into practice, and to make life a full and happy possession, instead of an empty and meaningless period of boredom.

In the United States corn-growing and other competitions have been found of great value in stimulating youthful effort. Last year, indeed, 55,000 boys in that country took part in demonstration

corn-growing contests, and 3,000 girls in tomato-growing contests. It is gratifying to see, by this potato-growing contest inaugurated by Mr. Whyte for Carleton County, and the flower-garden competition instituted by Mr. Pearson for Peel County, that the fashion is creeping, surely, if slowly, into Canada. We shall be glad to announce any movements of a similar nature which may be set afoot by enterprising individuals or societies in other counties.

### The Roundabout Club Gardening.

(One of the prize essays, Study V.)

Someone has said that if you are wise you will begin your garden in the fall, but I believe you should begin it in childhood. There are so many things to be learned in a garden, and impressions are so much more easily made in childhood. Blessed is the child who has a corner of mother's garden in which to revel.

What funny mistakes the children make! The way they pull up their plants to see if they are growing, and the amount of water they will carry just before, or more likely just after, a big rain when there is plenty obtainable, are amusing things to older people. Take care! Do not "children of a larger growth" do much the same thing in other gardens? How about the mistakes you make yourself? There was that first hotbed of yours. You were so sure you had done everything necessary to make it a success. Then you raced out every little while to see if the temperature was just right. To make sure, you raised the sash every time you went, and the result was that the heat passed off too quickly, and so many of your seeds failed that you almost vowed you would never try again. But you did the next year, and nearly roasted your plants.

You learned at last how to manage that part of your garden, but you find some difficulty teaching others some things you learned from mother so long ago that it seems as if you knew them by instinct.

For instance, the difference between the leaves of some useful plants and some

weeds. Did you ever notice the remarkable faculty weeds possess of appearing among the plants they most resemble? Twice I have had my carrots nearly all weeded out, because the leaves of the carrot and Mayweed are so much alike. The same thing has happened with parsnips, but it was marshmallow, not Mayweed, that grew among the parsnips. It does not matter how you move those two vegetables around in your garden from year to year, the Mayweed always chooses carrots for chums, and the marshmallow has a perfect passion for the companionship of the parsnips.

But weeds are quite unintentionally responsible for much of your enjoyment of your garden. The cultivation necessary to subdue them is also the necessary thing to promote growth in your beloved plants.

Added to the pleasure of seeing your plants grow, you feel the exultation that comes from winning in a stiff fight. You feel like one of the knights of olden time as you sally forth to conquest, armed with a garden cultivator as a battle-axe, and wearing an old straw hat as a helmet. Like David, you slay your ten thousands, but those Philistines (otherwise weeds) seem as numerous as ever after the next shower. Someone has said that William the Silent showed his great generalship in the way he filled his depleted ranks. Measured by that standard, Purslane is one of the greatest generals the world has ever seen.

You persevere manfully, and learn that in gardening, as in most things of life, the joy of doing and the joy of anticipation are sure rewards, surer than some others, and that persistent endeavor usually spells success. You almost smell the roses when you prick your hands pruning the bushes, and if you are counting your currants in the blossom, perhaps that is just what the robin in the maple is doing. While you are smiling at the prospect of dinners from the vegetable garden and bouquets from the flower garden, possibly the cutworms and various hosts of a like nature are having a banquet, the cost of which you had not reckoned.

And the chickens? Bless your heart, they know a garden when they see it, and if their idea of gardening is a little bit erratic, they must be given credit for

knowing a good thing, and for indefatigable industry and perseverance in pursuing it. They know perfectly well that a ripe, luscious strawberry, is food fit for a king or a hen, and that tomatoes, like a pretty girl, are very attractive when they blush. You learn at last how to control many of your enemies, and that in gardens, both physical and moral, the good seems to grow slowly compared with the evil. But there is this difference between the gardens. In the moral garden the bitter may flavor the whole but, as E. P. Roe points out, Dame Nature is the greatest alchemist known. You may plant strawberries and onions together without affecting the flavor of either, and so also the horehound and watermelons. The prettiest moss roses I ever saw were grown in the middle of a potato patch.

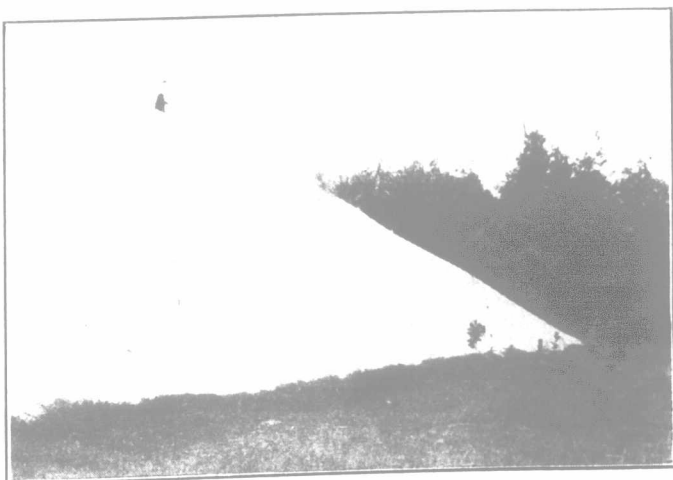
The last joy gardening brings is, like many other last things, the best. It is health. All ye who are afflicted with nerves, whose nights are restless and sleep broken, go out into the garden three or four hours each day and work. "Ye good gigantic smile of ye brown earth" is as good a medicine as a merry heart. If you cannot sleep after two weeks' course of nature study of that sort, it must be a clear case of guilty conscience. It will not be the fault of the gardening.

MRS. J. H. TAYLOR.

Bobcaygeon, Ont.

### SOME MORE ECHOES. THROUGH THE ICE-FIELDS OF HUDSON BAY.

There is one echo which almost clamors for a mention to-day, although I had reserved it for much later reference as incidental to a travel story of some sixty years ago, when, in my early girlhood, my mother, my sister and myself entered together upon one of the most eventful periods of our lives, my mother having undertaken mission work under Dr. Anderson, the first Bishop of Rupert's Land. I am writing at this moment at a little haven of rest in the Niagara district, where I have none of the old notes to keep me accurate in my dates or to remind me of some of the awe-inspiring scenes of that passage through the ice-fields of the Hudson Bay region, so I will not attempt much detail until such time as it may dove-tail in with my longer story. But so vividly do those scenes present themselves to my mind's eye, and so clearly are repeated in my ears the mysterious sounds which broke the stillness of those ice-deserts in Hudson Straits, that I find it hard to take up another topic whilst the press has daily more and more to tell us of that dread calamity of the 14th of April last. I can have nothing to say which can throw light upon that tragedy; I can only recall, with the deepest of thankfulness, how wisely and carefully, untiringly and skillfully managed by its skipper, officers and crew, was the good ship "Prince of Wales," which came sailing safely into port at York Fort, on the shores of Hudson Bay, some two or three months after leaving Gravesend in June, 1851. As far as I remember, our ship, as well as her companion, the "Prince Albert," which (after coming occasionally within hailing distance of us) also survived all ice perils and reached Fort Churchill in safety, was built of wood only, but of wood so solidly welded that



Dune Encroaching Upon a Field.

A few years ago the road ran there. The sand is now piled about 60 feet high.



Dune Burying a Forest.

The trees are cedars, about 60 feet high. Now, about eight feet only remain uncovered.



it withstood every concussion without coming to grief. The idea of compartments, even if there had been room for them, had not entered into the ship-building possibilities of those early days, and I can remember the captain speaking of the substitution of steam for good old-fashioned sails on the Hudson Bay route as being most improbable. "Why, child," he would say, "What's your hurry? The slower we go when we get into the ice, the safer we are. The blows we get don't hurt us half so much when we take them 'easy.' Now, you watch that big 'berg which we're coming to presently. We know just where its worst danger lies, below not above, and so we give it a wide berth. 'Tis caution does it, missey, with never a sleepy eye in the Crow's Nest."

Just now every tongue seems busy asking or answering questions, every theory is being brought forward as to what should or should not have been done to avert the tragedy of a week ago; praise and blame are being unevenly distributed, whilst those who might have spoken with accuracy, because of their official knowledge and responsibilities, have passed beyond the reach of human commendation or censure. Of all that transpired before and after the deadly blows were struck deep down below the surface of those cruel waves, there is much more to be revealed and many a lesson to be learned, not only in careful seamanship, in theories of ship construction whereby to be prepared for every vicissitude at sea, but also by the attitude of mind of those who, because of their wealth and luxurious habits, demand wider and still wider space for the indulgence of the same, and a higher and yet higher rate of speed between shore and shore. By and by, when truth is sifted from fiction and somewhat of the nightmare horror has faded away from the minds of the survivors of that terrible night, calmer judgment will prevail, and the possibility of a repetition of such a catastrophe, humanly speaking, be averted. Perhaps there could not possibly be any time more fitting than the present for the lessons to be learnt by the fate of the Titanic, for if these lessons are taken to heart now, many lives, not of rich passengers, but of brave seamen, may be saved and valuable cargoes, the produce of the almost limitless wheat fields of the Northwest, carried safely to the British markets. The icy straits of Hudson Bay, through which I so well remember passing long years ago, are to be navigated not by just two strong, sturdy sailing vessels only, but by fleets of steamers for several months in the year. One of the facts I so well recall is that the Hudson Bay Company never sent either of its yearly ships without providing for the possible contingency, which from time to time did occur, of their being blocked in the ice for a whole year, not getting into port until the next season.

It was a standing joke with our good Captain—"Don't you be afraid to eat a good dinner, missey; there's a plenty for a year to come too, and a good Christmas pudding in our larder below if we can't land you safe at York Factory this fall." Safety was never to be sacrificed to speed, but, all the same, no effort was left unused, no caution spared to ensure making use of every outlet, of every passing breeze which would bring the good ship "Prince of Wales" a little nearer to her haven on the home shore of Hudson Bay. Even in these days of wondrous inventions it is well to remember the watchword of our good old Captain. "Tis caution does it, with never a sleepy eye in the Crow's Nest."

H. A. B.

### The Robin in the Rain.

By Verne Dewitt Rowell, in Canada Monthly.

When the day is dark and gloomy,  
Don't be glum;  
If the rain comes down in torrents,  
Let her come.  
Keep a stout heart and be happy,  
Smile again,  
There's a robin singing somewhere  
In the rain.  
If hard luck is chiming with you,  
Never kick;  
Don't go fretting or get mooring,  
Sort of sick,  
Buckle in and show your mettle,  
Bear the strain;  
Keep a-looking for the robin  
In the rain.

## Hope's Quiet Hour.

### We Would See Jesus.

S. John XII: 21.

"We would see JESUS! This is all we're needing—  
Strength, joy and willingness come  
with the sight;  
We would see JESUS—dying,—risen,—  
pleading!  
Then welcome Day and farewell mortal Night!"

Shortly before our Lord's death, certain Greeks approached one of the Apostles, saying with courteous eagerness: "Sir, we would see Jesus." The message seemed to cause the Master Himself great joy, and He instantly exclaimed: "The hour is come, that the Son of man should be glorified."

How the pleading request of those strangers in Jerusalem echoes down the centuries! This is a questioning age. Men no longer accept the Bible unquestioningly as an authority, but ask first the searching question: "Is it in very truth the Word of GOD?" Men no longer obey the church with the unquestioning obedience of children, but ask first: "Who gave the church authority?"

With wearisome reiteration the questions of doubters are answered, and as soon as one is disposed of another is raised. There are foolish questions asked, as if the great matters of light here and life hereafter were trivial riddles. There are troubled questions asked about the possibility of a flood, of the crossing of the Red Sea and the Jordan, of the works of healing which Christ wrought. Scientists tell us of the great changes in the earth's surface, which fit in to the story of the flood, of the fact that the bones of gigantic animals and of men are found together, of the ice of the glacial period which has left its mark more than a mile high on the top of Mount Washington. We are told that where the Israelites crossed the Red Sea there was in those days a shallow, narrow strait, about five or six feet deep; and that the Bible description of the east wind, which blew a passage clear, is not necessarily miraculous, except in the fact of its occurring just when it was needed. G. F. Wright says that often a south-west wind lowers the level of waters at Toledo, on the west side of Lake Erie, five or six feet, while it raises the level at Buffalo an equal amount. The Jordan runs along a narrow gorge between high banks, having cut its way through. A landslide could easily dam the river until the water had time to collect above the obstruction and overflow it, as has been done in other cases. Again, no breaking of natural law opened the way for Israel's host, but God timed the stoppage of the river to reach His people's need. As for our Lord's wonderful works of healing, more light is being thrown every day on the mysterious power of mind and spirit over body, and of the special gifts of healing possessed to-day by numberless men and women—gifts which are possibly not more marvellous than a gift for painting or for music. If men of ordinary powers can and do heal the sick far more by their personality, and by the faith of their patients in them, than by their medicine, then it would have been most marvellous if one who had never weakened His body, mind or spirit by any thought of sin had not been able to heal those who trusted in Him.

As I said, the questions asked are endless; and though more and more answers are constantly being discovered, men are sure to go on questioning. It is not my business to convince unbelievers; the happier task is mine to reach out in glad fellowship and try to cheer and encourage those who are my comrades in the ever-growing host of those who are convinced that JESUS is their Living, Loving Companion. But even if some who are not His servants should read this, they can hardly have failed to discover that the pleasures which the world gives are very unsatisfactory and fleeting. They are restless and dissatisfied, and back of their discontent, with life lies the human yearning after something really worth while, after infinite perfection. Nowhere in man have they found it, and yet they still restlessly seek for it in vain. "Sir, we would see Jesus," they ask of each Christian, and we are

indeed dead failures as Christians if they cannot find in us anything Christlike. What dishonour we professed disciples of the perfect Man can bring on His cause! Every time we are careless about paying our debts, every time we try to grind as much work as possible out of an employee and pay for his work far less than it is worth, every time we take pleasure in repeating a bit of unkind gossip, every time we are cross or unforgiving, we do something to repel the outside world from a Master Whose disciples are so unattractive. They see the disciples act in a way that is ungenerous or unreliable, and naturally suppose that such conduct is the result of their Christianity. Of course they don't want such a Christianity for themselves. But when they see one who is really trying to walk in the steps of Him Who came to serve everyone within reach, and Whose Love no ill-treatment could dim, they want to learn more about a Master Whose constant companionship can give ever-growing gladness and loveliness to His true servants. So they come, like the Greeks at the Jewish feast, to some person who knows Him, and say: "Sir, we would see JESUS."

How marvellous is the attraction of this Master of ours! A few weeks ago great crowds of people were trooping joyously to countless churches. The churches were beautiful with lilies and other flowers, and the offerings of money were very generous. In the next week's paper I saw that the Easter offertory in the Church of the Advent, Boston, amounted to \$17,700! Think of the ever-increasing number of those who give to the Risen Lord the deepest love of their hearts. Think of the millions who have lived for Him in the past. Other men may win the affection of many, and the first love of a few. But it is very unusual for anyone to win the deepest love of even one person who has never seen, heard or touched him. But this wonderful King not only claims but wins the absolute devotion of millions who have never seen, heard or touched Him with their bodily senses. He stands absolutely alone, the greatest Miracle in all history. More than this, anyone who really obeys His commands, who brings—as He demands—even the secret thoughts of the heart into obedience, grows nobler all the time. He learns fearlessness in danger, patience in pain, and looks forward always—even at the gate of death. The Bishop of London says that a young clergyman, who was a friend of his, was told that he must die at the age of thirty. The first thing he said, when told that death was near, was: "Then I shall see JESUS." That was St. Paul's thought about death—that it was simply to depart and to be "with Christ," which is "far better" than the close fellowship with Him which is possible even here.

The happiness of youth is only like the dawn; those who choose Christ for their life-long Companion and Master find that the joy of the morning of life steadily brightens into more brilliant sunshine. Years ago a dear friend of mine—Miss Eye, who helped so many girls to find good homes in this Canada of ours—wrote to me to say that she was dying of cancer. The letter was joyous, showing that she welcomed the summons as Mary of Bethany welcomed the message: "The Master is come, and calleth for thee." She enclosed the following verses in her letter, just to show how she felt:

"As I lay sick upon my bed,  
I heard them say, 'In Danger!  
The word seemed very strange to me;  
Could any word be stranger?"

"IN DANGER"—of escape from sin  
For ever and for ever;  
Of entering that most Holy Place  
Where evil entereth never!

"IN DANGER"—of beholding Him  
Who is my soul's salvation;  
Whose promises sustain my soul  
In best anticipation!

"IN DANGER"—of soon shaking off  
Earth's last remaining fetter  
And of departing hence to be  
"With Christ," which is far better!

It is a solemn thing to die  
To face the King Invisible  
And each forgiven sinner should  
Trust safely over the river!

But when we have confessed our sins,  
So far as we discern them,  
AND GOD has given Pardon, Peace,  
Though we could never earn them,

Then Dying is no 'dangerous' thing!  
Safe in the Saviour's keeping,  
The ransomed soul is gently led  
Beyond the reach of weeping!

So tell me, with unfaltering voice,  
When hope is really dawning:  
I should not like to sleep away  
The few short hours till Morning!"

Can anything else but the love of God  
Inspire anyone to go down into the valley  
of the shadow of death so joyously?  
Is not the fellowship of the Great Companion incomparably precious?  
DORA FAINCOMB.

### A Song of Spring.

When the world grows fair and everywhere  
Soft hands un wrinkle the brow  
of care,  
And the leafless wood is all abud,  
and life is good, and life is good—

When the grasses thrive and the little  
birds wive and a man feels glad that  
he's alive—  
When the warm winds blow and the dirt-  
streaked snow has joined the river long  
ago,

And the ships catch gales in belling  
sails and the long freights creep o'er  
shimmering rails—  
Oh! then I fare on a tryst—somewhere—  
and my heart's as light as a leaf in  
the air.

With a wanton will I climb the hill and  
pass by the many-windowed mill,  
Whence faces peer as pale as fear in this,  
The glorious spring o' the year . . .

Oh! the hearts that yearn and the brains  
that burn and the wheels that turn,  
and turn, and turn!

Oh! don't they know that the south  
winds blow, that the small birds sing  
and the flowers grow?

Though the world's now new, with face  
askew a hunched-over shoemaker  
hammers a shoe;

Though the catbirds scold, still men grow  
old in the bitter battle for place and  
gold;

While the wild geese fly with a queuing  
cry in gray triangles across the sky,  
Still mankind plods and labors and nods  
defiance into the face of the gods—  
To its task doth cling when everything  
is touched by the miracle of spring.

Where the plains roll free, or the winged  
fish flee o'er shifting hillocks of heaving  
sea—  
Where silences pray and the forest-way  
doth make a green night during day

I go.—Like a priest of a creed deceased  
in an ancient temple of the East,  
Leaving the man who'd liefer scan an  
olden philosophic plan;

Who'd rather look for a leafy nook—and  
then shut up his soul in a book;  
Had rather invade a ledger of trade and  
figure the daily profit made—  
For, as for me, I'd sooner be a heap of  
bones in a fathomless sea

Than this he sold to the curse of gold  
or a book men read because it's old.  
—Harry Kemp, in N.Y. Independent

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**The Beaver Circle.**

**OUR SENIOR BEAVERS.**

[For all pupils from Senior Third to Continuation Classes, inclusive.]

**A Boys' Garden Company**

Dear Beavers,—I want to tell you to-day about something that may interest you, and that may help you to work with all the more pleasure at your garden, whether at home or at school, because it will show you that while you are gardening you are just doing what boys and girls in many other parts of the world are doing, and finding of profit as well as of pleasure.

I have spoken to you often of the Broadview Boys' "Farm" in Toronto. To-day, I want to tell you about a Boys' Garden Company, at Dayton, Ohio.

Last year we saw an advertisement somewhere, stating that certain booklets, price 15 cents, telling all about this company were on sale, so we sent our 15 cents to the Secretary, East 1 street, of that city, and received promptly the little booklet, and with it a neatly typed letter, signed "Garver Hoos, Secretary."—Garver Hoos, you must understand, was one of the lads. In the corner of the writing-paper that he used, we found also the names of the President, Vice-President, Treasurer, and Board of (twelve) Directors, all boys.

The booklet itself was a very dainty publication, bound in green, with a picture of a boy in his garden on the cover,—it lies on the desk before me as I write. The entire booklet was written by the boys, and illustrated by photos of them and their gardens. It is well-printed, beautifully planned, and altogether a great credit to the Boys' Garden Company. I suppose they will be getting out another this year.

The first page was written by the President. "My name is Wilbur Geiger," he begins. "I am twelve years old," and then he goes on to tell how the boys began the work; how somebody offered prizes for the best gardens; how the plants grew and flourished. "The boys are always glad now when spring comes," says Wilbur, "when it is time to plant the gardens again."

Other letters from other boys follow. Herbert Klien tells how the officers were elected and the company started, "with forty stockholders," each holding one share, worth \$1.00. Joseph Weser, and others, tell of the constitution of laws for the company, which were drawn up, of the rules regarding time to be spent in the gardens, use of tools, etc. We are glad to see that among the rules are these:

"The use of bad language is strictly forbidden."

"Boys must see that their shoes are clean before entering the house."

"Be polite to strangers who visit the gardens, and give them any information you can about the work."

Needless to say, many of the boys raised enough vegetables to have some to sell, in addition to helping to supply the home table.

I do not read anywhere that a Fall Fair was held, although I think that would have been a great improvement, but when the summer's work was done the boys had a banquet which was very much enjoyed.

Now, my Beavers, perhaps some of you will be interested enough in all this to start a boys', or boys'-and-girls' gardening club in your own section. If you do, I am sure you will find it interesting. The Dayton boys have their gardens together, but there is no reason why you should not have yours separate, even on your own home, if you choose. You may, you could visit and "compare notes." What do you think about it?

PUCK.

**About The Beavers' Garden Competition.**

Beavers have written in asking for seeds. We do not supply the seeds, you must get those yourselves. Prizes are the prizes.

**Senior Beavers' Letter Box.**

Dear Puck and Beavers,—I live on a farm a mile and a half from Greenwood, Ontario, and about a quarter of a mile from the new C. N. R. station. The name of it is Greenbush. Well, if I am not too late, I would like to try in the garden competition, which I have just noticed while looking through your wonderful book, "The Farmer's Advocate." My father has taken it ever since Christmas, and we all think it a lovely book.

Dear Puck, if this escapes the monster w.-p. b., will you kindly tell me if we may have the pictures of our flower garden and vegetable garden separate?

GLADYS CARLETON.  
(Age 11, Book IV.).  
Greenwood, Ont.

Dear Puck,—This is the first time I have written to the Beaver Circle. My father has taken "The Farmer's Advocate" for about six years, and I enjoy reading the letters to the Beavers. I go to school every day. The name of our school is East Centreville. My teacher's name is Miss Long. I like her. We have great fun doing exercises at school. We have one dog; her name is Bird. She has three pups, two weeks old to-day.

Riddles.

1. Once there was a little brown house; inside the brown house there was a white house; inside the white house there was a pool. Ans.—A coconut.

2. Chink, chink, in the bank! Ten drawing four. Ans.—Milking a cow.



Board of Directors, the Boys' Gardening Company.



Banquet

Given at the end of summer by the Boy Gardeners.



Off to Market.

You may have the pictures separate if you like. There are now 25 on our list for the Beaver Circle Garden Competition, and we expect many more.

Dear Puck and Beavers,—This is my first letter to the Beaver Circle. My father has taken "The Farmer's Advocate" for twelve years. I like reading the letters very much, and I thought I would write, too. I go to school nearly every day. There are four rooms in our school, but they only use three. I have a mile to go to school, and generally come home for my dinner. I live at Chatsworth village; it is not a very big place. I am in the Third book. As my letter is getting rather long, I think I will close.

EARL COLLINS.  
(Age 12, Book III.).  
Chatsworth, Ont.

3. Why does a cow look over a hill?  
Ans.—Because she can't look through it.

EVELYN J. LEWIS.  
(Age 12, Sr. IV. Book).  
Centreville, Car Co., N. B.

Dear Beavers, I thought I would write to your Circle, as I am interested in reading the letters. I am going to tell you of a trip I took to Lindsay two years ago. On September 20, 1910, I took the train at Mt. Albert for Lindsay, to spend a day or two at my friend's place. When I arrived at Lindsay, my friend had not received my card telling that I would be there, and so was not at the station. I then took a cab and I was driven to my friend's place. When I arrived it was near dinnertime. In a little while I had my dinner, then

part of the afternoon was spent in conversation; the other part we spent down by the Scugog River and watched the boats. After we had been there a while we saw a big steamer coming on the river. Two men had to swing the bridge around so the steamer could pass; then we went home again and we had our supper. We spent the evening in playing games, and afterward we went to bed.

The next day was the best day of all. In the forenoon we stayed in the house all the time, but in the afternoon we spent an enjoyable time. About five o'clock we went into the middle of the city. I went into the telephone office and 'phoned home. After this we went farther up the street until we came to the market square, with a big cannon in front of it. In the evening we went to moving-picture shows. We went into one and stayed about an hour; then we went into another, which was very nice. When we had been quite a few places, we went back home. That night I packed my things to go home the next morning. When morning came I went to the station and got on the train. When I got to Mt. Albert I was tired. I found one of my brothers waiting at the station for me, and we drove home. I had a delightful time.

LILA TOOLE

(Age 11, Book Sr. III.).  
Mount Albert, Ont.

Dear Puck,—This is my first letter to the Beaver Circle. My father has taken "The Farmer's Advocate" for some time, and I enjoy reading the letters.

I have two pure-bred calves called Pansy and King. Pansy is broken to lead, and I am just breaking King. Pansy is one year old and weighs a little over five hundred, and King is eight months old and weighs nearly six hundred pounds.

I go to school every day. There is a little creek about half a mile from our school, and we go skating on it. We live about two hundred yards from the school. I guess I will close, hoping my letter escapes the w.-p. b.

GORDON MORDUE  
(Age 13, Book IV.).

Brantford, Ont.

Dear Puck and Beavers,—As I wrote to the Beaver Circle before and never saw it in print, I thought I would write again. I would like very much to join the Beaver Circle, but likely my other letter went in the monster w.-p. b.

I was very anxious for the snow to go away and spring to come, so we could plant our flower and vegetable seeds. I love flowers, and I could take care of them all the time. I had lots of nice house flowers, but one cold winter night they all got frozen. I had one that an old lady gave me, and it got frozen, too. I was very sorry, and tried to bring it around, but couldn't.

As my letter is getting long, I guess I will close, and hope to see it in print.

BEATRICE FORBES  
(Age 12, Class Jr. IV.).

Maplewood, Ont.

Dear Editor,—This is my first letter to your Circle. My father has taken "The Farmer's Advocate" for a number of years, and we like it very much. I like reading the letters, as they are very interesting.

Say, how many of the Beavers have had the mumps? I haven't had them yet, and I don't want to have them.

We live on a farm of about 14 acres and have a team of horses, 2 pigs, 4 milking cows, 2 small calves, and 3 medium-sized ones.

I am no bookworm, although I have read a few books. Among them are, "Three Boys in the Wild North Land," "The Indians, and a Lost Army."

I was 12 years old the 1st of April. I have my birthday on an unlucky day, haven't I? I got fooled more than once, too.

Well, I must close, wishing the Beaver Circle ever success.

HAROLD LANGMAN.

Dear Puck,—I have written to you before, and thought I would write again. We have our pet squirrels yet, and our goats. They gave us lots of good rides in our sleighs last winter. There is a



squirrel that goes down our cellar and eats our vegetables and apples. I am going to dress a doll and hem some towels for Toronto Fair this fall. I got some prizes for dressing dolls before. I am learning to knit. I had a birthday party last fall, but it would take too long to tell about it. I hope to see this in print. Good-bye.

JOSIE READMAN (age 12).  
Erindale, Ont.

### Some Sayings About Gardens, Etc.

"And he gave it for his opinion, that whoever could make two ears of corn or two blades of grass, to grow upon a spot where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together."—Dean Swift.

"Whatever is worth doing at all is worth doing well."—Lord Chesterfield.

"No child who has ever loved a garden will despise the farmer, for he has learned by experience to respect manual labor, and that brains and hands must work together to bring good crops."—M. L. Greene, Ph. D. (Yale).

"There is pleasure in working in the soil, apart from the ownership of it. The man who has planted a garden feels that he has done something for the good of the world. He belongs to the producers."—Chas. Dudley Warner.

"Health lies in labor, and there is no royal road to it but through toil."—Wendell Phillips.

Dr. Hodge, of Clark University, once said that the quickest way he knew to keep our prisons and reformatories empty was to give every boy a piece of ground, however small, to cultivate for ten years in his boyhood.

"Introduce a little active participation in the care of plants and grounds, and at once to each and every child the garden becomes 'our garden,' and an injury to it a personal affair; any praise or merit becomes a comment on something 'I helped to make.' This brings out the care of public property, consideration for others and responsibility toward public good."—M. L. Greene.

"The love of rural life, of honest work, the habit of finding enjoyment in familiar things, is worth a thousand fortunes of money or its equivalent."—Henry Ward Beecher.

"It is only those who do not know how to work that do not love it. To those who do, it is better than play—it is religion."

### The Amateur Gardener.

Doris wants a garden, now that spring is almost here, and she will doubtless get it—for Doris is a dear—

A little bed, six feet by eight, with roses and sweet peas,  
She says she's sure that I can work a plot like that with ease.

And I agree, because I find  
To argue doesn't change her mind.

With pad and pencil she has planned the little garden out,  
Just where the mignonette will go and where the pansies sprout;

What sort of border we must have, and that geraniums  
Will hold their bloom until it's time to pick chrysanthemums.

It's fun for Doris, as for me  
I've naught to do but just agree.

O'er catalogues we pore each night,  
selecting what we feel

Will grow the best—and what the neighbor's children will not steal—

And every morning out we go into the old back yard

To choose a spot where digging soil won't be so awful hard!

For Doris says—'bless her dear heart!  
She knows that I will do my part.

But there's a thought that worries me through all these preparations  
For raising blooms and saving seeds from youthful deceptions.

I'd like to ask her if I may, but she I do not dare—

Plant something that is good to eat in our garden fair.

Will she permit me one small spot  
For raising onions? I fear not!

—Cincinnati Times Star

### "The Farmer's Advocate" Fashions.



7408 Outing Coat or Blazer, 34 to 40 bust.

May be made of cloth, flannel, or satin, in stripes. Very easily made.



7412 Boy's Russian Suit, 2 to 6 years.

May be made of galatea, or other wash material; also cloth.



7413 Empire Semi-Prin-7423 Costume for Misses and Small Women, 16 and 18 years.



7130 Child's One-Piece Dress, 2, 4 and 6 years. 7289 Child's Empire Frock, 2 to 5 years.

Please order by number, giving age or measurement, as required, and allowing at least ten days to receive pattern. Price, ten cents per pattern. Address, Fashion Dept., "The Farmer's Advocate," London, Ont.

Note.—Several subscribers who sent for patterns forgot to sign their names; others forgot to mention their postoffice. In such cases we certainly cannot forward the patterns.

### The Ingle Nook.

[Rules for correspondents 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.]

Dear Ingle Nook Friends,—Just a word to-day, because I want to leave as much of the space as possible for the answering of letters. I suppose most of you who are garden-lovers will be beginning at the soil this week or next, and I just want to pass on to you a bit from Kipling that you may appreciate as you work. He is speaking of gardening as a cure for boredom, or the blues—"the hump," he calls it:

"The cure for this ill is not to sit still,  
Or frowst with a book by the fire;  
But to take a large hoe, and a shovel  
also,  
And dig till you gently perspire;  
And then you will find that the sun and  
the wind,  
And the Djinn in the garden, too,  
Have lifted the hump,  
The horrible hump,  
The hump that is black and blue."

If any of you feel run down and out of sorts generally,—a very frequent result of lack of out-door exercise and fresh air during the winter—I hope you will try even a little bit of a garden this year, and that there will be in it a good Djinn who will help to lift "the hump" and throw it away so far that you will not even think of it all year long.

It means so much to be happy—both for our health and our work—and it is so unreasonable to be otherwise if one can help it. I remember reading somewhere a bit about looking on the blue side of life, which compared the morbid, morose, kill-joy sort of person to a woman sitting in a room with windows opening on both sides, those on the one side commanding a view of a beautiful flower-garden, those on the other looking out upon an unsightly dump. The woman might have looked out upon the flowers all day long, but instead she chose to sit by the window above the dump, nursing her wretchedness.

But who wants to talk of blues these inspiring spring days! If you have even a twinge of them, remember that it is wicked to nurse them at any time. Get away from the window that suggests unpleasantness. Go out into the garden, work at it with your own hands, try to get rid of the "hump," and you may be sure that there will be a good Djinn on hand to help you. JUNIA.

### WANTS A HALTON COUNTY COMPETITION.

Dear Junia,—Will you not, through the columns of your paper, agitate a competition (flower) for the County of Halton? I know several farmers' wives and daughters who would like this.

FARMER'S DAUGHTER.

Halton Co., Ont.

I cannot "agitate" a flower-garden competition for Halton County, but I shall be glad to announce one if you can find any man or association in your county willing to put up the prizes.

### OILCLOTH FOR WALL.

Dear Junia,—I saw Sweetheart's inquiry about how would be the best way to fix her kitchen walls. The oilcloth is splendid. It is warm, does not crack, and sticks well. The kitchen I have in mind was covered with oilcloth several years ago, and is just as nice now as when first done. White, or white with blue, and a border of paper at the top, makes a very clean, bright kitchen. Mix the paste with buttermilk and put in a little glue, also put in a few tacks at the top to keep the cloth from sagging until dry. This will stick well to planed or rough boards, but perhaps the paint will be harder to stick to.

We have only been taking "The Farmer's Advocate" for a short time, and like to enjoy Hop's Quiet Hour.

MUSKOKA.

### QUERIES—GINGER COOKIES.

Dear Junia,—Since I became the wife of a farmer, almost four years ago, I have read with pleasure and profit the Ingle Nook, and have felt very grateful for many useful hints concerning home-making. I am always glad to see a letter from "Lankshire Lass." I hope with the coming of spring she may have better health. I have tried some of the good recipes, but have found sometimes that the quantities given are not accurate enough to give the best results. I notice much written about the work on a farm. Now, so far as that goes, I do not see any difference between keeping house on a farm and any other place, because where I live my husband makes the living, I keep the house, and look after the comfort of the family generally, providing well-proportioned meals, suitable clothing, clean, well-aired, warm rooms in winter, and cool ones in summer, as far as possible, and really my time is quite occupied without trying to help outside. I never can understand why men who get their living from the soil need their wives to help them so much. Other occupations seem so different in this regard. Besides, it seems to me that if the head of the family cannot do his part he should have remained unmarried until he thought he could, at least.

I want to tell you, dear Junia, that I like your new name very much. I have thought of you as an elderly person hitherto, but this new name gives me the feeling that you are really quite a young, pretty girl.

Of course, I want to end my letter in the usual way, that is, by asking for information and giving a recipe. I want to know about peacocks. I would like to get one, but do not know where to apply, or how much one would cost, or even how to care for it. Thanking you, and with best wishes for all Nookers, I will close, giving my recipe for ginger cookies. One cup molasses, 1½ cups white sugar, 1 cup lard or dripping, 1 egg, 1 teaspoonful salt, a little ginger, 1 cup boiling water in which put one tablespoonful of soda. Hold cup over the mixing bowl so not to lose any of the water; 6 cups of flour. Stir well, and allow to stand 10 minutes. Place on greased pan as drop cookies, and bake in moderate oven.

York Co. "KOOSKEY."

Don't you think that sometimes, while the quantities may be accurate, the method of mixing materials in cookery, or some difference in the temperature of the oven, may bring about a failure in results? I remember having had a sad time in regard to layer cakes; however good the recipe, the outcome, in my hands, was not up to the mark. Then an acquaintance away over in Illinois gave me a bit of instruction on the mixing, and there were no more dry or "holey" layer-cakes. "Cream together the butter and sugar first," she said, "then beat in the already beaten eggs, add the milk next, and finally the flour sifted with the baking powder." Our contributors may be very accurate about giving quantities; sometimes, perhaps, they should add further directions,—and even then some practice may be necessary before the final word as to the recipe can be said.

I am glad you like my new name,—but please don't jump at hasty conclusions. I have been much amused at the various accounts of mind-pictures of me written me by various contributors to our corner. One girl was absolutely certain that I am "a man"!!!

Peafowl require the same care as turkeys. A "Want and For Sale" advertisement in our paper will probably bring you many letters from people who sell these birds.

### Furnishing a Cottage.

"Dot" writes a letter re furnishing a cottage, which is too long for publication, but I shall try to answer her questions intelligibly.

Since you will be living in the cottage for so short a time, Dot, why not furnish the parlor, which is so very tiny, just as inexpensively as possible, using, as far as you can, things that will go elsewhere nicely when you move into the larger house. For instance, you might just put a Japanese matting on the floor. It would be all right for a bedroom later, and would not make the ugly, cheap paper which, you say, is on



the parlor walls, look any worse, as a good rug would be sure to do.

Most certainly, though I should not try to match anything already in the cottage. Make your plans with regard to what you will want in the larger house, and buy accordingly, getting just as few things as you can do with. This will leave most of your buying to be done when you move into the permanent house, but will save you the present risk of getting things that may be out of balance or harmony with that home.

If you are fond of green, and have fixed upon it as the leading color-note for your drawing-room, you will find no trouble in getting a pretty rug in two tones. But I think you will run a risk in getting one for your small parlor, unless, as I say, it is one that may be utilized for a bedroom later. You see, your final drawing-room might be so very much larger.

The net you mention may be bought by the yard, with a lace edge all ready. Ask for regular curtain net. Some buy the plain net, hem it, and sew on a simple design in flat cream braid. Often the net is used simply for sash-curtains, next to the glass, second curtains of madras, pongee, chintz, cotton voile, curtain linen, scrim, etc., being placed inside, next the room, and drawn well back over the wall. The old-fashioned, much-patterned lace curtains are not now much used, except, occasionally, for drawing-rooms, when they must be of very good quality and design. As a rule, lace curtains reach the floor; others usually come but to the sill.

The wicker chairs will do excellently for the cottage, and will work in well afterwards. You are fortunate in having good leather chairs and couch also. A room furnished with these and the wicker would be quite good enough to receive callers in. With the leather chairs, a dull leather "skin" would be nice for the table. Nothing more would be needed but a student's lamp, with a shade on simple lines (a square one with wooden frame would look well), a few books, and a dish of flowers. Be sure to have some nice cushions in quiet, artistic coloring (say browns and dull greens) for the couch, and one or two of the chairs.

You can get all information in regard to portable bathtubs by writing to Eaton's, Simpson's, or any other large departmental store. The enamelled ones are, of course, the nicest, if one cannot afford porcelain.

I should not get carpet for the bedrooms; rugs are better, and you can get them in most of the required sizes. In many of the best houses the floors are bare (hardwood, if possible), simply stained and finished nicely, and the rugs used are small,—one before the bed, another before the dresser, etc. Very good housekeepers in simple houses often use an unobtrusive linoleum for the floor, and relieve it by small rugs; others prefer the matting. Carpets are dusty, unsanitary, hard to sweep, and a perfect nuisance at housecleaning time.

The dresser needs but few articles,—a linen cover, a tray for brush and comb, a pin-tray, and a little vase for flowers, are enough. You may add a dainty bottle of violet perfume if you choose. Dotted Swiss, barred muslin or art muslin, all make pretty curtains for a dainty bedroom. The muslin may be frilled along the edge. If you prefer, you can have net next the glass and inside curtains of chintz, with valance of the same across the top. Cotton crepe, with bands of chintz or insertion, is also nice for bedroom curtains. Of course, where chintz or cretonne is used, the same material must also be used in other furnishings in the room; for instance, for chair, and shirt-waist-box upholstery, etc.

A good linoleum is very satisfactory for a hall floor-covering. Of course, a bare, well-finished floor, especially of hardwood, with a pretty runner rug, is preferable if one can have it. For such a runner, a small pattern in mixed colors is desirable, as it will not show every footmark as a plain one would. If your hall is so very small, it needs nothing but a hall-seat, a mirror above, and a very small umbrella-stand in the corner. Instead of the hat-rack, have a row of long, turned, wooden pegs put along at the right height. These pegs may be six to eight inches long.

Since you must re-paper the dining-room, why not use the lowest-priced im-

itation chambray paper in cream, dull buff, twine-color, or fawn? It is even cheaper than it seems as it is wide and there is no waste in matching. It would go nicely with the cocoon-matting, and you could have scrim or cider-cloth curtains, with a printed or stencilled border in brown or green if you wish a touch of color. The net would do if you wish a uniform appearance from the street, but it would be prettier to have two sets of curtains at each window, the net next the glass.

As you will, no doubt, drive to the church, it will be perfectly proper to wear the bridal dress and veil. If you have not a closed carriage, you can wear some sort of cloak over the dress and an automobile veil about your head.

Places worth visiting in Toronto are the Parliament Buildings, City Hall, Normal School, Museum, High Park, Rosedale, and the Island. At Niagara, Goat Island (there are carriages and automobiles to take tourists about it), and the view of the falls from the Canadian side are to be "done" as a matter of course; also Brock's monument, if one has time. The Gorge Route is the most picturesque way to reach the Falls.

Re cushions for your couch and chairs (you see I am taking your questions in order)—don't make up pretty, fancy things, that are to be looked at, not used; they are considered in rather poor taste nowadays, and there is no common sense about them. Some of the tapestry cushion-covers are pretty, serviceable, and cheap. Prettier still are some of the twine-colored and greenish-brown canvas covers, worked in rich tones of brown, gold, olive-green, old blue, and raspberry shades in harmonious combinations. For cushions that are constantly in use, art denim, colored linens, and "natural" colored crash, make good covers. They should be made separately, and buttoned on under the fringe so that they can be easily removed for laundering.

FLOOR FINISHES.

Dear Junia,—Will you kindly tell me which is the more suitable finish for the floors and interior woodwork of a new house, a stain and varnish, or wood-dye and wax? Which is the more durable and easier to keep clean? Is white enamel suitable for a parlor, and is it hard to keep clean? GYPSY.

Glengarry Co., Ont. A natural or stained floor, waxed and rubbed to a dull finish is, unquestionably, the most beautiful floor of all; when the wood is not fine enough to permit of the staining, there are splendid floor-finishes to be bought all ready for use, the entire process requiring two coats and a waxing. The only trouble is that the waxed surfaces are rather slippery, so many prefer not to have them at all except for the wide borders next to the wall when large, solid rugs, are used for the center. The cleaning and polishing of a waxed floor is a somewhat tedious operation, but the waxing and polishing requires to be done only about once in three months unless there is a great deal of wear on the floor.

Varnished floors require less care to keep them in order, and they are not so slippery, hence many prefer them. To finish so, give three coats of good, hard-floor varnish,—not the high-gloss kind. To give the soft finish so much in favor, and which gives the floor almost the appearance of a waxed one, the last coat should be well rubbed with pumice and water. This takes a great deal of labor to begin with, but the result is worth while.

Varnish should not be used for the woodwork, as high gloss is considered in rather poor taste. Stain the woodwork, then rub it well with pumice-stone and oil.

White enamel paint, especially in the warm ivory tint, is very much liked for parlor woodwork. It is not hard to keep clean with ordinary care.

ABOUT CURTAINS.

Dear Junia,—I read the Ingle Nook with pleasure every week, and get a good many helpful suggestions, so turn to you when I need help.

In making stencilled curtains, do you hem the outer edge and the edge that goes to the middle of the window, or do

you leave the selvage at both sides and only hem the bottom and top?

"AN ENQUIRER." York Co., Ont.

Hem the side of the curtain that goes to the middle of the window and the lower ends, leaving the selvage at the back. Hemstitch the hems, and put the stencilling immediately behind the hemstitching. In one instance I saw the stencilling placed directly upon the hem, and the effect was not bad, although a little of the transparency was lost.

MOULDY LARD—HAIR, ETC.

Dear Junia,—This is my first coming, and, like some other Nook folk, I come because I am in trouble.

Can you tell me the reason my homemade lard turns green and mouldy in the center? I had about twelve pounds in an earthen crock, rendered about two months ago. It looked all right on top when I began to use it, but when I got to about the center there was about one pound quite green and unfit for use. Then, below that, it is quite white and good. If the had had been at the bottom, I would have thought the vessel was porous and had admitted air, but as it is I am puzzled to account for it.

Sweetheart was asking how to make hair grow. Someone told me years ago to singe the ends off instead of cutting my hair and that would promote growth. I acted on the advice, and have now as long hair as I desire, though it used to be short.

We have taken "The Farmer's Advocate" for a little over two years, and feel we would be lost without it. There is something of interest for all the family. The children look for the Beaver Circle, and are pleased if they find a letter from any of our acquaintances.

I wonder if any of the mothers know my plan to strengthen the children's boot-laces and make them wear about as long again. I take a darning-needle or bodkin and run a piece of twine through the center of the lace.

Now, Junia, I think this is long enough for a beginner. I like your new name better than the old, though I used to look on that as a friend. I have found lots of helpful things from your pen. Now, I will sign myself what I am in reality. A LANCAESHIRE LASS.

Oxford Co., Ont.

A good housekeeper tells me that the lard became mouldy because it was not boiled enough in rendering. The lower temperature gives whiter lard, but it is much more likely to mould, as some micro-organisms may be left. When lard is but slightly affected, it may be sweetened again by boiling it and adding slices of raw potato. When the pieces of potato are quite brown, remove them and pour the lard into an earthen vessel. Lard should be kept in a cool place, covered with a layer of salt confined between two pieces of cheesecloth. Put two or three thicknesses of paper over the crock and tie down closely.

Did you make soap with your spoiled lard? The housekeeper to whom I have referred, says that probably it would have been quite good enough for that.

MAKING HOUSEWORK EASIER—CHICKEN SALAD.

Dear Junia,—For years I have been very much interested in the Ingle Nook, but never attempted to approach the Circle before. Perhaps I have always felt that I was too busy, as all farmers' wives are sure to be. I wish the Nookers would contribute some articles upon ways and means of making their work easier. Let us discuss the problem. Shall I take my turn first and throw in my mite? Perhaps it may help someone. Now spring is upon us once more we are one and all busy. Housecleaning, gardening, milking, churning, raising calves and poultry, all have to be done, so I have made one step towards making life easier by getting my spring and summer sewing done during the winter months. But to go back further still,—during the July and August months of last year, I bought gingham, print, etc., at reduced prices, also rep. muslin, etc., which the merchants were trying to get out of stock in order to get in fall goods. This saved pennies, as this spring the same goods are raised one-fourth price. Then, during January and February, I made up all the underwear

for children and myself, all aprons and house-dresses for both. Then, when March comes in the spring styles are in also. One can then get spring catalogues and magazines and make up all the better clothes. I found this method saves me a lot of work during the spring, as seamstresses are very scarce here, and during the winter months I do not have so much to do, as I never have to go outside, even for wood or water. This also is the time for us mothers to "brush up" a bit and read the later books, get the latest music, and keep up with the times. If we don't do it, our children will get ahead of us, and we will then be looked upon as "old fogies." I remember of once hearing a school-teacher remark, "I wish mother were here. She would know what to advise me to do in this matter." My thoughts were, "That girl has a progressive mother." She has kept ahead of her educated daughter, who has held her mother in great respect on account of it.

But I have strayed from my theme, and I want to know if any of you have any ideas to offer upon the matter of reducing our summer work in the line of washing, ironing, and cooking. I have tried some schemes in the latter that helped, and perhaps if you wish to hear about it, may write again and give you some old English dishes which I have never met with in Canada. Now, don't think that I came from England, for I didn't, but the recipes were "inherited," as I had a Cornish grandmother, and a Lincoln one, too.

Greybird spoke about a chicken salad. I helped an American lady once with a midsummer wedding, and liked her salad very much. The "chickens" were "old hens," you understand, at that time of year. They were plucked clean and boiled whole until very tender. A teaspoon of good vinegar added as they boil helps to make them tender, and does not impair flavor at all. Then remove all skin and bone, and cut the meat very fine, or run through a meat-chopper. To the meat of three chickens, add three cucumbers and two heads of celery chopped fine, also add pepper and salt to taste, and a good salad-dressing. The vegetables may be bought at that time of year if not in one's own garden. Keep the salad very cold until ready for use that the vegetables may remain crisp. Well, I think there is "nuff sed" for this time. Hope you are not tired of me, but I enjoy other letters so much I could not refrain from adding mine also. CARLOTTA.

Grey Co., Ont. We are not at all tired, Carlotta.—J.

The Scrap Bag.

FLOWERS FOR CUTTING.

Somewhere, in a corner of the vegetable garden, or in some other spot where the flowers will not be missed if cut lavishly, plant a bed of flowers for house decoration; every room that is used during the summer should have its bouquet. Annuals recommended for cut-flowers are: Ageratum, blue and white; cornflowers, blue and white; cosmos, pink, crimson, and white—blooms late in fall, and if not in bloom when frost comes may be brought into the house; single dahlias, red, white, yellow; blanket flower, red, yellow; baby's breath, white; annual phlox, white to crimson; scarlet sage; marigolds, yellow; asters, white, pink, mauve; verbena, white to purple,—blooms until snowfall. Nasturtiums and sweet peas are also fine for cutting, but they may be planted anywhere, as the more they are cut the more they bloom.

FLOWERS FOR BORDERS.

Good border plants are: Alyssum, feverfew, dusty miller, ageratum, dwarf lobelia, double daisy. Borders, to be effective, should be massed closely.

PLANTING BORDERS.

Be sure to have the tallest plants, e. g., hollyhocks and perennial larkspur, at the back of the border, graduating the plants according to height towards the front.

VINES.

Use vines lavishly to cover fences, posts, unsightly walls, etc., and to drape gracefully about windows, verandas and porches. The following are good: Morning-glory, scarlet runner, balloon vine, cobaea, climbing tumitory, clematis pani-

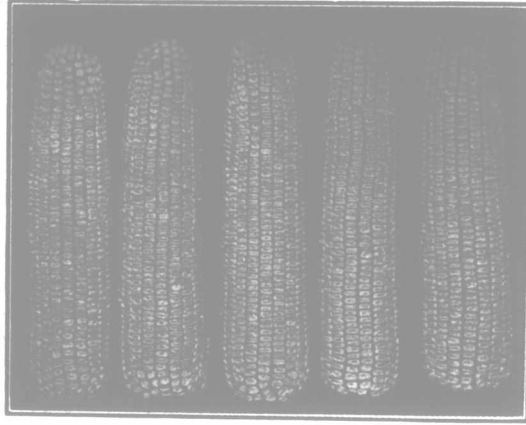


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Improved Leaming.....	1 50	1 50
Lontellow.....	1 75	1 60
Comptons.....	1 75	1 60
North Dakota White Flint.....	1 75	1 60
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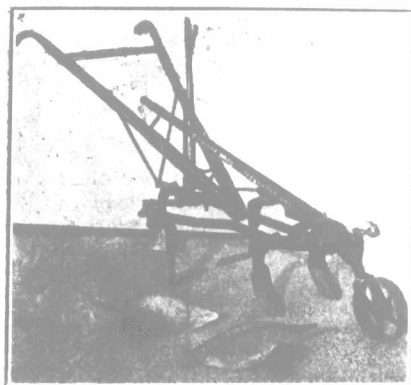
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culata, wild grape, hardy climbing roses, honeysuckles, cinnamon vine (for twining around posts), Virginia creeper, Boston ivy. Very dainty vines for places where little shade is needed, are Alleghany vine and canary vine; both grow best in rich soil in a partially-shaded situation.

### SOWING SEED.

Be sure to cover seed according to its size. The very smallest, dust-like ones, simply require to be pressed into the moist earth; others require the lightest possible sprinkling, while large ones, such as morning-glory and nasturtiums, will stand half an inch of soil above them. Seeds that are very slow to germinate, such as morning-glories, may be hurried a little by soaking them for a few hours in warm water.

### NOVELTIES.

Try at least one novelty—just for the interest of it—in your garden each year. If you haven't them in your garden already, you will find white fraxinella (gas plant) and plum poppy interesting.

### FLOWERING HEDGES.

Flowering hedges are becoming very popular, the more especially as they require but little pruning, looking best if left to grow according to their own sweet will. Almost any species of shrub may be used—lilacs, syringas, rosa rugosa, spiraea Van Houttei, common red elderberry, red-stemmed dogwood, wild Juneflower, flowering plum or cherry (double), garden hydrangea. Some of these grow tall enough to make a complete screen, a factor that must be taken into account when planting.

### PETTA WINTER GARMENTS AWAY.

With the coming of warm weather comes always the problem of storing away woollen things, etc., for the summer. When one has an attic, the matter is simplified considerably; indeed it is quite beyond understanding that country folk have failed so long in coming to a realization of what an up-to-date attic may mean—not a cubby-hole under the roof, reached by a "ventilator," but a well-floored, well-lighted room, reached by a stairway which one can ascend without fear of falling at every step. In such an attic trunks and hat-boxes may be placed out of the way, blankets and comforters may be stored, and clothes may be hung to dry after washing in frosty weather. Assuredly, anyone who has experienced the comfort of such a place would rather, afterward, be without a parlor than without an attic.

And now to our subject: It stands to reason that all woollen things stored for the summer should first be thoroughly cleaned, blankets washed, coats beaten and brushed and aired, grease spots, if any, removed. The next step is to see that every possible precaution against moths is taken. If you have cedar chests, all the better; if not, it is to be hoped that you have stout wooden chests with lids that fit closely. Put newspapers, to which, it is said, moths have an aversion, in the bottom, lay in the garments, sprinkling plentifully with moth-balls, put more newspapers over the top, and fit down the lid closely.

Very convenient moth-proof bags are sold for the storing of furs, but close, heavy paper flower-bags will be found to do just as well for the smaller articles, such as muffs, caps, and stoles. Hang the furs in the bright sunshine for a couple of hours, shake them well, put them in bags, and tie the necks of the bags so tightly that a moth simply can't get in. If this is done before moth-time, it will not be necessary to introduce moth-balls.

If moths have never given trouble, and there are places where they do not appear, to-winter suits may be kept nicely in large, loose bags, made of five-cent factory cotton. Put the suit on a coat-and-skirt hanger, which may be bought for about 15 cents, stuff the sleeves and front well with crumpled tissue paper, tie the mouth of the bag tightly around the hook, and hang up to wait for fall.

Heavy shoes, laid aside for the summer, should also be well stuffed with paper. Indeed, all shoes when not in use, should be stuffed in this way, or placed in shoe-tins. If this precaution is taken, they keep their shape better, and are less likely to crack.

Shoe-water-bats may be laid out to put on the bar-tail, or any other, and

all sides with loosely-crumpled paper to prevent crushing when the box is moved about, then tie the box strings, and rest content that the hat will come out as fresh as when it went in.

## News of the Week.

The great bazaar quarters in the ancient city of Damascus were destroyed by fire last week, with a loss of \$10,000,000.

The C. N. R. has announced that radial lines will be run from Toronto to Guelph and Bowmanville.

The west side main levee of the Mississippi, near Terras, La., broke on May 1st, occasioning the worst flood in the flood history of the Mississippi.

It has been reported that Sir Thomas Tait may be chosen President of the Grand Trunk Railway, to succeed Mr. C. M. Hays, who lost his life in the Titanic disaster.

The St. Lawrence and Chicago Steam Navigation Company will add another monster steel freighter to its lake fleet. The vessel will be constructed at Colingwood, Ont.

The south wall of Neilson's new five-story confectionery factory in Toronto, collapsed on May 4th, killing 2 and injuring 15 of the 170 employees in the building.

A suit against the International Harvester Company, charging it with being a monopoly in restraint of trade, and asking that it be dissolved, was filed by the Government in the United States District Court last week.

Three hundred and six bodies in all, scattered over 40 miles of sea, were recovered by the MacKay-Bennett. Of these, 116 were committed again to the deep, after religious services, and 190 were brought to Halifax, where many were identified and claimed by friends, the rest being buried in the cemeteries of the city.

Yuan Shi Kai issued his first Parliament message through a speech given at the opening of the Advisory Council at Peking on April 29th. The principles of the new Chinese Government, he said, must be the maintenance of order in the interior, the achievement of progress, and retention of external friendships. He foreshadowed plans for the lightening of the burdens of the people, for a new scale of taxation, for a survey of lands, and other reforms. The Government, he said, will guarantee religious liberty, reduce the number of troops, and reform and enforce various mining and commercial laws.

## Dreaming.

Just now I think

I'd like to be

At the river's brink

Beneath a tree

And stretched out flat

On the cooling grass,

Just gazing at

The clouds that pass

Like toy chips fair

In a sea of blue;

But I can't be there

I have work to do

Or I'd like to be

In an orchard gay,

Where every tree

Is in bloom to-day,

Where the pink and white

Of the blossoms sweet

Blot out the freight

Of the city street,

Where there's nothing to see

But what is true;

But that cannot be,

For I've work to do,

Oh I'd like to steal

From my little dog,

From the great unread

And the haunts of men

To the joyous truth

Of the open air,

To the honest youth

That I left back there;

To the boy I was

In the days of old,

But I can't because

I'm a slave to gold.

Detroit Free Press.



The Scarlet Pimpernel.

A STORY OF ADVENTURE.

By Baroness Orczy.

(Serial rights secured by "The Farmer's Advocate.")

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(Continued from last week.)

CHAPTER XX.

The Friend.

Less than half an hour later, Marguerite, buried in thoughts, sat inside her coach, which was bearing her swiftly to London.

She had taken an affectionate farewell of little Suzanne, and seen the child safely started with her maid, and in her coach, back to town. She had sent one courier with a respectful letter of excuse to His Royal Highness, begging for a postponement of the august visit on account of pressing and urgent business, and another on ahead to bespeak a fresh relay of horses at Faversham.

Then she had changed her muslin frock for a dark travelling costume and mantle, had provided herself with money—which her husband's lavishness always placed fully at her disposal—and had started on her way.

She did not attempt to delude herself with any vain and futile hopes; the safety of her brother Armand was to have been conditional on the imminent capture of the Scarlet Pimpernel. As Chauvelin had sent her back Armand's compromising letter, there was no doubt that he was quite satisfied in his own mind that Percy Blakeney was the man, whose death he had sworn to bring about.

No! there was no room for any fond delusions! Percy, the husband whom she loved with all the ardour which her admiration for his bravery had kindled, was in immediate, deadly peril, through her hand. She had betrayed him to his enemy—unwittingly 'tis true—but she had betrayed him, and if Chauvelin succeeded in trapping him, who so far was unaware of his danger, then his death would be at her door. His death! when with her very heart's blood she would have defended him and given willingly her life for his.

She had ordered her coach to drive her to the "Crown" inn; once there, she told her coachman to give the horses food and rest. Then she ordered a chair, and had herself carried to the house in Pall Mall where Sir Andrew Ffoulkes lived.

Among all Percy's friends, who were enrolled under his daring banner, she felt that she would prefer to confide in Sir Andrew Ffoulkes. He had always been her friend, and now his love for little Suzanne had brought him closer to her still. Had he been away from home, gone on the mad errand with Percy, perhaps, then she would have called on Lord Hastings or Lord Tony—for she wanted the help of one of these young men, or she would be indeed powerless to save her husband.

Sir Andrew Ffoulkes, however, was at home, and his servant introduced her ladyship immediately. She went upstairs to the young man's comfortable bachelor's chambers, and was shown into a small, though luxuriously furnished, dining-room. A moment or two later Sir Andrew himself appeared.

He had evidently been much startled when he heard who his lady visitor was, for he looked anxiously—even suspiciously—at Marguerite, whilst performing the elaborate bows before her, which the rigid etiquette of the time demanded.

Marguerite had laid aside every vestige of nervousness; she was perfectly calm, and having returned the young man's elaborate salute, she began, very calmly:

"Sir Andrew, I have no desire to waste your valuable time in much talk. You must take certain things I am going to tell you for granted. These will be of the importance. What is important is, that your leader and comrade, the Scarlet Pimpernel, . . . my husband, . . . Percy Blakeney, . . . is in deadly peril."

"Had she had the remotest doubt of the correctness of her deductions, she would not have had them confirmed now, for Sir Andrew completely taken by surprise, his face grew very pale, and was motion-

capable of making the slightest attempt at clever parrying.

"No matter how I know this, Sir Andrew," she continued quietly, "thank God that I do, and that perhaps it is not too late to save him. Unfortunately, I cannot do this quite alone, and therefore, have come to your for help."

"Lady Blakeney," said the young man, trying to recover himself, "I—"

"Will you hear me first?" she interrupted, "this is how the matter stands. When the agent of the French Government stole your papers that night in Dover, he found amongst them certain plans, which you or your leader meant to carry out for the rescue of the Comte de Tournay and others. The Scarlet Pimpernel—Percy, my husband—has gone on this errand himself to-day. Chauvelin knows that the Scarlet Pimpernel and Percy Blakeney are one and the same person. He will follow him to Calais, and there will lay hands on him. You know as well as I do the fate that awaits him at the hands of the Revolutionary Government of France. No interference from England—from King George himself—would save him. Robespierre and his gang would see to it that the interference came too late. But not only that, the much-trusted leader will also have been unconsciously the means of revealing the hiding-place of the Comte de Tournay and of all those who, even now, are placing their hopes in him."

She had spoken quietly, dispassionately, and with firm, unbending resolution. Her purpose was to make the young man trust and help her, for she could do nothing without him.

"I do not understand," he repeated, trying to gain time to think what was best to be done.

"Aye, but I think you do, Sir Andrew. You must know that I am speaking the truth. Look these facts straight in the face. Percy has sailed for Calais, I presume for some lonely part of the coast, and Chauvelin is on his track. He has posted for Dover, and will cross the Channel probably to-night. What do you think will happen?"

The young man was silent.

"Percy will arrive at his destination, unconscious of being followed, he will seek out de Tournay and the others—among these is Armand St. Just, my brother—he will seek them out, one after another, probably, not knowing that the sharpest eyes in the world are watching his every movement. When he has thus unconsciously betrayed those who blindly trust in him, when nothing can be gained from him, and he is ready to come back to England, with those whom he has gone so bravely to save, the doors of the trap will close upon him, and he will be sent to end his noble life upon the guillotine."

Still Sir Andrew was silent.

"You do not trust me," she said passionately. "Oh, God! cannot you see that I am in deadly earnest? Man, man," she added, while with her tiny hands she seized the young man suddenly by the shoulders, forcing him to look straight at her, "tell me, do I look like that vilest thing on earth—a woman who would betray her own husband?"

"God forbid, Lady Blakeney," said the young man, at last, "that I would attribute such evil motives to you, but—"

"But what? . . . tell me . . . Quick, man! . . . the very seconds are precious!"

"Will you tell me," he asked, resolutely, and looking searchingly into her blue eyes, "whose hand helped to guide M. Chauvelin to the knowledge which you say he possesses?"

"Mine," she said quietly. "I own it. I will not lie to you, for I wish you to trust me absolutely. But I had no idea how could I have? of the identity of the Scarlet Pimpernel, . . . and my brother's safety was to be my prize if I succeeded."

"In helping Chauvelin to track the Scarlet Pimpernel?"

She nodded.

"It is no use telling you how he forced my hand. Armand is more than a brother to me, and . . . and . . . how could I guess? . . . But we waste time, Sir Andrew, . . . every second is precious."

"In the name of God! . . . my husband is in peril, and you would your comrade? He cannot be saved, unless—"

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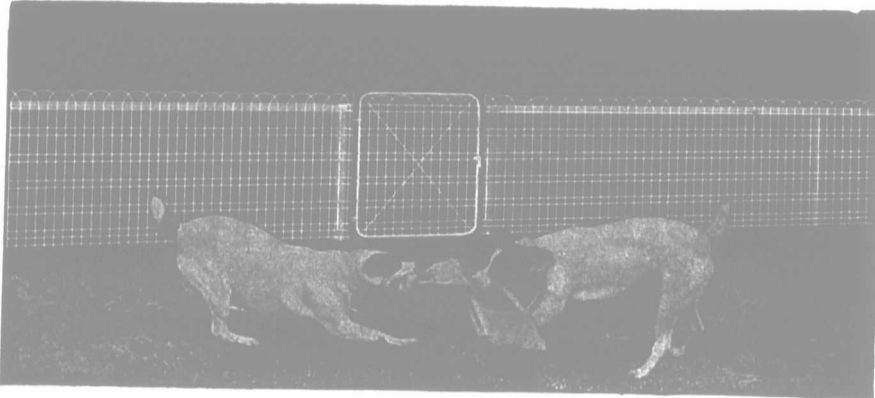
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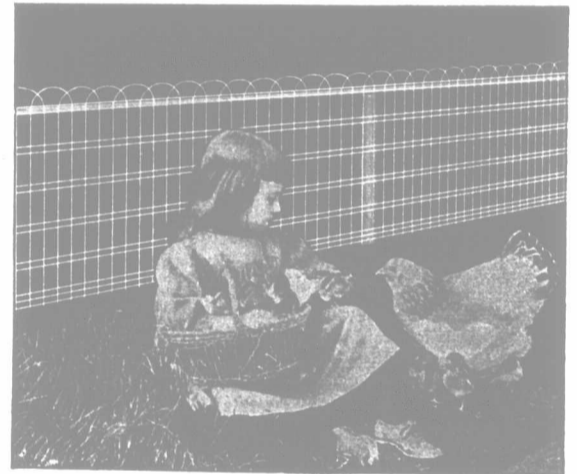


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Sir Andrew felt his position to be a very awkward one. The oath he had taken before his leader and comrade was one of obedience and secrecy; and yet the beautiful woman, who was asking him to trust her, was undoubtedly in earnest; his friend and leader was equally undoubtedly in imminent danger, and

"Lady Blakeney," he said, at last. "God knows you have perplexed me, so that I do not know which way my duty lies. Tell me what you wish me to do. There are nineteen of us ready to lay down our lives for the Scarlet Pimpernel if he is in danger."

"There is no need of lives just now, my friend," she said drily; "my wits and four swift horses will serve the necessary purpose. But I must know where to find him. See," she added, while her eyes filled with tears, "I have humbled myself before you, I have owned my fault to you; shall I also confess my weakness?—my husband and I have been estranged, because he did not trust me, and because I was too blind to understand. You must confess that the bandage which he put over my eyes was a very thick one. Is it small wonder that I did not see through it? But last night, after I led him unwittingly into such deadly peril, it suddenly fell from my eyes. If you will not help me, Sir Andrew, I would still strive to save my husband. I would still exert every faculty I possess for his sake; but I might be powerless, for I might arrive too late, and nothing would be left for you but lifelong remorse, and . . . and . . . for me, a broken heart."

"But, Lady Blakeney," said the young man, touched by the gentle earnestness of this exquisitely beautiful woman, "do

you know what you propose doing in man's work?—you cannot possibly journey to Calais alone. You would be running the greatest possible risks to yourself, and your chances of finding your husband now—were I to direct you ever so carefully—are infinitely remote."

"Oh, I hope there are risks!" she murmured softly. "I hope there are dangers, too!—I have much to atone for. But I fear you are mistaken. Chauvelin's eyes are fixed upon you all; he will scarce notice me. Quick, Sir Andrew!—the coach is ready, and there is not a moment to be lost. . . . I must get to him! I must!" she repeated with almost savage energy, "to warn him that that man is on his track. . . . Can't you see—can't you see, that I must get to him. . . . even . . . even if it be too late to save him. . . . at least. . . . to be by his side. . . . at the last."

"Faith, Madame, you must command me. Gladly would I or any of my comrades lay down our lives for your husband. If you will go yourself—"

"Nay, friend, do you not see that I would go mad if I let you go without me?" She stretched out her hand to him. "You will trust me?"

"I await your orders," he said, simply.

"Listen, then. My coach is ready to take me to Dover. Do you follow me, as swiftly as horses will take you. We meet at nightfall at 'The Fisherman's Rest.' Chauvelin would avoid it, as he is known there, and I think it would be the safest. I will gladly accept your escort to Calais. . . . as you say, I might miss Sir Percy, were you to direct me ever so carefully. We'll charter a schooner at Dover and cross over during the night. Disguised, if you will agree

to it, as my lacquey, you will, I think, escape detection."

"I am entirely at your service, Madame," rejoined the young man earnestly. "I trust to God that you will sight the Day Dream before we reach Calais. With Chauvelin at his heels, every step the Scarlet Pimpernel takes on French soil is fraught with danger."

"God grant it, Sir Andrew. But now, farewell. We meet to-night at Dover! It will be a race between Chauvelin and me across the Channel to-night—and the prize—the life of the Scarlet Pimpernel."

He kissed her hand, and then escorted her to her chair. A quarter of an hour later she was back at the "Crown" inn, where her coach and horses were ready and waiting for her. The next moment they thundered along the London streets, and then straight on to the Dover road at maddening speed.

She had no time for despair now. She was up and doing, and had no leisure to think. With Sir Andrew Poulkes as her companion and ally, hope had once again revived in her heart.

God would be merciful. He would not allow so appalling a crime to be committed, as the death of a brave man, through the hand of a woman who loved him, and worshipped him, and who would gladly have died for his sake.

Marguerite's thought flew back to him, the mysterious hero, whom she had always unconsciously loved, when his identity was still unknown to her. Longingly, in the olden days, she used to call him the shadowy king of her heart; and now she had suddenly found that enigmatic personality whom she had worshipped, and the man who had loved her so passionately, was the same man. What wonder that she should have been

visions began to force their way before her mind? She vaguely wondered what she would say to him when first they would stand face to face.

She had had so many anxieties, so much excitement during the past few hours, that she allowed herself the luxury of nursing these few more hopeful, brighter thoughts. Gradually the rumble of the coach wheels, with its incessant monotony, acted soothingly on her nerves; her eyes, aching with fatigue and many shed and unshed tears, closed involuntarily, and she fell into a troubled sleep.

(To be continued.)

### What Is a Gentleman?

A gentleman is the man who dissolves company with the snob who relates at the club his latest conquest of a woman.

A gentleman is one not having loud clothes and loud talk as part of his equipment.

A gentleman is one who does not forget that the washerwoman in the crowded street car belongs to his mother's sex.

A gentleman is the man "higher up" who is big enough to grasp the hand of the man "lower down."

A gentleman is one who believes you should undo you are proven guilty.

A gentleman is one who does not try to be like the Hga Yala, O.A.C. Review.

A gentleman is a system of manners which a well-formed mind is disposed to polish. To make our country, our country ought to be a gentleman.



**Stories About Kitchener.**

There are some stories—new and old—of Lord Kitchener, told in Nash's Magazine by Mr. Sydney Brooks. "Sunstroke? What the devil does he mean by having sunstroke?" is given as the classic instance of his attitude towards the weaker vessels. A favorite captain of his was once entrusted with an important commission. There was a delay in executing it, through his horse casting a shoe. "Very sorry," was Kitchener's comment, "but I cannot rest my plan of campaign on a horse's shoe or an officer's carelessness." He has a grim, Jaconic humor.

"Keep the gun," he is said to have wired to the War Office authorities, who were pressing a certain weapon upon him—"I can throw stones myself."

To an officer who kept on reporting that, as a result of his various brushes with the enemy, "several Boers were seen to fall from their saddles," Lord Kitchener sent the polite inquiry: "I hope when they fell they did not hurt themselves." "What is your taste in hairpins?" is said to have been the query with which he annihilated a dandified officer. He goes instantly to the essentials. "Sorry to report loss of five men through explosion of dynamite," was the gist of a telegram from the front put into his hands one day. "Do you want any more dynamite?" was his immediate answer. Men do the impossible at a word from him. "Twelve hours in which to carry this despatch? You must do it in six"—and the officer who asked for the twelve hours did it in five.—[Westminster Gazette.

**In Lilac Time.**

By Madison Cawein, in Delineator.  
Through orchards of old apple-trees  
That Spring makes musical with bees;  
By garden ways of vines and flowers,  
Where twittering sweet, the bird-box towers  
And swallows sun their plumes—  
The path leads winding to the gate,  
Hung with its rusty chain and weight,  
That opens on a lilac-walk,  
Where dreams of love and memories talk,  
Born of the dim perfumes.

The old house stands with porches wide  
And locust-trees on either side;  
Its windows, kindly as the eyes  
Of friendship, smiling at the skies,  
Each side its open door.  
Beside its steps May-lilies lift  
Bell'd sprays of snow in drift on drift,  
And in the door, a lily too,  
Again she stands—the one he knew  
In days that are no more.

Again he meets her, brown of hair,  
Among the clustered lilacs there.  
The sun is set; the blue dusk falls;  
A nesting bird another calls;  
A star leaps in the sky:  
Again he breathes the lilac scent  
And rose; again her head is bent;  
And oh! again, beside the gate,  
To see the round moon rise they wait,  
Before they kiss good-by.

Long years have passed: the times, since then,  
Have changed—and customs too, and men;  
But she has never changed to him,  
Nor has that house, so old and dim.  
Where once they said good-by.  
That place, which Spring keeps ever fair  
Through memories of her face and hair—  
Unchanged, like some immortal rime,  
Where evermore 'tis lilac time,  
And love can never die.

**The Dandelion.**

"Dear common flower that grow'st beside the way,  
Bringing the dusty path with harmless gold,  
First pledge of blithesome May—  
'Tis the spring's largess which she scatters now  
To rich and poor alike, with lavish hand;  
Though most hearts never understand  
To take it at God's value, but pass by  
The offered wealth with unrewarded eye."—Lowell.

"Sea and a fly in a blue  
Were imprisoned, and what could they do?  
Said the flea, "Let us fly";  
Said the fly, "Let us see";  
So they flew through a flaw in the pane.

**The Snail's Mouth.**

In the peculiarity of teeth and mouth the snail is the most wonderful of all the created creatures, and it has been truly said that it is fortunate for mankind that some of the larger of the wild animals are not similarly constructed. The mouth of the snail is armed with a wonderful organ in the shape of a rasp-like tongue. This tongue resembles a long, narrow ribbon, coiled in such a manner that only a small portion of it is in use at any one time. Thickly distributed over the entire surface of this ribbon-like organ are an immense number of very minute but strong and sharp teeth, designed in a manner which admirably adapts them to the purpose for which they are intended—viz., that of rasping off the edible portions of the vegetation upon which the owner of the rasp feeds.

The number of these wonderful teeth is perfectly incredible, one species having been shown by actual count under the microscope to possess not less than 30,000.

**A Garden Thought.**

By Harriet Prescott Spofford, in Harper's Bazar.

Little black poppy-seed,  
Almost too small, indeed,  
For thought or sightliness,  
Who would believe that you  
Held in your heart a true  
Magic and mightiness!

Yet when you call your train,  
—Sunshine and earth and rain,—  
Some film to sunder—  
Great sails of scarlet lean,  
Wide wings of silken sheen—  
What is this wonder!

So in my baby's form,  
Dear, and so sweet and warm,  
Slumbering evangel,  
Slowly with wings of power  
Opening like some white flower,  
Waits a great angel!

**Song from Pippa Passes.**

The year's at the spring  
And day's at the morn;  
Morning's at seven;  
The hillside's dew-pearled;  
The lark's on the wing;  
The snail's on the thorn;  
God's in his heaven—  
All's right with the world.  
—R. Browning.

**SOLUTION SIMPLE.**

A lady in the center seat of the parlor car heard the request of a fellow passenger directly opposite, asking the porter to open the window, and, scenting a draft, she immediately drew a cloak about her.

"Porter, if that window is opened," she snapt, testily, "I shall freeze to death—"

"And if the window is kept closed," returned the other passenger, "I shall surely suffocate."

The poor porter stood absolutely puzzled between the two fires.

"Say, boss," he finally said to a commercial traveller near by, "what would you do?"

"Do?" echoed the traveller. "Why, man, that is a very simple matter. Open the window and freeze one lady. Then close it and suffocate the other."—Ladies' Home Journal.

The customer had waited fifteen minutes for the fish he had ordered. He was very quiet as he sat there, but internally there was a seething.

At the end of the sixteenth minute the waiter, who had been in a total eclipse for fifteen minutes and a half, bustled up.

"That fish will be here, sir, in five minutes."

Five minutes elapsed three times. Then the waiter bustled up again.

"The fish will be here, sir, in a minute."

The customer turned to his

"Tell me," he said quietly, but with a certain emphasis, "what part are you using?"

**SAUSAGES AND ART.**

Robert Henri, the painter, was talking about these millionaires who buy, merely, to show off, doubtful "old masters" at fabulous prices.

"Their knowledge of art," Mr. Henri said, "is about equal to that of the sausage-manufacturer who said to Whistler:

"What would you charge to do me in oil?"

"Ten thousand dollars," said Whistler promptly.

"But suppose I furnish the oil?" said the millionaire."—Dallas News.

**JOHN'S MISTAKE.**

John had accepted an invitation to dine with his friend Jones, and it being a very dark night and the roads bad, John took a stable lantern to light him on his way. They dined well, and John departed for home. The next morning John received a note from his friend as follows: "Dear Jack—The bearer brings your stable lamp; please return parrot and cage."

**TRADE TOPICS.**

An automatic hand-power vacuum cleaner, which takes all the dust out of carpets, rugs, and upholstered furniture, holding all the dust in an inner tank, and which greatly lightens the work of house-cleaning, is advertised by the Onward Manufacturing Company, Berlin, Ont. Write them for their free circular.

The time for cultivating and scuffling roots, corn, and all hoed crops, is near at hand. A good scuffler is indispensable on all farms. See the advertisement of the Bruce Agricultural Works in another column. See their new Champion scuffler before buying, and write the firm at Teeswater, Ont.

**GOSSIP.**

Four hundred Ayrshires are said to have recently been bought up for shipment, and some of them await shipment. There's a boom in milk-record Ayrshires, as well as in working Clydesdales.—Scottish Farmer, April 27th.

**White Swan Yeast Cakes**

If you want your family to eat more bread, bake it with

**WHITE SWAN YEAST CAKES**

Try a 5c. package containing 6 cakes—at all grocers or write to-day for sample.

White Swan Spices & Cereals, Limited Toronto, Ont.



**Superfluous Hair**

Moles, Warts, Red Veins, etc., always permanently removed by our reliable method of antiseptic electrolysis. Satisfaction assured. Avoid nostrums and travelling operators.

Pimples, Blotches, Blackheads, Red Nose and other complexional troubles successfully treated by mail. Booklet "F" mailed on request.

Hiscott Dermatological Institute  
61 College Street Toronto, Ont.  
Established 1892

**INTERNATIONAL** Sold On A spot Cash Guaranteed  
**GALL CURE**  
Cures Horses While They Work or Rest  
PRICE 25¢ AT ALL DEALERS

PLEASE MENTION THE ADVOCATE.

**"It is impossible to feed hogs profitably with grain or corn alone, as these feeding stuffs do not contain sufficient protein which is necessary in order to make up the proper feeding rations."**

The above is an extract from a letter received recently from one of the largest hog-raising concerns in the country. They state further:

"We estimate that every 100 lbs. of Harab Digestive Tankage causes an extra increase of 75 lbs. of Pork, which would not be obtained when using the other feeding stuffs alone."

"We are in every way satisfied with the Digestive Tankage, and we highly recommend every farmer raising hogs to give this first-class food a trial, and undoubtedly he will acknowledge its advantage."

Yours very truly,

Bow Park Farm, Brantford, Ont.

(Signed) OTTO HEROLD, Manager.

If these people cannot feed hogs to best advantage without this food, neither can you, nor can you afford to be without it.

**HARAB DIGESTIVE TANKAGE**  
THE PROTEIN IN HOG FOOD

Guaranteed Analysis: Protein, 60%; Fat, 8%; Fibre, 6%.

Write us for prices and particulars of this new hog food

MADE IN CANADA BY

**The Harris Abattoir Co., Ltd.**  
TORONTO, ONTARIO







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.

BREEDING TO "GREASY" STALLION.

If a Clydesdale stallion has a "grease" leg, would he be liable to impart that tendency to his colts? Do you consider this affliction hereditary? If a stallion is from imported stock, and is an all-fine individual in every other way but for this grease leg, would you consider him a safe horse to use?

"HALDIMAND."

Ans.—We would advise never to breed to a stallion which showed any tendency towards "a grease" heel or leg. Such horses are usually beefy-legged, and there is a tendency for it to be passed on to the progeny.

BEANS, TO PREVENT LODGING.

1. Are beans harder on land than oats or corn?
2. Do beans act as a clover crop on land?
3. Is there anything to sow on low land to stiffen straw so that crop will not go down?

SUBSCRIBER.

Ans.—1. No.  
 2. Beans are a leguminous crop, and add a certain amount of nitrogen to the soil.

3. The cause of the crop lodging is often in the variety, or in the fact that the soil is too rich in humus or nitrogenous substances. Plant stiff-strawed varieties, and sow them rather thickly to overcome the difficulty.

SPRUCE GALL LOUSE.

Will you kindly let me know, through the columns of your paper, if there is anything can be used as a spray, or any other preventive for the spruce gall louse, and what season would be best to use it?

T. S. C.

Ans.—There are several species of spruce gall louse, and the same remedy does not always apply to each. The remedy for the most common spruce gall louse is to give the trees a thorough spraying before May with either whale-oil soap (1 lb. to about 5 gallons of water), or with lime-sulphur of the regular spring strength used in orchards, 1 to 9 or 1 to 10, of the commercial variety. The lice may also be reached in the latter part of August. Kerosene emulsion can also be used.

Veterinary.

ABSENCE OF OESTRUM.

I have an eight-year-old mare that I am anxious to breed, but have never noticed her show oestrus, although I have endeavored to breed her for years. Some say that Spanish fly will cause oestrus. If so, what is the dose?

E. P.

Ans.—When nature fails to act, medicines also often prove ineffective. Spanish fly is a very irritant medicine, and we do not recommend its administration. The administration of 2 drams *nux vomica* three times daily for a week in some cases appears to have the desired action. Some mares do not exhibit symptoms of oestrus, while the periods may be present at regular intervals. Forced service in many cases has the desired effect in causing visible symptoms, or if the period be on at time of service, conception will take place.

PREMATURE BIRTH.

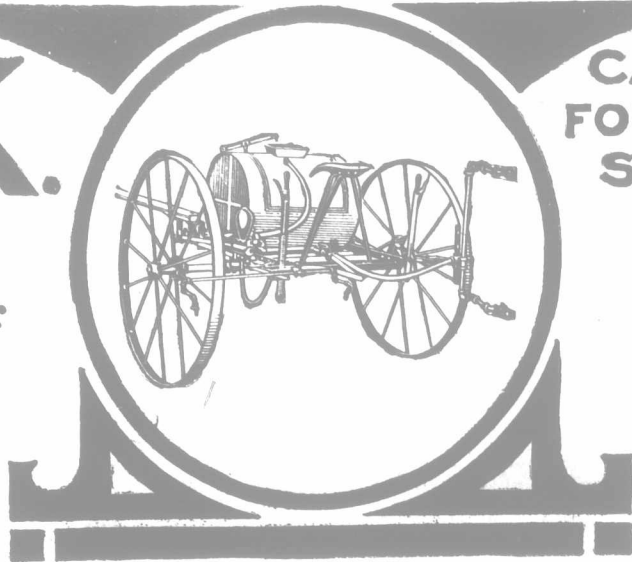
My cows are calving from one to six weeks before full term. The calves all die. Most of the cows retain the afterbirth and invert the uterus. Is this contagious abortion? Would feeding grain containing smut cause it?

N. McV.

Ans.—While several premature births indicate contagious abortion, the fact that the calves all live indicates that probably you have made a mistake in

O.K.

is a money-maker and a crop-saver



CANADIAN FOUR ROW SPRAYER

sprays any width of row.

You know how the ordinary sprayer works—"it doesn't work at all". It's always getting clogged or the pump stops and you have to go over the rows again.

Now, with the "O. K. CANADIAN", you waste no time and skip no plants. The Pump is reliable. It works right along—and the Relief Valve regulates the pressure as you want it.

The Agitator (for keeping spray thoroughly mixed) is run by a crank attached to the shaft and is a positive mixer. Arsenate of Lead and other heavy

substances won't settle in the barrel while this sprayer is in motion.

Then, there's the convenience of the "O. K." SPRAYER. The nozzles are fastened to the discharge pipes and may be arranged to any width of row—and also turned backwards, forwards or sideways. You sit in an easy position to reach the shut-off valve, which shuts off the pressure and retains it in the pump until ready to start the next row.

The whole sprayer is built for service and will give years of satisfaction.

Write for name of dealer in your neighborhood who carries the "O. K. CANADIAN" line of Potato Machinery.

Have you read our book "Money In Potatoes"? It tells you how to make your own Sprays—how to use them—and how to plant, spray and dig potatoes. Write for a free copy—and Catalogue L.

CANADIAN POTATO MACHINERY Co. LIMITED, - - GALT, Ont.

Brantford Roofing

is made to endure "Not for an age, but for all time." Our Free Book will tell you the reasons why

Brantford Roofing Co., Ltd. BRANTFORD, CANADA 34

BRANCH WAREHOUSES:

Montreal, 9 Place D'Youville.

Winnipeg, 117 Market St.

FOR SALE Jersey Cattle

(BULL & SONS AND LEE FARMS) Dairy cows—heifers and bull. Also a pair of DRIVING HORSES. Address: LORENZO E. ROY, INLAND REVENUE DEPT., OTTAWA, ONT.

Spruce Lodge Shorthorns and Leicesters Will price cheap young bull from 6 to 14 months; also 1 and 2-year-old heifers, some from imp. sires and dams. Leicesters at all times of both sexes for sale. Phone. W. A. Douglas, Tuscarora, Ont.

MENTION "FARMER'S ADVOCATE."

the time some should calve, as it is not probable that a calf born six weeks before full term would live. The retention of the afterbirth does not indicate contagion, as this may occur in any case, and is very common in abortion from any cause. Inversion of the uterus is not symptomatic of contagious abortion. In fact, we cannot remember a case in which it occurred. Feeding pregnant cows on grain of poor quality tends to cause abortion. Smut in considerable quantities might do it. It is possible the grain may contain ergot also, and this would explain matters. We are of the opinion that the trouble is caused

by the food, and that it will cease so soon as the cows are fed on food of good quality. In the meantime it would be wise to remove all pregnant cows to other quarters. Flush out the wombs of the aborted cattle daily until the discharge ceases, with a warm one-per-cent. solution of creolin, and wash their tails and hind quarters with a five-per-cent. solution of the same. Burn all afterbirths. Give to each pregnant and aborted cow 40 to 60 drops carbolic acid in a pint of cold water three times daily. The value of the carbolic acid is a disputed point, but it certainly is a valuable internal antiseptic, and at least has a tendency to prevent pyemia from absorption of infection from decaying afterbirths. It might also be wise not to breed either the cows or the bull until the nature of the trouble is established. As there is a doubt about the nature of the trouble, it will be wise to take precautions.

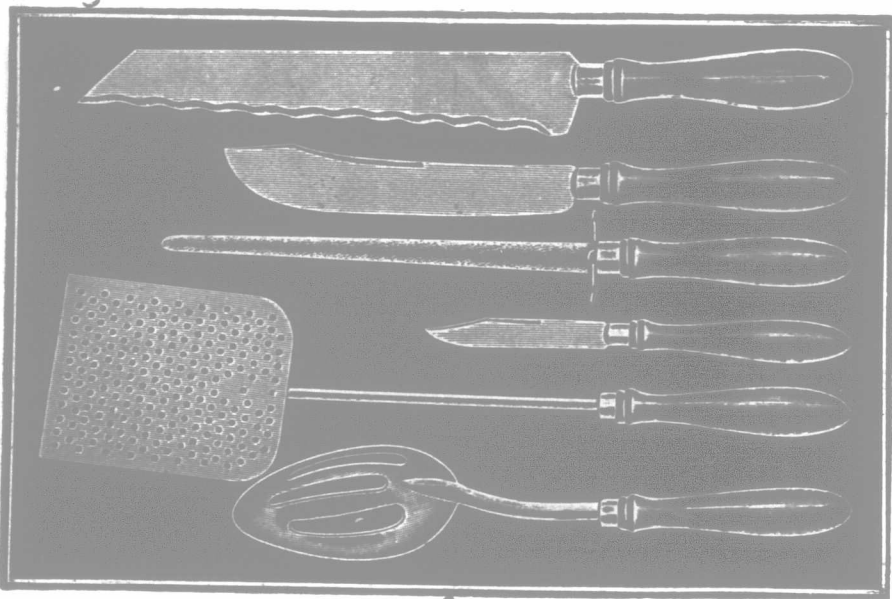
At the annual spring show and sale of pure-bred cattle at Ball's Bridge, Dublin, Ireland, April 16-19, Lord de Vesce's first prize yearling and champion bull, sold at auction for the handsome price of 400 guineas (\$2,075), to D. McLennan, for Buenos Ayres. This was the top price of the sale. Hon. E. Wrench's Golden Clipper 2nd, and Thos. Porter's Glogher Victor, were taken by the same buyer, at 200 and 165 guineas, respectively. These were the only three entries which reached the three figure mark.

John Miller, Brougham, Ont., writes: In the last few weeks I have had a lot of inquiry from my advertisement for young Shorthorn bulls, and have sold an extra good roan, 15 months old, of the Miss Ramsden family, to James Findlay, Markdale, Ont.; a roan 13 months; of the Bessie Lass family, to John Coxworth, Ivy, Ont.; to T. G. Sowden, Elizabethville, Ont., a good 11-months' red calf of the Village Girl family. I still have some of my best young bulls left, just turned the year old. One good red calf, out of the imported cow, Joyce 6th, and a choice white calf that some good steer-breeder should have. In order to clear out this lot of bulls, I am offering them at very reasonable prices.

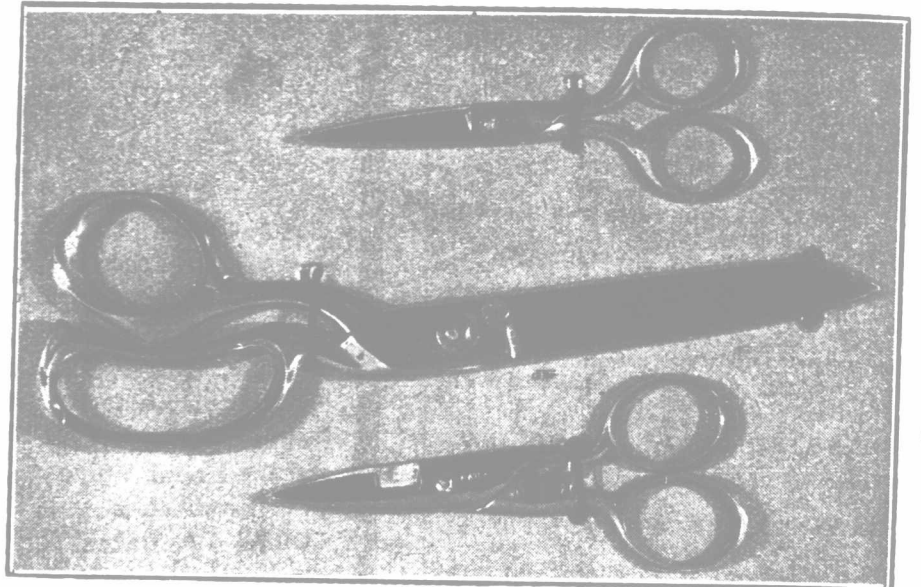


# HOUSEHOLD NECESSITIES

Below are described some of the premiums which we are offering this season. You will be highly pleased with any of them you secure. The required number of new yearly subscriptions to "The Farmer's Advocate and Home Magazine" is marked after each.



**COMPLETE KITCHEN EQUIPMENT.**—A utensil for every purpose. All made of the highest grade of crucible steel. Rubberoid finished, hardwood handles, mounted with nickel-plated ferrules. All six articles for **ONE NEW SUBSCRIBER.**



**SET SCISSORS.**—One self-sharpening scissors, one embroidery scissors, one buttonhole scissors. All good quality steel. **ONE NEW SUBSCRIBER.**

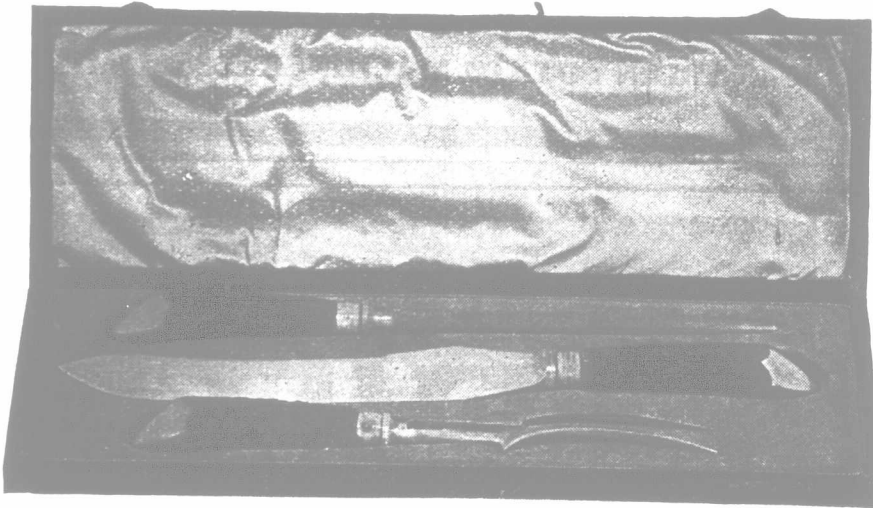
**FARMER'S ADVOCATE KNIVES.**—Manufactured by Joseph Rodgers, Sheffield, England. Jackknife and Penknife, both nickel-handled and having two blades. Manufactured especially for "The Farmer's Advocate." worth, retail, \$1.00 each. **ONE NEW SUBSCRIBER FOR EACH KNIFE.**

**40-PIECE AUSTRIAN CHINA TEA-SET.**—Handsome and dainty in shape, coloring and design, ordinarily retailing from \$4.00 to \$6.00, depending on locality. We have only a few sets left, so send your names as soon as possible. **FOUR NEW SUBSCRIBERS.**

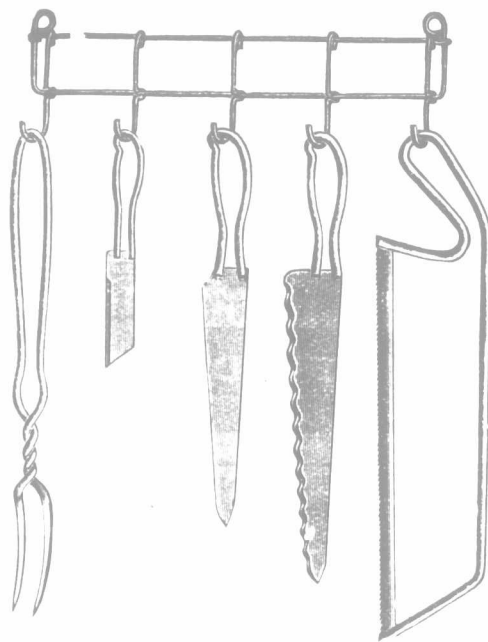
**BIBLE.**—Old and New Testaments in beautifully clear, legible type; references, concordance to both old and new testaments. Index to names of persons, places and subjects occurring in the Scriptures. Twelve full-page maps; all excellent in type and outline. This book is of most convenient size, being 7 x 10 inches when open; weight, 23 ounces; and would sell at regular retail price from \$1 to \$1.50. **ONLY ONE NEW SUBSCRIBER.**

**"THE VISION OF HIS FACE,"** by Dora Farncomb, writer of Hope's Quiet Hour in "The Farmer's Advocate," contains 18 chapters, 224 pages, in cloth with gilt lettering. One of the many expressions received regarding it is: "I am pleased, edified and comforted in reading it. It is better, fuller and richer than I expected." Cash price, cloth binding with gilt lettering, 75 cents; handsomer binding, richly decorated with gold, \$1.00. **ONLY ONE NEW SUBSCRIBER.**

**"CARMICHAEL,"** by Anison North—A Canadian farm story, bound in cloth, illustrated. Buffalo Courier says: "It is far above the ordinary run of fiction." Toronto World says: "Should be in all the homes of the people." Cash, \$1.25, or **TWO NEW SUBSCRIBERS.**



**SET STAGHORN CARVERS.**—First quality steel, with staghorn handles and handsome nickel mounting. These carvers will retail from \$3.50 to \$5.00 per set. **THREE NEW SUBSCRIBERS.**



**SANITARY KITCHEN SET.**—Best quality steel, five pieces and rack which can be hung on the wall. **ONE NEW SUBSCRIBER.**

**TWENTY-ONE-PIECE AUSTRIAN CHINA TEA SETS.**—These would retail at from \$2.50 to \$3.50 per set, depending on locality. **FOR ONLY TWO NEW SUBSCRIBERS.**

**BARON'S PRIDE.**—Handsome picture of the champion Clydesdale. Size, 17 x 13 in., including margin. Suitable for framing. **ONE NEW SUBSCRIBER.**

**DICTIONARY.**—An indispensable volume in every home. The Chambers' Twentieth Century Dictionary, cloth bound, contains 1,200 pages, profusely illustrated, printed on superior quality of paper. **TWO NEW SUBSCRIBERS.**

**THESE PREMIUMS ARE GIVEN ONLY TO OUR PRESENT SUBSCRIBERS FOR SENDING IN BONA-FIDE NEW YEARLY SUBSCRIPTIONS ACCOMPANIED BY \$1.50 EACH.**

**EIGHT MONTHS CREDIT.**—Any subscriber may have the date on his own label advanced 8 months by sending us the name of one new subscriber and \$1.50.

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# You Can Light YOUR House With ACETYLENE

Even though you cannot get city gas or electricity, you can get a better light—ACETYLENE.

An Acetylene lighting system can be installed in your home, without cutting up floors or walls, and at small expense.

Then—you can say good-bye to the mussy, smelly coal-oil lamps, the smoky chimneys, the uneven wicks, and the disagreeable job of keeping them in order.



Then—you can have in every room a light that is really daylight's counter-part—a light that is soft, white, pleasant and remarkably easy on the eyes—a light that shows colors as they really are, and makes reading a greater pleasure than ever.

With all these advantages you'll get more light for your money, for Acetylene costs only from 1/2 to 2/3 as much as coal oil light of equal brightness.

Then why not have Acetylene?

Write us and we'll tell you all about how to put in an Acetylene system, what it costs, and how much light it will give you for every cent in cost.

**ACETYLENE CONSTRUCTION CO., LIMITED**  
604 POWER BLDG., MONTREAL.

Cor. McTavish and 6th Sts., Brandon, Man. — 422 Richards St., Vancouver.



## For the Immigrant

The Immigration Department of the Canadian Northern Railway have inaugurated special facilities for the benefit of Immigrants travelling by the Royal Line of Steamers.

Organized parties in charge of experienced Conductors are arranged for the benefit of those who desire to travel in the care of responsible representatives of the Immigration Department.

### BOATS MET AT HALIFAX AND QUEBEC

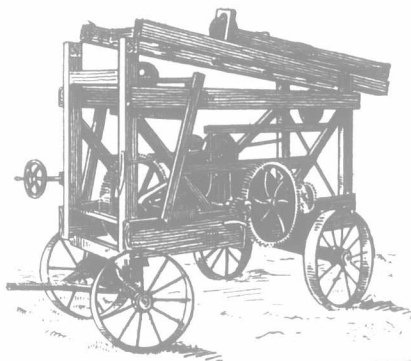
The Representative of the Immigration Department, thoroughly familiar with the customs and conditions of the Dominion, will meet the Royal Line of Steamers for the purpose of advising Immigrants and of conducting parties to various points in the interior, such as Montreal, Toronto, Winnipeg, etc.

### SHIP'S MATRON

An Officer of this title has been appointed to each boat for the special benefit of third-class passengers. The sole duty of the Ship's Matron is the care of women travelling with children and young women travelling alone, also young children. For further information write:

T. Howell, General Emigration Agt., Canadian Northern Bldgs., Toronto, Can.

## Dick's Standard Well Drilling Machine



THE Noiseless Well Drilling Machine is the term usually applied to the Standard when compared to other makes, with their incessant rattle and clang. They are compactly constructed and their mechanism is built of iron and steel—not wood.

"Boys"—This is a money maker. Drop a card to-day for full particulars.

The Dick Well Drilling Machine Co.  
BOLTON, ONT., CANADA  
Quebec Agents: Bournival & Co., 333 Notre Dame St. East, Montreal

## FIRST ANNUAL SALE OF Registered Stock

Under the auspices of the BEAUHARNOIS LIVE STOCK BREEDERS' ASSOCIATION, will be held at

Ormstown, Quebec, June 14th, 1912

There are already consigned: 100 Registered Ayrshires (50% imported), 30 Registered Holsteins, 20 Registered Clydesdales. Watch for future announcements. Catalogues will be ready May 15th, and may be had by applying to the Sec.-Treas.

J. P. CAVERS, Chairman Sales Committee.  
J. G. BRYSON, Secretary-Treasurer, Ormstown, Que.

DISPERSION SALE—Wednesday, June 18th, 1912, we will dispose of our entire herd of 80 Pure-bred Ayrshires. R. O. P. work-out specialty. Fuller announcement will be made in later issues.

A. S. TURNER & SON, Ryckman's Corners, Ont.

MENTION THE FARMER'S ADVOCATE WHEN WRITING ADVERTISERS.

### QUESTIONS AND ANSWERS.

Miscellaneous.

#### RIGS PASSING.

1. Would like to ask the question: In driving on the street and an auto comes up from behind, which side must it take to pass? I was driving in the track with wide space on the right side of me for him to pass, but he yelled loudly to turn out.

2. Is it not the law for a rig to pass on the right side, either passing from behind or in meeting a rig? MIKE.

Ans.—1 and 2. In Ontario, in meeting other vehicles one should turn out to the right, and a rig overtaking another should pass on the left-hand side.

#### APRICOT DOESN'T FRUIT.

We have an apricot tree that seldom bears. Once it had four on, but it is a very large tree, and might bear more. We have tried almost everything we could think of, but still it never bears. Can you tell me the cause of this, and how to cultivate it? Does spraying do any good? It is full of blossoms each year, but after the fruit has formed (sometimes they are as large as peas) they drop off. D. R.

Ans.—The apricot likes a strong soil, and because of early blooming it is often caught by frosts. It is also badly attacked by curculio. As the fruit sets all right, the cause of dropping must be frost or curculio. There is also a great difference in the trees and varieties. Thorough spraying might help to hold the fruit, and keeping the tree back in the spring by tramping snow around the trunk and sheltering it from the sun would likely help. The early blooming and curculio often prove the ruin of the crop. Cultivate thoroughly up to mid-summer, then cease.

#### AN INCUBATOR CELLAR.

I am intending to put a wall under my henhouse, which is 12 x 36 feet, and use it for an incubator-room and for small chicks, and if not warm enough, I thought that perhaps I could put in a heater. Would this be advisable or not? A wall about 8 inches thick, and perhaps a row of windows in the south side 3 feet high in the top of wall, and wall to be 6 feet high. I keep two or three hives of bees, and I am always looking to see what I can in "The Farmer's Advocate" about them, for I am only a new beginner, and would like to know as much about it as possible. L. A. B.

Ans.—The main requisites of an incubator-room are that it be kept clean and well ventilated, and that the temperature varies but little. A dark cellar is better than one with a number of windows to the south, as these windows permit the sun's rays to enter, and the temperature is harder to control. A cellar built warm enough so as not to require artificial heat is better than one where it is necessary, although fair success might follow its use, provided care is taken to keep the temperature uniform.

#### ROPY MILK.

I have a three-year-old heifer, fresh, come in about a month ago, but lately have noticed something wrong with her milk. If it stands about a day it thickens, and when pouring it out of a pitcher will string like syrup, but don't taste sour or is not curdled; just seems stringy. Have been feeding her on clover and timothy hay, dry oats, and a bran slop, and about two or three tablespoonfuls of oil cake. Please state cause of such, and give treatment, if any. Is milk fit to use when it is put through a separator and fed to calf? J. H.

Ans.—This is a case of ropy milk. The ropiness is generally caused by bacteria. The organism may come from dust, water, or it may be from garget. If from any udder trouble the milk is ropy when drawn from the cow. This is evidently a case caused by the bacteria, and the milk is wholesome. Try it by putting a little of it in unaffected milk. If caused by bacteria, the entire lot will become affected. Water is the most frequent source of the trouble. Take special care in scalding utensils. Do not use wooden pails, etc. Take special precautions toward cleanliness. See article "Ropy Milk," in "The Farmer's Advocate," issue of April 4th, 1912, page 636.

## Have You Made Your Will?

If Not, Your Family Are Unprotected.

NO LAWYER IS NECESSARY.

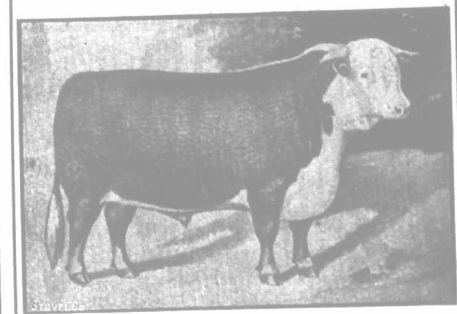
For thirty-five cents, you can make your will and be absolutely assured that it is perfectly legal in every respect, and that it cannot be broken by anyone, no matter how hard he may try.

Delay in making your will is an injustice to those whom you wish to be taken care of. The Courts are full of Will cases where by legal technicality or the absence of a Will, and the people who inherit property are almost the last ones that the deceased would want to share in it.

LIFE IS VERY UNCERTAIN.

So if you wish to assure those who are nearest and dearest to you of receiving all that you wish them to have, instead of paying \$5.00 to \$10.00 to a lawyer, send 35c. for a Bax Will Form, which also includes a specimen will for your guidance. Fill it out according to simple instructions, and you may be perfectly sure that it will stand every legal test and cannot be broken under any circumstances.

Why not get one to-day? For sale by all druggists, and the Bax Will Form Co., 275F College street, Toronto.



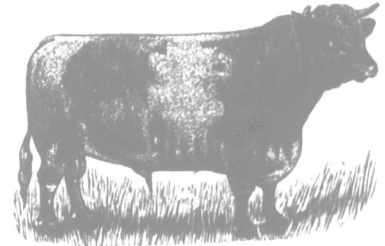
## BULLS WANTED

WANTED AT ONCE

50

Shorthorn and Hereford bulls, ranging around two years old. State price and weight and advise.

Thomas Mercer, Markdale, Ont.



## 135 Acres \$2,500, Part Cash Livestock, Machinery and Tools

Widowed owner sacrifices this fine New York farm, completely equipped: 70 acres loamy fields, brook-watered pasture for 15 cows, lots of wood, 500 sugar maples and outfit, 50 apple trees, 2-storey 9-room house, 40-ft. barb, convenient outbuildings, maple shade, sweeping view of valley, horse, 6 cows, heifer, all machinery, cream separator, gasoline engine, and all tools included if taken immediately; chance of a lifetime at \$2,500, part cash. All details and traveling directions to see it page 6 "Strout's Farm Catalogue 35," just out, copy free. We pay buyer's R.R. fares. E. A. Strout Farm Agency, Station 2415, 47 W. 34th Street, New York.

## WANTED-CREAM

Highest Toronto prices paid for cream delivered at any express office. We pay all charges, furnish cans free, pay accounts fortnightly, engage man to collect at some points. Ice not essential. Write for particulars.

THE TORONTO CREAMERY CO'Y, LTD.  
Toronto, Ontario

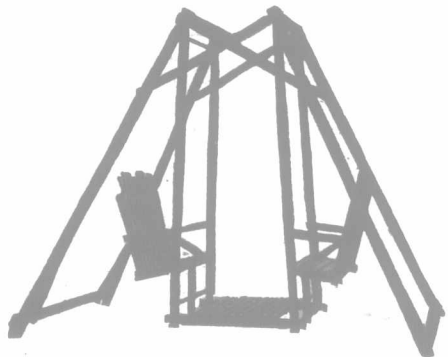
June 14th, 1912, is the date announced for the first annual consignment sale of registered live stock, under the auspices of the Beauharnois Live-stock Association, to be held at Ormstown, Que., when there will be sold by auction 100 Ayrshires, 30 Holsteins, and 20 Clydesdales. See advertisement in this issue, and watch for further announcements.



A CUP OF  
**BOVRIL**  
COSTS LITTLE

But the comfort and health,  
the increased enjoyment  
and power it will give  
you cannot be  
measured by  
money.

A REAL SUMMER NEED  
**The Stratford  
Lawn Swing**



Just the thing for your Lawn or Garden. It is fine for the youngsters and a source of enjoyment for the grown-ups too. It is inexpensive and is built solid and strong.

Write us for Booklet "A" which tells all about this and other Summer and Out Door Furniture.

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Stratford, Ont. Limited

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PACIFIC  
HOMESEEKERS'  
EXCURSIONS**  
TO  
Manitoba, Saskatchewan, Alberta

Special Trains leave Toronto 2.00 p.m. on  
APRIL 2, 16, 30 MAY 14, 28 JUNE 11, 25  
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Second class tickets from Ontario stations to principal Northwest points at

**LOW ROUND-TRIP RATES**  
Winnipeg and return \$34.00; Edmonton and return \$42.00, and to other points in proportion. Tickets good to return within 60 days from going date.

**TOURIST SLEEPING CARS**  
through to Edmonton via Saskatoon, also to Winnipeg and Calgary via Main Line on all excursions. Comfortable berths, fully equipped with bedding, can be secured at moderate rates through local agent.

Early application must be made.

**ASK FOR HOMESEEKERS' PAMPHLET**  
containing rates and full information.

Apply to nearest C.P.R. Agent or  
M. G. MURPHY, Dist. Pass. Agt., Toronto.

**ONLY DIRECT LINE NO CHANGE OF CARS**

**DAIRY FARMERS, ATTENTION**

Start the season right by shipping to the Walkerton Creamery.

We are in a position to handle a large quantity of fresh cream for buttermaking and beg to solicit your shipments.

We pay by express money order, bank money order or bank money order, and payments are made every two weeks.

Express charges paid on all shipments.

Every can of cream carefully weighed and tested upon arrival at the creamery.

Write for cans and further particulars to the  
**WALKERTON EGG & DAIRY CO., LIMITED**  
WALKERTON, ONT.

**QUESTIONS AND ANSWERS.**  
Miscellaneous.

**ALSIKE FOR SEED.**

What is the proper way to handle a field seeded down to alsike for a crop of seed? Will cutting it for seed kill the roots, or would it be all right to leave for pasture next year? This field is all in good condition, but part of it is low and mucky. Do you think the low part would be as good for seed as the other part? A SUBSCRIBER.

Ans.—Some pasture the crop a short time in the spring, and run the mower over it early in June, letting the clover grow up again to cut for seed. Others let it grow right along until mature, when it is cut. Cutting it for seed so weakens the plants that they do not come on again for another crop. It is better to plow the field after cutting. The low land will likely grow more straw, and not quite as much seed as the higher land, although alsike does very well on comparatively low, heavy soil.

**TOMATO FERTILIZER.**

In your issue of March 28th, W. R. Gay's address on "Growing Tomatoes" was reported. He spoke of a fertilizer, but did not give the quantities required of each to make up the amount. Could it be got in the drug store? I would like to try it, but I am only a small grower and would not need much. Are there any other names for the things that Mr. Gay speaks of, or anything that would take their place to make up a small quantity to try it? If so, please give through "The Farmer's Advocate." J. F. L.

Ans.—The fertilizer referred to was guano, which is largely composed of the dried excrements of sea fowls. It contains, on the average, from 2 to 10 per cent. nitrogen; 10 to 30 per cent. phosphoric acid, and 0.2 to 3.4 per cent. potash. It should always be purchased on analysis, as it varies greatly in composition. It is sometimes handled by seedmen, or dealers in fertilizer. Any complete fertilizer containing these ingredients should be all right for the tomatoes, but a relatively large per centage of potash and a small per centage of nitrogen is desirable, as too much nitrogen tends to produce over-large vines and little fruit, while potash produces more fruit and smaller vines.

**HAMPERS FOR VEGETABLES.**

I would like to have exact information as near as possible of the methods employed in selling market-garden produce in the hamper form, particularly as regards the shape, size, and style of hamper used for vegetables, eggs, etc. I have seen something of this trade mentioned in your paper, but will be glad to have an idea as to the exact shape of crate used for the purpose, or might even be glad to buy a sample crate, if you could advise me where these have been made, in case the dimensions are peculiar, and would require a sample.

Ans.—There are many different sizes and shapes of boxes, crates and baskets used by market gardeners in marketing their produce. The most advantageous size must be determined. Small packages are now extensively used. Packages must be satisfactory, as carriers must present a good appearance; must be adapted to the crop being marketed; must be inexpensive, and of a size and shape easily handled in loads. Everything, from a barrel down to quart baskets, is used. Growers in different sections use different packages. The barrel is too large and clumsy to handle. Bushel baskets are used in many sections. They are about 16 inches square and 8 inches deep. This makes a box easy to pack, easy to load, and strong and lasting. Some use half-bushel baskets; others ordinary fruit baskets. A hamper known as the Long Island hamper, described in Watts' "Fruit and Vegetable Marketing," is said to be extensively used for supplying high-class buyers direct to the consumer. This hamper is 16 inches deep, length 24 inches, top width 24 inches, bottom width 10 1/2 inches. Of course, the hamper is made of wood, and is very strong. A great deal of attention is given to the grading and packing of the fruit, and the hamper is a very important part of the marketing process. A good method of marketing is to use a hamper with a lid that can be removed.



**Tall Grain and Short--Both Look Alike to a Deering New Ideal Binder**

TO harvest successfully short or tall grain that is filled with undergrowth, to cut and bind it all without waste—these are the problems that confront the farmers of Eastern Canada.

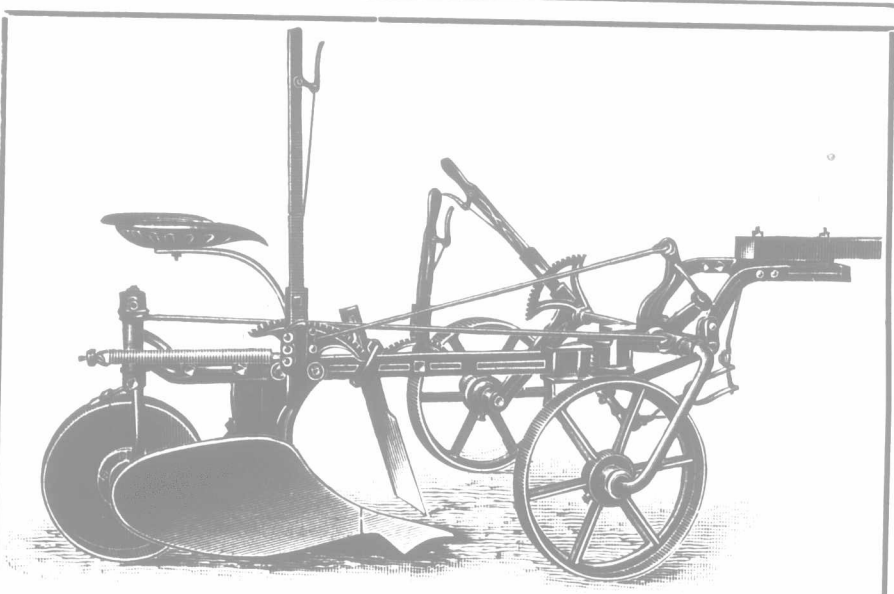
Deering binder features solve these problems. The T-shaped cutter bar, which is almost level with the bottom of the platform allows the machine to be tilted to cut close to the ground without pushing trash ahead of the knife. This, together with the reel adjustments for very tall or very short grain, makes the Deering binder very successful in Eastern Canadian harvest fields.

The elevator projects ahead of the knife and is open at the rear to enable it to deliver the grain properly to the binding attachment. A third packer reaches up close to the top of the elevator and delivers the grain to the other two packers. A third discharge arm keeps the bound sheaves free from unbound grain. The Deering knotter never fails.

See the Deering local agent and have him explain fully all the strong features of Deering harvesting and haying machines and tools and binder twine. Get catalogues from him or write the nearest branch house.

Eastern Canadian Branches  
**International Harvester Company of America**  
(Incorporated)  
At Hamilton, Ont. London, Ont. Montreal, P. Q.  
Ottawa, Ont. St. John, N. B. Quebec, P. Q.

**I H C Service Bureau**  
The purpose of this Bureau is to furnish, free of charge to all, the best information obtainable on better farming. If you have any worthy questions concerning soils, crops, land drainage, irrigation, fertilizer, etc., make your inquiries specific and send them to I H C Service Bureau, Harvester Bldg., Chicago, U S A



**DICK'S PATENT RIDING PLOWS**

The above represents our single general-purpose plow, fitted with No. 9 bottom; useful in any land, but more adapted for clay, or heavy soil and sod. It cuts a furrow from 9 to 14 inches wide, and any desired depth. Cut represents it fitted with straight coulters. Skimmers or rolling coulters are readily fitted, at a slight additional cost. The lever for lifting plow is balanced by a strong spring, which makes it easily raised by the operator. By replacing the No. 9 bottom by the No. 2, the plow is made suitable for loamy or lighter soils. We provide extra points and neckyoke with each plow.

Write for illustrated catalogue and prices. Address:  
Order direct and save middleman's profits.

**WM. DICK, Bolton, Ontario**

**A Few Choice Clyde Fillies**—I am offering several choice and particularly well-bred Clydesdale fillies from foals of 1911 up to 3 years of age, imported sires and dams. Also one stallion colt of 1911, imp. sire and dam. These are the kind that make the money.  
**HARRY SMITH; Hay P.O., Ont. Exeter Sta. L.D. Phone,**

**Peachblow Clydesdales and Ayrshires** I am offering some choice young heifers and cows due to freshen in January in sale the imported horse Harrier, 6123, and the yearling stallion Nessmore, 11032. They are offering for animals and will be sold worth the money. For prices write:  
**R. T. BROWNLEE, Peach Blow Farm, Hemmingford, Que.**

MENTION THE FARMER'S ADVOCATE WHEN WRITING ADVERTISERS.



**MERCHANTS PRODUCE CO.**  
**Butter Eggs Poultry Honey Beans Apples Potatoes, etc.**  
 Our constantly growing trade demands large supplies of choice farm produce. We need yours. Write for weekly market letter.  
**57 Front St. E., Toronto**  
 Established 1899

**THICK, SWOLLEN GLANDS**

that make a horse wheeze, Roar, have Thick Wind or Choke-down, can be removed with

**ABSORBINE**

also any Bunch or Swelling. No blister, no hair gone, and horse kept at work. \$2 per bottle delivered. Book 3 E free. **ABSORBINE, J.L.** liniment for manking. Reduces Goures, Tumors, Wens, Painful, Knotted Varicose Veins, Ulcers. \$1.00 and \$2.00 a bottle at dealers or delivered. Book with testimonials free. **W. F. YOUNG, P.D.F., 258 Lyman Bldg., Montreal, Ca.**

**Linfield Stock Farm Holsteins**

A bull calf, eleven months old, by Pietertje Paul's Wonder and out of Felicia Pietertje De Kol (who gave 56 lbs. milk as a three-year-old and 11,200 lbs. in a year.) He is mostly white and a beauty, and fit for service. The first check of \$50.00 takes him.

**P. S. RIDDELL, Prospect Hill P.O., Ont.**  
 Granton Station.

**Shires and Shorthorns**

In Shire stallions and fillies, from the best studs in England, we are offering some rare animals at rare prices. Scotch Shorthorns of either sex or age of highest breeding and quality. **John Garahouse & Son, Highfield Ont.** L.-D. phone.

**For Sale** Valley Dale Shires. Imported and Canadian bred Stallions, Mares and fillies from 1 to 7 years old. For description and particulars apply to

**Wm. Pearson & Son, West Flamboro,**  
 Address 103 York Street,  
**HAMILTON, ONT**

**BOOK REVIEW.**

**VEGETABLE GARDENING.**

Growing vegetables for home use, or as a commercial branch of farming, is every year receiving more attention in Canada. For that reason, as well as the growing demand for trustworthy textbooks in colleges and schools, the new volume on this subject, by R. L. Watts, head of the Department of Agriculture in the Pennsylvania State College, appears at the "nick of time." and The Orange-Judd Company, of New York, are to be congratulated on the completeness and excellence of the work they have published. It is based on the actual experience of the author in the business of vegetable-growing, the experience of American and Canadian growers, and the best modern literature available on the subject. In separate chapters, it gives: A General View, Selection of Location, Soils, Tillage and Tillage Tools, Stable Manures, Green Manures and Clover Crops, Commercial Fertilizers, Irrigation, Insect Enemies and Fungous Diseases, Seeds and Seed Growing, Construction of Hotheads, Construction of Cold Frames, Construction of Greenhouses, Seed Sowing, Transplanting, Growing Early Vegetable Plants Under Glass, Marketing, Co-operative Associations, The Storage of Vegetables, and the Classification of Vegetables. One-half the book is devoted to the culture of vegetables grown in Canada and the United States. It covers over 500 pages, and contains over 100 useful illustrations. On a minor point like that of the best varieties, the experience of growers might vary, but it more fully and helpfully covers this particular subject than any other one volume we have seen. A successful Canadian grower of vegetables for market, after examining the book at our request, also pronounced it good—in fact, the best he had ever seen. Its common-sense counsel will save beginners from many costly mistakes. The book may be ordered through this office at \$1.90.

A garden is a lovable thing,  
 God wot—  
 Close plot, fringed pool, fern'd grot—  
 The veriest school  
 Of peace, and yet the fool  
 contends that God is not—  
 For God! in gardens when the eye is  
 begot.  
 But I have a sign:  
 I'm sure God walks in mine.

**QUESTIONS AND ANSWERS.**  
 Miscellaneous.

**DISCHARGE FROM VULVA.**

Have a draft mare about 1,200 lbs. and 14 years old, due to foal the 1st of July. Is kept at work most of the time. Occasionally, when lying down, a small quantity of blood escapes from the vulva. Noticed it on three occasions since March. Mare seems all right. What is the cause? Please give remedy.  
 A. F. J.

Ans.—As the mare is doing well, there seems to be little need to worry. The discharge is not likely anything serious, and unless it shows some evil effect on the mare, would not attempt treatment. The less medicine an in-foal mare gets the better.

**FEEDING HOGS.**

I am feeding a number of hogs weighing from 60 to 125 lbs. each. I am feeding a mixed chop of oats, barley and corn. Would you advise soaking the chop or feeding it dry by throwing it on the ground as some advise, and let the hogs eat it dry? I myself think it a waste of feed to throw it on the ground.  
 A FARMER.

Ans.—Soaking the meal prevents waste. Feeding dry on the ground is not the most economical method of feeding meal to hogs. Lessening the waste is the strong point in favor of soaking. Do not soak over twelve hours before feeding. A good plan is to keep one feed soaking ahead.

**ALFALFA WITH OR AFTER WHEAT.**

Would it be too late to sow alfalfa after wheat harvest? I thought of plowing up the subsoil and working it good and sowing alfalfa. It is next to barnyard; handy to cut for green house feed.  
 A. O. A.

Ans.—This might do if the wheat were cut early, the land then plowed immediately and well compacted and pulverized, but granting these conditions, a good deal would still depend on the weather. Why not try sowing part of the piece now, first harrowing the field, and then harrowing in the seed? It will look like killing the wheat, but never mind that. Have faith, and watch results.

**CASTRATING COLTS.**

Will you kindly say which you consider the best way of castrating colts, by old way of tying on sticks, or, as I am told one man is doing here, by pinching off the cord with an instrument for the purpose, and not using any sticks?  
 W. C.

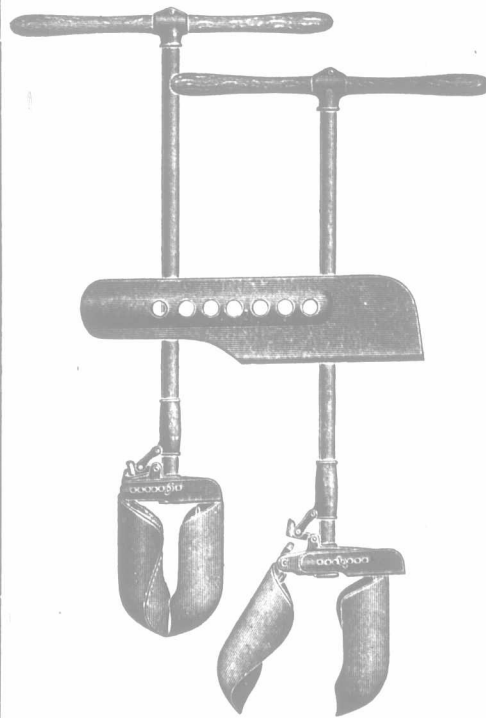
Ans.—The operation of castrating colts or horses should always be performed by a competent person, preferably a veterinarian. The method of using clamps is a very old one, and the improved castrating instruments, the emasculator and the ecraseur, are now extensively used. These instruments have many advantages over the old clamp method.

**PERCHERON REGISTRATION.**

1. What steps should I take to register a Percheron foal whose sire and dam are both registered, as I do not know whom to write to?  
 2. In one of your past issues I saw something about the American Percheron Society giving prizes at some of the leading shows in Canada, and in order to compete for these prizes, an exhibitor must belong to this association. To whom should I write?  
 C. E. H.  
 Ans.—1. Apply to the Registrar National Live-stock Records, Department of Agriculture, Ottawa, for the necessary information and registration certificate blanks.  
 2. Write the Secretary, Wayne Dinsmore, Union Stock-yards, Chicago.

Walburn Rivers, Foldens, Oxford Co., Ont., breeder of Holsteins, sends a change of advertisement, and writes: Sales have been brisk, at satisfactory prices. Bulls of serviceable age are all gone, and could have sold more. Have on hand, for sale, at present, a splendid lot of bull calves, born between October and March, all sired by our stock bull, Prince Auggie Mechtalde, who is proving a splendid stock-getter, his calves being all of the long, low, deep-bodied type. These are all from record-of-merit dams.

**ATTENTION, FARMERS!**

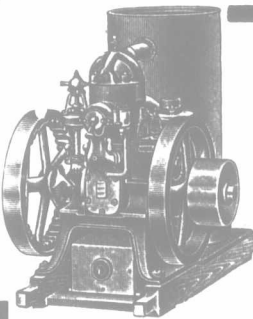


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- The STANDARD is the ONLY Auger
- That really bores.
- That will enter hard earth.
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- That will hold fine dry sand.
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- That opens to discharge the contents.
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- That has double "V" point cutting blades
- That is guaranteed to save half the time.
- That individually bores more than ONE sized hole.
- That individually bores NINE different sized holes.
- That is guaranteed to do the work with half the effort.

If your hardware or implement man cannot supply you, order direct from

**Canadian Logging Tool Company, Limited**  
 Sault Ste. Marie, Canada



**This Engine Runs on Coal Oil**

Every farmer can afford an Ellis Coal Oil Engine. They give far more power from coal oil than other engines do from gasoline. They are safe, as well as cheap; no danger of explosion or fire.

The strongest and simplest farm engine made; only three moving parts: nothing to get out of repair. Anyone can run it without experience. Thousands of satisfied customers use these engines to grind feed, fill silos, saw wood, pump, thresh, run cream separators, and do dozens of other jobs. Cheaper than horses or hired men. Fill up the tanks and start it running, and no further attention is necessary; it will run till you stop it.

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**3 to 15 horse power**  
**We Pay Duty and Freight**  
**Ellis Engine Co., 94 Mullett Street**  
**DETROIT, MICH.**

**Toppers in Clydesdales at Markham, Ont.**

I have sold more Clydesdales in the last four months than I ever did before in the same time. Why, because I can show more good horses than any other man in Canada. I have some crackers left. Come quick if you want the best the breed produces. No man can undersell me.

**T. H. HASSARD,**  
 Markham, G. T. R. Locust Hill, C. P. R.

**GRAHAM & RENFREW COMPANY**  
**CLYDESDALES AND HACKNEYS**

Our winnings at all shows are your guarantee that whatever you buy from us will be the best in the land. You cannot afford to buy without first seeing our importations.  
 Address all correspondence to Bedford Park P.O., Ont. Telegrams to Toronto. Telephone North 4483, Toronto.

**Clydesdale Stallions and Fillies**

Our past record for many years in the leading show-rings of Canada and in the yearly increase in volume of business is our best recommendation. This has been our best year. We have still some of the best of last year's importation in both stallions and fillies. We solicit your trade and confidence.

**SMITH & RICHARDSON, Columbus P.O., Ont.**  
 Brooklyn G. T. R. Myrtle C. P. R. Ottawa C. N. R.

**CLYDES, SHIRES, PERCHERONS**

Now offering 8 imp Clydesdale fillies, rising 3 years; 1 imp Clydesdale stallion 12 years, a good one, and several stallions 2 and 3 years; one Shire stallion, sure foal-getter; two black Percheron stallions, 6 and 8 years, and one Thoroughbred stallion. All will be sold at bargain prices.  
**T. D. ELLIOTT, Bolton, Ont.** Long-distance Phone.

**IMPORTED CLYDESDALES**

I have for sale mares and fillies, from foals up to 5 years of age; richly bred and big in size; a number of them in foal; matched pairs, the kind to make you money. They will be sold at prices that defy competition.  
**ALEX. F. McNIVEN, St. Thomas, Ont.**  
 L.-D. phone.

**Imp. Clydesdale Stallions of Size and Quality**

Our latest importation of Clyde stallions include several that were 1st prizewinners in Scotland. We have them from one year old up, of choicest breeding, big, flashy quality fellows, full of draft character. Our prices are the lowest, and our terms the best.  
**L.-D. phone. CRAWFORD & McLACHLAN, Thedford P.O. and Sta.**

We still have on **Clydesdale Stallions** with both size and quality, all prizewinners and breeding of the best blood in Scotland. Prices and terms the best in Canada.  
**John A. Boag & Son, Bay View Farm, Queensville, Ont.**  
 On the Toronto & Sutton Radial Railway Line. Long-distance Phone.



**Warranted to Give Satisfaction.**  
**Gombault's**  
**Gaustic Balsam**



**Has Imitators But No Competitors.**  
**A Safe, Speedy and Positive Cure for**  
**Curb, Spint, Swoeny, Capoea Hook,**  
**Strained Tendons, Founder, Wind**  
**Puffs, and all lameness from Spavin,**  
**Ringbone and other bony tumors.**  
**Cures all skin diseases or Parasites,**  
**Thrush, Diphtheria. Removes all**  
**Bunches from Horses or Cattle.**

**As a Human Remedy for Rheumatism,**  
**Sprains, Sore Throat, etc., it is invaluable.**  
**Every bottle of Gaustic Balsam sold is**  
**Warranted to give satisfaction. Price \$1.50**  
**per bottle. Sold by druggists, or sent by ex-**  
**press, charges paid, with full directions for**  
**its use. If send for descriptive circulars,**  
**testimonials, etc. Address**  
**The Lawrence-Williams Co., Toronto, Ont.**

**Clip Your Horse in 30 Minutes**  
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**"BURMAN"**  
**HORSE CLIPPER**



will clip it in 30 minutes.  
 Always ready for use, easy to manipulate, always dependable and clips cleanly, evenly and as close as you wish.  
 If you have one horse or twenty, this clipper will save your time and money—there is a low first cost, and no repair expense.  
 Comes packed ready for use—clipping plates and shaft-hook for holding clipping-head supplied. Ask your nearest dealer, or write direct.  
**B. & S. H. THOMPSON COMPANY Ltd. Montreal**

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**FOALING INSURANCE.**  
 A small premium will secure a policy in our Company by which you will be fully insured against any loss resulting from the death of your mare or its foal, or both. All kinds of insurance on Live Stock. Transit Insurance covering horses on board cars for 5, 10, 15, 20 or 30 days.  
**PROSPECTUS FREE ON DEMAND.**  
**General Animals Insurance Company of Canada**  
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**OTTAWA BRANCH:**  
**No. 106 York Street, Ottawa**  
 Toronto Agency: J. A. Casar, Room 2, James Building, Toronto, Ont.

**NOTICE TO HORSE IMPORTERS**  
**GERALD POWELL**  
 Commission Agent and Interpreter.  
**Nogent Le Rotrou, France**  
 will meet importers at any port in France or Belgium, and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking and pedigrees. Many years' experience; best references. Correspondence solicited.

**QUESTIONS AND ANSWERS.**  
**Veterinary.**

**FATALITY IN PIGS.**

Young pigs, fed on skimmed milk, shorts and whole oats and barley lose appetite, do not care to run around with the others, lose flesh, stagger around for a few days and die. Some say that black tooth is the trouble. H. K.

Ans.—There is no such disease as "Black Tooth" in pigs. These pigs suffer and die from digestive trouble, probably caused by eating whole oats and barley. Get the grain chopped fine, and it would be well to sift the hulls out. Make a mixture of equal parts Epsom salts, sulphur and powdered charcoal, and give a little in each meal, say a teaspoonful for each pig. If this causes diarrhea, lessen the amount. Allow free run on grass, if possible. In rare cases, some of the teeth called "black teeth" are long and mis-shaped, and scarify the cheeks. In such cases they should be extracted or broken off. V.

**LUNG AND SKIN TROUBLE.**

1. Several of my cattle have suffered with the following symptoms: Breathe heavily, cough, after a few days discharge from nostrils, and begin to eat. My veterinarian treated the last two for typhoid pneumonia, and they got all right. The first two I treated myself, and a two-year-old steer still breathes heavily and coughs, and a yearling heifer is unable to rise, but she eats well and chews her cud.

2. Three of them have some skin disease. They broke out in a rash, scabs formed, and they are very itchy.

3. Cow did not expel afterbirth. In two days I removed it, but she has a foul-smelling discharge. M. S. B.

Ans.—1. No doubt your veterinarian was correct. The two that he treated made good recoveries, while those that you treated yourself have not. All that you can do for the steer is keep comfortable and feed well, and he may make a complete recovery, if he be not tubercular. The only means to tell whether any of them are tubercular is to have them tested with tuberculin. Give the heifer that cannot rise 1 dram nux vomica three times daily, keep as comfortable as possible, and feed well on laxative food.

2. The skin trouble is either eczema or mange. If the latter, the Dominion Department of Agriculture, Ottawa, should be notified, when a man will be sent to advise treatment and quarantine the premises. If it be mange, the parasite should be visible on the under surface of a scab when examined by the aid of a magnifying glass. If it be eczema, clip the animals and wash every second day until cured, with a warm five-percent solution of Creolin or Zenoleum. If doubtful about the nature of the trouble, it will be well to get your veterinarian to examine.

3. Some of the afterbirth was not removed. The womb should be flushed every second day with a gallon of a warm 2-per-cent. solution of Creolin, and she should be given 45 drops carbolic acid in a pint of cold water as a drench three times daily until the discharge ceases. V.

**Miscellaneous.**

**BEEF-RING CHART—CEMENT SILO.**

1. Could you publish in "The Farmer's Advocate" in the near future, a 20-share beef-ring chart, or could you tell me in what number or date of "The Farmer's Advocate" it was published, as I have most of the old ones on file. I have looked, but cannot find it.

2. Being interested in building, do you or any of your readers know of any cases where the roof of a garage has injured or killed the horse below or fallen on the inside? C. W.

Ans.—1. See page 170 of Vol. 7th, last page 331.

2. As far as we know, there has not been any case where the roof of a garage has injured or killed the horse below or fallen on the inside. C. W.

**\$15.95**  
**AND UPWARD**  
**SENT ON TRIAL**  
**FULLY**  
**GUARANTEED.**

**AMERICAN**  
**SEPARATOR**



**A brand new, well made, easy running, easily cleaned, perfect skimming separator for \$15.95.** Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Thousands in use giving splendid satisfaction. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements. Our richly illustrated catalog tells all about it. Our wonderfully low prices on all sizes and generous terms of trial will astonish you. Our twenty-year guarantee protects you on every American Separator. Shipments made promptly from **WINNIPEG, MAN., ST. JOHN, N. B. and TORONTO, ONT.** Whether your dairy is large or small get our great offer and handsome free catalog. **ADDRESS, AMERICAN SEPARATOR CO., BAINBRIDGE, N. Y. BOX 1200.**

**PERCHERON STALLIONS**



Prizewinners. We still have a few Percheron stallions to offer, among them being the first-prize three-year-old at the Toronto Exhibition last September, and the first-two-year-old at the Dominion Exposition, Regina, last August.

We don't sell all our best horses first, and can show intending buyers ton horses of the finest quality, both blacks and greys, and right in every way.

We are not looking for fancy prices, and these horses will be all sold worth the money.

Guarantee and terms the best obtainable.

Phone, write or wire.

**HODGKINSON & TISDALE**

**Simcoe Lodge, Beaverton, Ont.**

**Union Stock Yards of Toronto, Ltd.**

**HORSE DEPARTMENT**

**Auction Sale Every Wednesday Private Sales Every Day**

**Railroad Loading Facilities at Barn Doors**

**W. W. SUTHERLAND,**  
**In Office.**

**J. H. ASHCRAFT, JR.,**  
**Manager.**

**Mount Victoria Stock Farm, Hudson Heights, P. Q.**  
 We have for service this season the Champion Imp. Clydesdale stallions *Netherica*, by *Fride of Blacoe*, dam by *Sir Everard*; also *Lord Aberdeen*, by *Netherica*, and the Champion Hackney stallion *Terrington Lucifer*, by *Copper King*. For terms and rates apply to the manager.  
**I. B. MACAULAY, Prop. ED. WATSON, Manager.**

**Clydesdales, Imp., Just Arrived** Our new importation has arrived safely, and we are now in a position to supply the trade with stallions from 1 year old up to 4, with more draft character, big, strong, flat bone, and better breeding than any other firm in the trade. Prices and terms as favorable as any other importer in Canada.  
**BARBER BROS., GATINEAU PT., QUEBEC, NEAR HULL**

**Shire Stallions and Mares, Shorthorn Cattle (both sexes); also Hampshire Swine.** Prices reasonable.  
**Porter Bros., Appleby, Ont., Burlington Sta. Phone.**

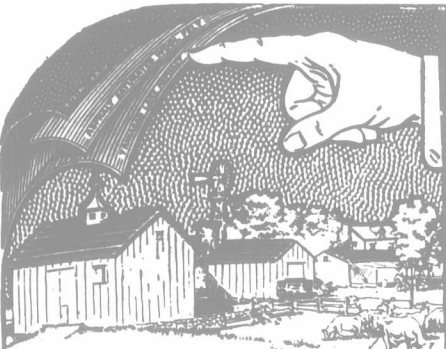
**ORMSBY GRANGE STOCK FARM, Ormstown, P. Que.**  
 A large importation of specially-selected 2-year-old stallions, fillies and show mares. Will arrive early in May.  
**D. McEACHRAN, PROPRIETOR**

**CLYDESDALES (Imported) CLYDESDALES**  
**SPRING HILL Top Notchers.** Stallions, mares and fillies. 65 per cent. guarantee with stallions. Every mare guaranteed in foal. Ages, 3 years old and upwards.  
**J. & J. SEMPLE** Milverton, Ontario, and La Verne, Minnesota

**IMP. CLYDESDALE STALLIONS AND FILLIES**  
 In my late importation of Clydesdale stallions and fillies I have exceptionally choice breeding idea draft characters—as much quality as can be got with size, and I can undersell any man in the business. Let me know your wants.  
**GEO. G. STEWART, Howick, Que. L.-D. Phone.**

**BEST RESULTS ARE OBTAINED FROM ADVOCATE ADVERTISEMENTS.**





**Have "a roof that's proof"**

Proof against rain, snow, sun, wind, heat, cold, sparks, alkalis, acids—everything that harms ordinary roofs. Get the roofing made of Nature's perfect weather-proofer—

**Genasco**  
THE TRINIDAD-LAKE-ASPHALT  
**Ready Roofing**

Trinidad Lake asphalt contains natural oils that keep Genasco "alive" and defensive. Manufactured asphalts won't do that—they dry out; and roofings made of them crack and leak. Real economy prompts you to get Genasco.

Mineral or smooth surface. Comes ready and easy for you to lay. Ask your dealer for Genasco. Write us for samples and the Good Roof Guide Book—free.

The Kant-leak Kleet, for smooth-surface roofings, makes seams tight without cement, and prevents nail-leaks.

**The Barber Asphalt Paving Company**  
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

**Philadelphia**  
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**Canadian Distributors:**  
Caverhill Learmont & Company  
Montreal, Quebec and  
Winnipeg, Man.  
D. H. Howden & Co., Ltd.  
200 York St., London, Ont.

**Wanted—A Home on a Farm**

Will work night and day, summer and winter, work hardest when I am full, but always ready for what there is to do, will agree never to leave the farm nor to interfere in any way with your horse trades, will not keep the hired girl up late at nights, nor show the watermelon patch to the boys from town, nor smoke cigarettes in the hay mow.

Nor afraid of rain nor hot dry weather, hold world's record for carrying water, have been specially trained and will guarantee that with my help your crops will increase forty to sixty per cent. or more in quantity and improve in quality.

Will prepare your soil for cultivation earlier in the spring and make it warmer by several degrees, will prevent soil baking and forming in clods, will make your sub-soil one vast laboratory for the production of food for your growing crops.

Will insure your crops in both wet and dry seasons without charge, will prevent the soluble and most fertile elements of your soil from being carried off to your neighbor's land by surface washing.

Will feed your live stock, pay your grocer bills, clothe your family, send your children to college, pay your taxes, burn your mortgage.

Am as straight as a string, sound as a dollar, strongest and cleanest of my race, will do as I agree, reference any progressive farmer or land owner.

Will contract for life service, have years' of experience and a good record.

All that I ask is an earlier and proper burial, you to deduct funeral expenses from increase in first year's crop.

(Signed) The W. W. Smith Drain Tile.

Address all communications relating to freight rates and prices to: b. your station, to:

**The W. W. Smith Brick & Tile Works**  
SHALLOW LAKE, ONT.

**Messrs. Hickman & Scruby**  
COURT LODGE, EGBERTON, KENT, ENGLAND  
EXPORTERS OF PEDIGREE

**Live Stock of all Descriptions.**

During the spring months we shall be shipping large numbers of Percherons, Shires, Belgians, Clydesdales, Suffolks, etc., and all those who wish to buy imported stock should write us for full particulars.

**Island Seed Oats**

The only really high-grade, absolutely safe seed oats in Canada this year. No danger of frosted germs.

**JOSEPH READ & COY, LTD.**  
Summerside, P. E. Island

**GOSSIP.**

Geo. Rice, Tillsonburg, Ont., Secretary of the Oxford District Holstein Club, announces a consignment sale of high-class Holsteins, to take place at Woodstock, Ont., June 12th. Look out for advertisement in these columns soon.

**ANOTHER GOOD ONE SOLD.**

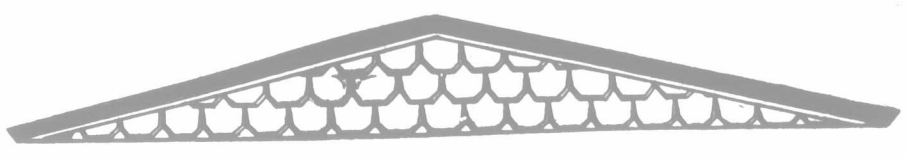
The latest district reported to have secured the services of a stallion of more than ordinary merit, and one that will certainly have a lasting improvement in the size, type and quality of the draft horses of that district, is in that section of Bruce county surrounding the village of Ripley. We refer to the sale by John Semple, of Milverton, Ont., of the big, weighty Shire stallion, Prince Burgeon 2nd (imp.) [687] (26576), to Robert McTavish, of Ripley, Ont. This is one of the best types of Shire stallion imported to this country of late years. Sired by that noted prizewinner, King Burgeon (23403), and out of a daughter of the great Belshazzar, he combines the best prizewinning blood in England, and should do a power of good to the horse interests of Bruce county.

**A CHOICE OFFERING OF JERSEYS.**

About six miles from the C. P. R. station, at Havelock, Ont., lies the noted dairy farm of Jos. Seabrook, whose large herd of about forty Jerseys are always found in nice condition, and doing the kind of duty that at the end of the year leaves a profitable balance on the right side of the ledger sheet. The herd as a whole is an exceptionally well-balanced one, showing a remarkable uniformity in type and udder development. None of them have as yet been officially tested, but the net results in monthly revenue is such as to indicate that there are no boarders in the herd. The present stock bull is High Grove Rover, a worthy grandson of the invincible champion, Blue Blood of Dentonia (imp.). A look over the splendid lot of young things is proof of the superior prepotency of this bull as a sire. His predecessor in service was a son of the noted sire, Beemster of Dentonia, whose dam, Stella's Joy, was good for 54 lbs. of milk a day right along. Anything in the herd is for sale, at prices that will certainly sell them quickly, for they are priced well within their value. Parties wanting Jersey females of any age, from calves up, or a young bull, will surely be consulting their own interests in writing Mr. Seabrook for quotations. Look up his advertisement in this issue.

**THE SALE OF A NOTED HOLSTEIN HERD.**

The dispersion of the noted herd of official-record Holsteins at Downsview, Ont., on Thursday, May 23rd, the property of Thos. Hartley, is another of those instances where the results of a lifetime of intelligent breeding is in the short space of a few hours scattered often to many distant parts. This herd numbers about seventy head, twenty of which are daughters of the noted champion, Cornelia's Posch, who has nine daughters in the A. R. O., two of them with records of 27 lbs. each in seven days; ten heifers are daughters of the richly-bred bull, Butter Baron, whose two nearest dams have records averaging nearly 25½ lbs. Those of breeding age are in calf to Prince De Kol Posch, whose dam's record is 26.66 lbs. butter in seven days, and butter-fat test 4.4 per cent. Very many of the females are in the official R. O. M. and R. O. P. records, a few of which we mention to show the high-class quality of the offering. Tempest Clothilde Mercedes, seven-day record as a two-year-old, 12.70 lbs.; Flossie Lindley, mature record 19.22 lbs.; Lily Westwood, 20 lbs.; Gemina Pieterje, 18.77 lbs.; Orchard Groves' Blossom, 13.80 as a two-year-old; Jewel Cornelia Posch, 12.90 as a two-year-old, and many others equally as good. In the R. O. P. records they vary from 14,000 lbs. in the year for two-year-olds, up to 18,417 lbs. for mature cows. The butter-fat test for the herd is also particularly high, 3.50, 3.95, and 4 per cent, and over, being general. Remember the date of the sale, and take an advantage of it, as it will be in Weston.



**"Eastlake" Steel Shingles will save you money**



Just ask yourself this question Mr. Farmer, "Is my barn roof lightning proof—is it fireproof?"

It's not a cheerful sight to see your barn—full of overflowing with the season's crop—wiped out by lightning or a spark from the threshing engine.

All because of faulty roofing.

A fireproof roof is the only sure protection for your crops, your livestock and implements.

"Eastlake" Steel Shingles are absolutely lightning-proof, fire-proof, storm-proof and vermin-proof—the best and safest roofing for all buildings.

"Eastlake" Metallic Shingles are made of the finest galvanized steel—are easiest and quickest to lay—save labor and expense.

"Eastlake" Shingles cost less than a wooden roof equipped with lightning rods.

"Eastlake" Shingles make the best roofing for you, Mr. Farmer.

Roofs covered with "Eastlakes" a quarter of a century ago are in perfect condition to-day. This is the best guarantee for you.

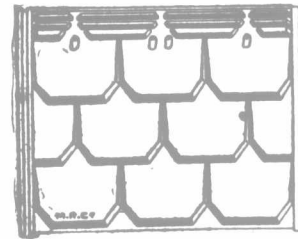
Send for our illustrated booklet, "Eastlake Metallic Shingles." Write to-day—just your name and address.

We also manufacture Corrugated Iron, House and Barn Siding, Metallic Ceilings, Cornices, Eavetrough, Conductor Pipe, Ventilators, etc.

**SAFETY**

By  
**The Philosopher of Metallic Town**

THE  
**"EASTLAKE" STEEL SHINGLE**



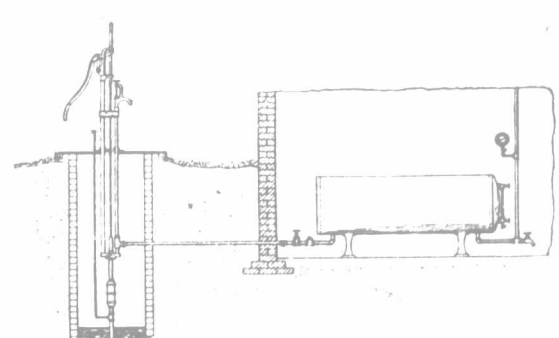
THE **METALLIC** ROOFING CO. Limited

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**Heller-Aller Pneumatic Water Supply System**



solves the problem and makes it possible to have running water anywhere in the house, stable or yard, for all domestic purposes, and for fire protection. The cost is so low that almost every country resident can afford to install it. Operated by windmill, electric motor, gasoline engine or by hand power. Write for information.

**THE HELLER-ALLER CO., WINDSOR, ONTARIO**

**CALVES WITHOUT MILK**  
Write for Free Booklet  
"How to Raise Calves Cheaply and Successfully Without Milk"

**Blatchford's Calf Meal—The Perfect Milk Substitute**

Three or four calves can be raised on it at the cost of one where milk is fed. No mill feed. The only calf meal manufactured in an exclusive Calf Meal Factory. Established at Leicester, England, in 1809.

**STEELE, BRIGGS SEED CO., LTD.**  
WINNIPEG, MAN. HAMILTON, ONT. TORONTO, ONT.



## A Fortune in Chicks



**One Man and His Son Made \$12,000 In One Year With Poultry**

You will want to read his letter telling how it was done. And best of all any one who will follow the same simple practical rules will be sure to make big money with poultry. Every one who keeps poultry or who is thinking of starting in this business should have a copy of this big

### 112 Page Book-Free

Nothing like it has ever been published before. It is filled from cover to cover with splendid illustrations and bristles with money making—money saving facts. You will be interested in the articles by Prof. W. R. Graham of Guelph, Ontario, "Hatching and Rearing" and "The Automatic Henhouse." Other subjects discussed are "How to Select Layers," "Which Breed is Best," "How to Treat Diseases." Just think of it—75 of the 112 pages contain no advertising—just helpful information from the greatest authorities on poultry raising. This book will save you a thousand mistakes and make poultry raising profitable if you will follow the advice it gives.

**Write Your Name on a Postal** and mail it to us at once. We will send the complete book free and postpaid. You will want to know about the new PRAIRIE STATE INCUBATOR with Sand Tray, also the PRAIRIE STATE UNIVERSAL ROVER BROODERS which you can make at home and save money. All leading agricultural colleges and experiment stations endorse Prairie State Incubators because they "hatch chicks that live." Write for free book. **Ship your eggs to us and get highest market prices.**

**Gunn, Langlois & Co., Ltd.**  
Box 116 Montreal, Canada

**Aberdeen-Angus**—A few bulls to sell yet; also females. Come and see them before buying. Drumbo Station.

**Walter Hall, Washington, Ont.**

### Scotch Shorthorn Bulls

Have a number of good, thick-fleshed bulls of up-to-date type and breeding, from 8 months to 14 months old, also cows and heifers at reasonable prices. Write to, or call on

**H. J. DAVIS**  
Woodstock, Ontario  
Breeder of Shorthorns and Yorkshires.  
C. P. R. and G. T. R. Long-distance Bell phone.

### Clover Dell Shorthorns

Real bargains in females. Dual-purpose a specialty. **L. A. Wakely,** Bolton, Ont. Bolton Sta., C. P. R.; Caledon East, G. T. R. Phone.

**Shorthorns**—Nine bulls and a number of heifers for sale at very reasonable prices.  
**Robert Nichol & Sons, Hagersville Ont.**

The young Scotsman, after having been entertained all day long by a friend, without making an offer to "stand" anything himself, was at last seen to put his hand in his pocket.

"Oh, don't you offer to pay," said his friend a little contemptuously, "you'd better leave that to me."

"I never thought of paying," exclaimed the Scotsman with indignation, "I was ainy scratchin' me leg."

## BAD BLOOD CAUSES BOILS and PIMPLES.

Get pure blood and keep it pure by removing every trace of impure morbid matter from the system.

Burdock Blood Bitters has been on the market about thirty-five years, and is one of the very best medicines procurable for the cure of boils and pimples.

**PIMPLES CURED.**  
Miss J. M. Wallace, Black's Harbor, N.B., writes:—"About five years ago my face was entirely covered with pimples. I tried everything people told me about, but found no relief. At last I thought of B.B.B. and decided to try a bottle. After finishing two bottles I was entirely cured, and would advise any lady who wants a beautiful complexion to use B.B.B."

**BOILS CURED.**  
Mrs. Ellsworth Mayne, Springfield, P.E.I., writes:—"My face and neck were covered with boils, and I tried all kinds of remedies, but they did me no good. I went to many doctors but they could not cure me. I then tried Burdock Blood Bitters, and I must say it is a wonderful remedy for the cure of boils."

Burdock Blood Bitters is manufactured by **The T. Milburn Co., Limited, Toronto, Ont.**

### QUESTIONS AND ANSWERS. Miscellaneous.

#### SWELLED HOCK.

I have a two-year-old Clydesdale mare which has had one swelled hock for about three months. Don't know how it was done. I have cement floor in the stable, and she may have slipped turning into stall. Kindly advise what to do, or will it go away itself? I have done nothing.

J. J. C.

Ans.—The description of the swelling and its location is so meagre that a diagnosis is difficult. Try a blister composed of 2 drams each of biniodide of mercury and cantharides, mixed with two ounces vaseline. Tie so she cannot bite the parts. Clip the hair off the parts. Rub thoroughly with the blister once daily for two days, and on the third wash off and apply sweet oil. Let loose now and oil daily. Repeat the blister if necessary in a month.

#### CROP FOR SALT SOIL.

I have twelve acres of dyke soil that was out to the tide through the winter of 1910-1911, and part of the summer of 1910. Last summer it was so salt that it did not grow anything but salt weeds and a little couch. I plowed six acres last fall, and plan to plow the rest this spring. Do you think it would be too salt for oats, or would a mixture of oats, wheat and peas be better, or what grains will stand the most salt?

T. E. P.

Ans.—A little experience would be the best guide in a case of this kind. Barley stands about as much salt as any of the cereals. Why not try a few acres of each of the different cereals and gain practical information. It is simply a question of whether or not the soil is too salt for any grain crops.

#### TOBACCO SEED.

I saw in one of your past editions a well-defined description of growing tobacco. It stated that a most important part was the selecting of good seed. I would be pleased if you would let me know in your next edition where to procure enough good seed to plant an acre, and the way to plant them?

A SUBSCRIBER.

Ans.—Tobacco seed can be purchased from seedsmen advertising in these columns. It costs about 50 cents per ounce, and an ounce grown in hotbeds would produce enough plants for four or five acres. It is now too late to attempt to grow plants. They should be up in the hotbeds and growing well ere this. You might succeed in getting enough plants for an acre from some grower who had more than he required for his own use.

#### HUNGARIAN GRASS.

I have never seen anything about Hungarian hay; is it worth growing? Can it take the place of timothy for all classes of horses? My meadows were all winter-killed; not worth leaving, as it would be almost total loss of land. What variety would be best adapted, and how much seed required per acre? What stage is time to cut and cure it? If you would kindly advise me for all these points, I would feel very grateful?

F. C.

Ans. Millet has been discussed quite frequently through these columns. We presume Hungarian grass is meant in this question. This is a variety of millet, but is not the best variety. Japanese Panicum has been found to give highest yields in the experimental plots at Guelph. Millet can be sown as late as July 1st, but does better sown about June 1st. This would give you time to cultivate the land thoroughly. Why not try some oats, or oats and peas mixed, for hay? Millet should be sown broadcast, at the rate of from two to four pecks per acre, the poorer the soil the heavier the seeding required. It should be cut for hay when the heads are in "plough" stage, or as soon as the "plough" stage. To keep the hay fine, the hay should be cut in a mangle, and not cut by cutting and chopping. It should be cut in a mangle in rather large quantities to insure uniformity of the hay. Large quantities should be cut in the morning, and should be dried in the sun, or in a mangle, by swelling of the hay, and a covering of the hay. A B.B.B. is a good remedy, but care must be taken to use it properly.

## A Close Skimmer and Built to Last

THERE are two features that make a separator a good investment: close skimming and durability. Easy cleaning and easy turning are important, but not as important as the power to get all the butter fat and keep on doing it for many years.

IHC Cream Separators will make good under the most severe skimming test. If you will compare their construction with that of any other separator you will see why. Extra strong shafts and spindles, spiral cut gears, phosphor bronze bushings, thorough protection against dirt or grit getting into the working parts, and perfect oiling facilities, are the features that make these separators good for long service.

## IHC Cream Separators Dairymaid and Bluebell

are close skimmers and built to last, and at the same time are easy to clean and turn. The reasons are these:

The interior of the bowl is entirely free from intricate forms of construction. Every part has a plain, smooth surface, to which dirt and milk do not adhere.

The dirt arrester chamber removes the undissolved impurities from the milk before separation begins.

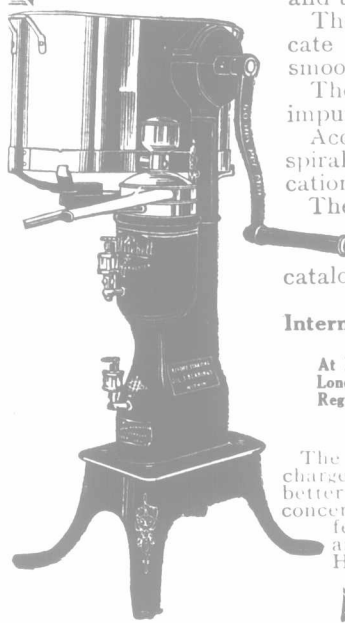
Accurate designing and fitting of all moving parts, spiral cut gears, convenient crank, and thorough lubrication, make these separators easy to turn.

There are many other features worth your consideration. Ask the IHC agent handling these machines or write the nearest branch house for catalogue.

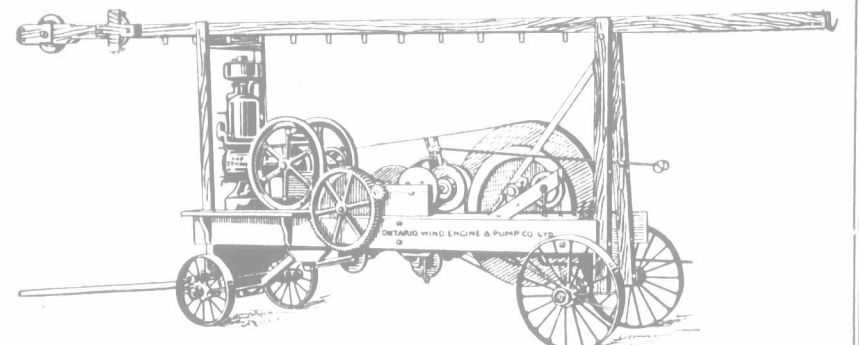
Canadian Branch Houses  
**International Harvester Company of America**  
(Incorporated)  
At Brandon, Calgary, Edmonton, Hamilton, Lethbridge, London, Montreal, North Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Weyburn, Winnipeg, Yorkton

#### IHC Service Bureau

The purpose of this Bureau is to furnish, free of charge to all, the best information obtainable on better farming. If you have any worthy questions concerning soils, crops, land drainage, irrigation, fertilizers, etc., make your inquiries specific and send them to IHC Service Bureau, Harvester Building, Chicago, U.S.A.



## You Can Earn \$10 to \$20 a Day With This Well-Drilling Machine



Someone must drill the wells in your neighborhood. Why not you? There's big money in it, if you have the right machine. We can supply machines for all kinds of earth and rock drilling, any depth. Also CASING and general deep-well supplies of all kinds. Be the first to get our money-making proposition. Write to-day for full particulars.

**ONTARIO WIND ENGINE & PUMP CO., Limited**  
Winnipeg TORONTO Calgary

### ORCHARD GROVE HEREFORDS

Champions of 1911 shows, winning both senior and junior herds at Winnipeg, Brandon, Regina, Edmonton, Toronto and London; also fifteen championships. Young stock, both sexes, for sale at reasonable prices.  
Long-distance Phone **L. O. CLIFFORD Oshawa, Ont.**

**Pleasant Valley Farms Shorthorns** For Sale: Scottish Signet, best son of imp. Old Lancaster, and several good young bulls. Farm 11 miles east of Guelph, C. P. R. Write us for exactly what you want, or visit us. Half mile from station. **Geo. Amos & Sons, Moffat, Ont.**

**SALEM SHORTHORNS** Headed by (Imp.) Gain'ord Marquis, undefeated junior championship honors at Toronto, 1911. Have on hand two yearlings and a number of bulls under a year for sale at reasonable prices.  
**J. A. WATT, Salem, Ont. Elora Sta. G. T. R. and C. P. R.**

**Scotch Shorthorns** FOR SALE—One of our imported herd bulls and eight heavy-boned, deep-bodied, low-down bull calves, 12 to 16 months old. Also twenty-five heifers and young cows bred to imported bulls.  
Farm 1/4 mile from Burlington Jct. Station. **MITCHELL BROS., Burlington, Ont.**

**BLAIRGOWRIE STILL TO THE FRONT**  
SHORTHORNS—2 red bulls, 12 and 18 months; 1 red bull, 9 months; 2 roan bulls, 12 and 14 months. **CLYDESDALES**—One mare in foal, one filly rising three, two filly foals. Inspection invited.  
Myrtle, C. P. R. Sta. L.-D. Phone. **JOHN MILLER, JR., Ashburn, P.O.**

**SHORTHORNS AND CLYDESDALES** We have for sale four good bulls which we will sell right, spare a few heifers and cows. Write us or come and see them. Farm one mile north of town.  
**A. B. & T. W. DOUGLAS, STRATHROY, ONTARIO**



QUESTIONS AND ANSWERS.  
Miscellaneous.

CROSSED WIRES.

Is a rural telephone company (not incorporated) obliged to pay to railroad company or telegraph company for the privilege of crossing above their wires? We cross them three times, and they send us a bill for \$3.00 annually. Can they compel us to pay this—as we are held responsible for any damage from our wires? A SUBSCRIBER.

Quebec.  
Ans.—They are probably in a position to either compel payment of rent or the removal of your wires.

HOMEMADE INCUBATOR.

I wish to make a lamp incubator. Will you kindly give me, through the columns of your paper, the dimensions of an incubator best adapted to the use of the farmer; also instruction as to regulation of the incubator? J. S.

Ans.—With so many satisfactory machines on the market as at the present time, it is scarcely advisable to attempt to make an incubator at home. Would advise the purchase of a machine from some reliable firm advertising in this journal.

ABSENCE OF OESTRUM.

I have three cows that have been milking all winter. They have been fed roots, grain and hay all the time, and look well, but they have never come around. What is the cause, or can I give anything that will bring them around, as I wanted them for next winter cows? A SUBSCRIBER.

Ans.—Absence of oestrus is frequently noticed in cows, and the cause is not always apparent. It is sometimes due to low condition, or may be caused by disease of the ovaries, which is incurable. As all three cows are affected, it is not likely due to any disease. Feed them well. Give a larger proportion of concentrate feed, and if possible allow a bull to run with the cows for a short time. The administration of 2 drams of nuxvomica three times daily to each cow has sometimes seemed to have the desired effect.

CROSSING POULTRY—EGGS FOR HATCHING.

1. Does it do to cross Rose-comb Rhode Island Reds with White Wyandottes and Plymouth Rocks? We have a Rhode Island Red cockerel of last year's hatch, and some fine Wyandotte and Plymouth Rock hens.

2. Are as good results obtained from setting pullets' eggs as from older hens? I mean, are the chicks as good and strong? J. H. P.

Ans.—1. The breeds will cross, but what is there to gain in making such a cross? The resulting pullets are not likely to be any better, if as good layers, and the cockerels are of less value for either breeding or market than if a cock bird of the same breed as the pullets is used. This system of crossing is a quick method of obtaining a "mongrel" nondescript barnyard flock of poultry.

2. Eggs from two-year-old hens would likely be more advisable.

PEANUTS.

Can you tell me, through the columns of your paper, anything about the growing of peanuts? I heard that the blossoms had to be buried after they come out. Would like to know if it is true. J. L. M.

Ans.—Peanuts should be planted (shelled) in the spring, after the soil has become thoroughly warm, or a trifle later than corn or beans. Three feet between rows is a common distance, and about a foot in the rows. Cultivation should begin as soon as the rows can be followed. Cultivate much as for corn or beans. After the first cultivation, it will be desirable to gradually work the soil toward the rows. After the peanuts begin to form pods, they should not be cultivated again. The old idea that the blossoms of the peanut must be covered is erroneous, although growers frequently allow considerable soil to be thrown over the vines during the final cultivation, and the last cultivation is usually made to throw considerable soil up to the plants and leave a sort of furrow down the center between the rows to run off water

Present Special Offering

20 High-Class Scotch Shorthorn Heifers  
10 High-Class Young Shorthorn Cows  
5 High-Class Scotch Shorthorn Bulls

At moderate prices, including Marr Missies, Emmas, Cruickshank Nonpareils, Duchess of Glosters, Village Girls, Bridesmaids, Butterflies, Kinellar Claretts, Miss Ramsdens, Crimson Flowers; also a number of the grand old milking tribe, which have been famous in the showing.

ARTHUR J. HOWDEN & CO.  
Columbus, Ontario



Shorthorn Bulls and Clydesdale Mares

If you are in the market for a young bull, write us for particulars, or, better still, come and see them. We have 13 young bulls, from 8 to 14 months old, of good breeding and quality. We also have four imported Clydesdale mares, safe in foal

W. G. PETTIT & SONS, Freeman, Ontario

Bell 'phone. Burlington Jct. Sta., G. T. R., 1/2 mile from farm

SHORTHORNS

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application.

H. CARGILL & SON, Proprietors, Cargill, Ont., Bruce Co.  
JOHN CLANCY, Manager



10 SHORTHORN BULLS 10

If you are looking for a young bull to head a purebred herd, or one to cross on grade cows to raise first-class steers, I have them to suit all customers at very reasonable prices. They are reds and roans, and one extra good white show calf; ages from 9 to 14 months, nearly all sired by imported bulls and from the best Scotch families of cows. Will be pleased to furnish breeding and prices.

Claremont Sta., C.P.R., 3 miles. JOHN MILLER, Brougham P.O., Ont.  
Pickering Sta., G.T.R., 7 miles.

THIS IS A GOOD TIME, AND I HAVE A GOOD PLACE, TO GET A HIGH-CLASS SCOTCH SHORTHORN BULL CALF by my great Whitehall Sultan sire, or a young cow in calf to him, to start a herd that will be gilt-edged SHROPSHIRE RAMS AND EWES, too, at low prices. CHILDREN'S PONIES. A CLYDESDALE FILLY, such as I can send you, is one of the best things any man can buy. Just write me and say as nearly as possible what you want, and I will surprise you with prices on goods that are genuine ROBERT MILLER, STOUFFVILLE ONTARIO

Scotch Shorthorn Females for Sale I am offering at very reasonable prices, females from one year to five years of age. The youngsters are by my grand old stock bull, Scottish Hero (imp.) = 55042 = (90065), and the older ones have calves at foot by him, or are well gone in calf to him. Their breeding is unexcelled, and there are show animals amongst them. A. EDWARD MEYER, Box 378, GUELPH, ONT.

Six Shorthorn Bulls

must be sold.

Different colors, and their breeding is good enough for any herd. Write me for prices before purchasing.

WM. SMITH, COLUMBUS, ONTARIO

Shorthorns of Show Calibre

At present one nice red bull 12 months old (of the Bellona family) for sale at low price. Heifers of breeding age all sold.

Geo. Gier & Son, Grand Valley, Ont.

WOODHOLME SHORTHORNS,

I have for sale a number of choicely-bred Scotch Shorthorn heifers and several young bulls, all of high-class quality and sired by Imp. Dorothy's King = 55009 =, a Lady Dorothy.

G. M. FORSYTH, North Claremont P.O. & Sta.

MAPLE LODGE STOCK FARM

1854 - 1912

Have desirable Shorthorns and Leicester sheep. Cows are high-class milkers. A handsome young Clydesdale stallion for sale.

A. W. SMITH, Maple Lodge, Ontario  
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OAKLAND SHORTHORNS!

Our present offering: Bulls from 8 months to 22 months, roans and reds; all got by Scotch Grey 72,692. Prices from \$75 to \$150.

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SPRING VALLEY SHORTHORNS

Herd headed by the two imported bulls, Newton Ringleader, = 73783 =, and Scottish Pride, = 36106 =. The females are of the best Scotch families. Young stock of both sexes for sale at reasonable prices. Telephone connection.

KYLE BROS. - - Ayr, Ontario

IMPORTED BULL FOR SALE

Our Green Grove herd of Shorthorns is headed by the two imported bulls, Imp. Spectator = 50094 = and Imp. Royal Bruce = 55038 =. Present offering: Stock bull Imp. Spectator and two choice young bulls, herd headers, fit for service; also good females Geo. D. Fletcher, Binkham Ont. Erin Sta. C.P.R.



Did You Ever See "Threshing Spots" on a Barn?

WHILE driving along the road did you ever notice that some barns have large light-colored patches on the roofs?

Those patches are "threshing spots." They are made up of the dust and chaff from every threshing that has been done in that barn. The threshing machine blower raises the dust to the roof, and all the brooms on the farm will not clean it all off again—if it is a wooden roof. The dust clings to the grain of the shingles and is there for keeps. These threshing spots might easily be called danger spots, for they have a triple danger—danger to the man who risks life and limb in a vain attempt to sweep them off; danger of fire from sparks in threshing time; and absolute certainty that the dirt and dust will rot the shingles.

How to guard against threshing spots is really quite a simple matter. They cannot occur on metal roofs, because the surface affords nothing for dust to cling to and it is either whisked away with the first breeze or washed off by showers. Nothing will stick to metal roofing—not even the lightest fall of snow.

This matter of roofing is but one of many problems confronting the

farmer to-day when contemplating barn building. You will find it, and many other questions, answered fully; also plans, specifications and full instructions for the erection of all kinds of barns, fully treated in our new free book, "How to Build a Barn." Your copy is ready and just awaiting your address. Let us know to-day and it will be sent by return mail.



THE GALT ART METAL CO., Limited  
150 STONE ROAD, GALT, ONT.

BRANCHES—General Contractors Supply Co., Halifax, N.S.; Estey & Co., St. John, N.B.; H. Chestnut & Sons, Fredericton, N.B.; J. L. Lachance, Ltd., 253 St. Paul St., Quebec, Que.; Wm. Gray Sons—Campbell, Ltd., 583 St. Paul St., Montreal, Que.; Montague Sash and Door Factory, Montague, P.E.I.; Fife Hardware Co., Fort William, Ont.; Galt Art Metal Co., Ltd., 839 Henry Ave., Winnipeg, Man.; Gorman, Clancey & Grindley, Ltd., Calgary, Alta.; Gorman, Clancey & Grindley, Ltd., Edmonton, Alta.; D. R. Morrison, 714 Richard St., Vancouver, B.C.

Send me your book on Barns.

G.A.



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FURNISH POWER**



**FREE**

For farmers in all parts of Canada. Why not for you? The lightest breeze is enough, no gale too much for it. Let us show you how much it will do and little it costs.

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**Ontario Wind Engine & Pump Co., Limited**  
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**Who Pays the Duty?**

You can't get away from the fact that **directly or indirectly the DUTY has to be paid by the consumer**; therefore, why pay fancy prices for calf meals of foreign manufacture when you can buy CALFINE 15 to 20 dollars a ton cheaper and secure at least equal, and in most cases superior, results.

**CALFINE**  
"The Stockman's Friend"

is a pure, wholesome, nutritious meal for calves. It is now in use on many of the largest and best equipped dairy farms in the Dominion.

Ask your dealer for a 100 lb. bag of CALFINE as a trial—you will soon be back for more. If your dealer does not handle it, write us. We will do the rest.

Feeding Directions Sent on Application.

**Canadian Cereal & Milling Co.**  
Limited  
TORONTO, CANADA

**Shortshorns, Berkshires, Cotswolds**

Nine bulls from 9 to 11 months, cows, heifers and heifer calves; over 50 head on hand. No Berkshires to offer at present. A few shearing ewes for sale.

**Chas. E. Bomycastle,**

P. O. AND STA., CAMPBELLFORD, ONT.

**GEDARDALE SHORTHORNS**—Shortshorns of all ages, pure Scotch and Scotch topped, imp. and Canadian-bred, choice heifers, choice young bulls, also the stock bull Lord Fyvie (Imp.); anything for sale.

**Dr. T. S. Sproule, M. P., Markdale, Ontario**

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Size	Price doz.	Fifty tags
Cattle	75c.	\$2.00
Light Cattle	60c.	1.50
Sheep or Hog	40c.	1.00

No postage or duty to pay. Cattle sizes with name and address and numbers; sheep or hog size, name and numbers. Get your neighbors to order with you and get better rate. Circular and sample. Mailed free. **F. G. JAMES, Bowmanville, Ont.**

**Don Jersey Herd**

Offers young bulls and heifers for sale; heifers bred to Eminent Royal Fern.

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Phone Long-distance Agincourt.

**Jerseys for Sale**—Five pure-bred registered Jersey cows, and good ones, just freshening, from two to six years old; at dairy prices. **A. HUGHES, Sarnia, Ont.**

**QUESTIONS AND ANSWERS.  
Miscellaneous.**

**HORSESHOES—ENGINEER'S PAPERS.**

1. What do you think of ——— horseshoes?  
2. Who would I write to regarding the getting of traction engineer's papers for operating an engine in the Saskatchewan district? **A. R.**

Ans.—1. We have had no experience with the shoes referred to.  
2. Apply to the Provincial Department of Agriculture, Regina, Sask., for full particulars.

**SHARING STRAW.**

1. A takes land from B on shares. Is A entitled to the same share of straw, if there is nothing said about it but where A was to stack straw?  
2. Can A take his share of straw home or sell it?

Ontario.  
Ans.—1. Yes.  
2. Yes; that is, he ought to have either his share of it, or be allowed for same, if B should prefer its not being removed from the farm.

**FERTILIZING POTATOES.**

1. I have read the article in your April 18th issue entitled, "Estimating the Value of Fertilizers." Fertilizers are used very little in our vicinity. In fact, I don't know of anyone using them around here. We have been growing potatoes quite extensively, but have been relying on clover sod and barnyard manure as fertilizers. This year I will be rather short of the latter, as it takes a large quantity for corn and potatoes both. I have been thinking of trying a commercial fertilizer on a three-acre field of loamy soil, from which I cut a heavy crop of red clover last year, and also a second cutting for seed. I want to put potatoes in the field this year. Would you please advise me re the proper proportions of each fertilizer to use per acre, and where they can be got, as there are no agents around here that I know of. Should the fertilizer be applied when the potatoes are planted, or before? We use a planter, which has a fertilizer attachment, and could put it on with it.  
2. Could you let me know where sweet clover seed could be got? **W. G. A.**

Ans.—1. As your soil is a clover sod, it is not likely very much nitrogen will be needed for a potato crop. Try about 100 pounds of nitrate of soda, or perhaps less; from 300 to 400 pounds of acid phosphate, and 150 to 200 pounds of sulphate of potash. Write advertisers in this journal for prices.  
2. Correspond with seedsmen advertising in "The Farmer's Advocate."

**SILO VENTILATION—SOWING ROOTS—EXPULSION OF UTERUS.**

1. In the silo at Weldwood, did you make any provision for ventilation? Is this necessary to keep the silage perfectly? Some leave an opening at the top of roof, over which is built a cupola with open sides. If this is advisable, what size hole should be left for a 14x40 ft. silo?  
2. When should mangels, turnips and sugar-beets be sown, and in what order; also amount of seed per acre of each to sow to give heaviest yield in a good seed-bed?  
3. I lost a valuable sow. She farrowed all right, and went full time, but in about 24 hours she expelled the womb, and although replanted, she died shortly afterwards. Please give the cause if not a disease? **N. M. A.**

Ans.—1. We made no provision for ventilation in our silo, and do not consider it necessary.  
2. Mangels and sugar-beets should be sown just as soon as the land is ready to work in the spring, usually right after the seeding of cereals. Sow about four pounds of seed per acre. Turnips should be sown later, about 15th June is a good time. About two pounds per acre is a good seeding.  
3. Expulsion of the womb, while not common, occasionally occurs. It is impossible for us to state the cause. She may have been unduly weak from some cause, may have been over-fat, or difficult parturition may have induced the expulsion.

2. Expansion of the womb, while not common, occasionally occurs. It is impossible for us to state the cause. She may have been unduly weak from some cause, may have been over-fat, or difficult parturition may have induced the expulsion.

**Ideal Green Feed Silos**

ONLY the best grade of Canadian spruce, especially selected for our exclusive use, is employed in the construction of Ideal Green Feed Silos.

All lumber is thoroughly air-dried, and after being finished is saturated with an especially-prepared sealing solution, used exclusively by the De Laval Dairy Supply Co., Limited, which prevents rot or decay, reduces the tendency of the staves to swell or shrink, and prevents the acid in the ensilage from injuring the staves.

This secret sealing solution with which all our silo lumber is treated adds from two to three times to the life of our silos compared with other silos not so treated.

All our stave wood is of uniform size and age, thus ensuring an even swell and shrinkage throughout.

All Ideal Green Feed Silos are hooped with round iron hoops every 30 inches apart, and the hoops at the bottom where the strain is greatest are made heavier. Only malleable iron lugs, made after our own exclusive process, are used. These are much superior to cast iron hoops by reason of their greater ability to resist the action of our Canadian frosts.

The materials and construction throughout of the Ideal Green Feed Silos are of the very best, and everyone contemplating the erection of a silo this year will find it to his advantage to get our specifications and prices before contracting for the erection of a silo.

**BE SURE AND GET OUR NEW SILO BOOK**  
Free if you mention this paper

**DE LAVAL DAIRY SUPPLY CO., LIMITED**  
LARGEST AND OLDEST SILO MANUFACTURERS IN CANADA  
173 William St., MONTREAL 14 Princess St., WINNIPEG



All doors on the Ideal Green Feed Silos are self-sealing.

Doors are only 6 inches apart, can be removed instantly, and are always air-tight.

The roof is self-supporting; built without rafters.

Dormer window facilitates filling silo clear to the top. All sizes furnished.

**Brampton Jerseys**

cows and some calves for sale. Production and quality.

Bulls fit for service are getting scarce. Just a few left. Yearling heifers in calf are in great demand; 6 for sale; 6 now being bred. Brampton Stockwell the sire. A few good

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**High Grove Stock Farm**

No better Jersey blood in Canada. Stock all ages and both sexes for sale.

**Arthur H. Tufts, P. O. Box 111, Tweed, Ont.**  
When writing, mention "The Advocate."

**Balaphorene A. J. Jerseys**—Foundations stock, C. C.

St. Lambert, Coomassie, Combination; stock from a grandson of Bin of Dentonia; also a grandson of the great Blue Blood of Dentonia, for sale. W. Wyandotte eggs, \$1 per 13. **Joseph Seabrook, Havelock, Peterboro Co., Ont.**

**Burnside Ayrshires**

**R. R. NESS, Howick, Quebec**

Champions in the show ring and dairy tests. Animals all ages and both sexes for sale. Long-distance phone in house

**SPRINGBURN AYRSHIRES**

Owing to remodeling our barns, we do not care to carry any bulls over the summer months. Three yearlings and five early spring calves to select from. Prices right for prompt delivery. Always about 50 head of females of all ages to select from. Tuberculin tested. **McMILLAN & LEGGAT, Trout River, Que.** Bell telephone, Huntingdon 81-21. Carr's Crossing, G. T. R., Huntingdon, N. Y. C. R.

**Choice Ayrshires**

10 choice cows and heifers for quick sale. Good teats, heavy producers, high testers. Prices low considering quality. **WILLIAM THORN, Froun Run Stock Farm, Lynedoch, Ont.** Phone in house.

**Ayrshires** of production, type and quality. I can supply Ayr hires that will please the most exacting critic. Young bulls or females of any age, the kind that swell the bank account.

**R. M. Howden, St. Louis Sta., Que. L.-D. phone**

**Ayrshires and Yorkshires**

We have still some good young bulls. Now is the time to buy for the coming season, before the best go. We have females any age, and can fill orders for carlots of Ayrshires. Pigs of either sex on hand.

**ALEX. HUME & CO., Menie, Ont.**

**City View Ayrshires**

All from R. O. P. ancestors. Young bulls of January, March, May and July, 1911; also calves of 1912. Right good ones. Males only for sale. Write, phone or call. **JAMES BEGG, R. R. No. 1 half mile west. ST. THOMAS, ONT.**

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Record for production and large teats. Record of Performance work a specialty. Fifty head to select from. Prices right.

**FRANK HARRIS, Mount Elgin, Ont.**

**STONEHOUSE AYRSHIRES**

Are coming to the front wherever shown. Look out for this at the leading exhibitions. Some choice young bulls for sale, as well as cows and heifers.

**HECTOR GORDON, Howick, Quebec.**

**Maple Soil Stock Farm**

of High-Testing Holsteins—I have at present some bull calves, with dam and sire; dam averaging over 25 lbs. of butter in 7 days, testing better than 4 per cent. Phone connected.

**Holstein Bulls for sale**

Springbank farm is offering two choice bred Holstein bulls for sale at reasonable prices. For particulars write to: **Wm. Barnett & Sons, Living Springs P. O., Ont.** Fergus station, C. P. R. and G. T. R.

**H. C. Holtby, Belmont P. O., Ont.**

Belmont Sta., C. P. R. or Glasgow St., G. T. R.

**Maple Line Holsteins and Yorkshires**

Herd headed by Homestead Conantha Sir Abbecker 2nd, whose dam, sire's dam, sire's dam, average 29.61 lbs. butter 7 days. For sale at bargain prices, choice bull calves from R.O.P. cows. **W. A. BRYANT, Middlesex Co., Cairngorm, Ont.**



QUESTIONS AND ANSWERS.  
Miscellaneous.

KILLING POPLARS—TRIMMING TREES.

1. Have several poplar trees along lane fence; wish to kill them. What is the best time to girdle them, now, or after they are out in leaf?

2. What is the best time to prune apple trees? T. F. H.

Ans.—1. Girdle immediately.  
2. Either in the winter when wood is dormant, or when trees are in bloom.

ENLARGEMENT FROM WIRE WOUND.

I have a mare that got a bad wire cut on her hind leg, midway between hock and fetlock, which cut it right to the bone last June; got it healed up, and there was a little enlargement left. Would any of the remedies advertised in your paper remove the enlargement, or what would be best to do?

J. McG.

Ans.—Sometimes enlargements resulting from very bad injuries cannot be entirely removed. Some of the absorbents advertised in this journal might reduce the abnormality. If they did not prove effective, try a blister of 2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Clip the hair off the parts, and tie so she cannot bite them. Rub well with the blister daily for two days, and on the third day wash off and apply sweet oil. Oil every day until healed. It may not be necessary to blister.

THUMPS IN PIGS.

I had a litter of spring pigs which did well and were fat and healthy until about a month old, when they began to die off one by one. First symptom noticed was puffing, as if short of breath. Some lived about a week; others only a day or two. Can anything be done to save them? D. A. M.

Ans.—This is likely thumps, a dietetic disease, due to high feeding and want of exercise. Fat accumulates about the heart and lungs, interfering with the action of these organs. The fattest and healthiest-looking pig in the litter is usually first to go. A well-developed case is considered incurable. Exercise and light feeding are the best preventives. Now that the weather is warm, give the pigs free run in a grass plot. Grass and sunshine, accompanied by exercise and access to the ground, will be most likely to bring them through. Purging with from 2 to 4 ounces of Epsom salts, or a tablespoonful or two of linseed or castor oil, according to size, is also recommended. Feed the sow on laxative and non-heating food.

UNTHRIFTY MARE — LEGAL FENCE—LAND AND LUMBER.

1. Our in-foal mare is not doing very well; she gets thin and her legs get itchy; she bites at them until they bleed. Her time is very nearly up, and she has no sign of an udder. What would be good for her to make her have milk?

2. What would be best to get her in good condition? She gets good hay and oats every meal.

3. If mare has no milk, would like to know how to feed colt by hand.

4. Is barbed wire a legal fence for a railroad company to erect, and what is a legal fence?

5. To whom could a person write about free land to buy up around Muskoka?

6. What is good bird's-eye maple worth, and where could it be sold to best advantage? J. F. M.

Ans.—1 and 2. Give her all the clover or alfalfa hay she will eat. Add a fair percentage of good wheat bran to her grain ration. Get her on grass as soon as possible.

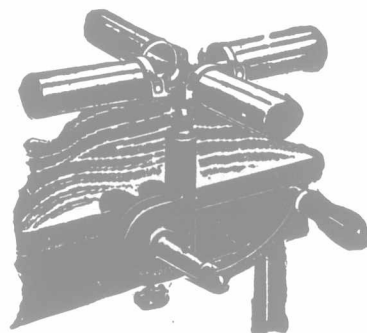
3. See article, "Hand-feeding a Colt," page 785, of our issue of April 25.

4. We think not.

5. The Director of Colonization, Parliament Buildings, Toronto, could give information regarding free Northern Ontario lands. To buy lands, it would be necessary to get into communication with some landowners in the district.

6. Local dealers inform us that there is little demand for this class of maple in this country, more than for ordinary maple, which sells in rough state for from \$22 to \$25 per thousand. Brush or handle factories might handle it.

DRUMMOND Sells Dairy Supplies by Mail Cheaper Than You Can Buy Anywhere Else and Guarantees the Goods



4-Bottle Machine Complete, \$5.50

You will find that it pays to have all your dairy needs supplied direct from the largest dairy supply house in Canada. You can always get exactly what you want at the lowest prices asked anywhere—and get it PROMPTLY. And you run no risk of disappointment—just read our guarantee. Any of the following articles shipped promptly on receipt of price.

The Beaver Babcock Tester

Used by all the Gov't Testing Stations. This 4-bottle Tester is the same as carried by all the Canadian Gay's Testers, who travel all over the country on their official trips. It is extremely simple in construction and operation. The working parts consist of but two cut gears and they are enclosed in a cast iron case to keep them free from dirt and to prevent their catching clothing, towels, etc. It turns easily without vibration or jar. It is sent complete with glass-ware, bottle brush, acid, and full directions for use. It will pay you to have this tester whether you milk 3 or 30 cows.

4-bottle Tester - \$5.50 2-bottle Tester - \$4.25

Beaver Coolers and Aerators

Milk should be cooled as soon as possible after being drawn from the cow. The Beaver Cooler will cool the milk to within 2 degrees of the temperature of the water. The Beaver also acts as an Aerator and expels all foreign odors. Insures sweeter, longer-keeping milk. Hanging wall style. Capacity 125 quarts per hour. \$17.00

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Everything you need fully described and illustrated, so you can buy in the money-saving, time-saving way. Sent FREE on request if you write

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The Dairy Car on the Ontario Government Demonstration Train was Equipped Entirely with "Drummond" Supplies.

Sterilac Sanitary Milk Pail

Note its clever construction. The funnel is detachable. As the milk falls on the slant towards the milker, it passes direct through the strainer into the pail. All dirt falls on a deep shelf inside the funnel—not on the strainer—thus milk and dirt never come in contact. You can use ordinary cheese cloth for straining. Capacity 14 quarts, no joints on the inside; it is easily cleaned. Price \$2.50. Used by all up-to-date farmers and dairymen.



Capacity 14 Quarts Price \$2.50

Other Things You Need in the Dairy

- Decimal Milk Scale { 30 lbs. by oz. \$3.50, by tenths - \$4.00
- 60 " " \$4.50, " " - \$5.00
- Straight Spring Scale { 25 lbs. - 39c.
- 50 lbs. - 89c.
- Sterile Atmospheric Milk Fever Outfit. Cures 90 per cent. of milk fever cases. Complete - \$3.00
- Hard Milker Outfit in Handsome Case, contains Bistoury, Teat Opener, Teat Expander and Milking Tubes - \$3.00
- Cattle Trocars for Bloat, nickle plated - \$1.50

EVERYTHING FOR THE DAIRY

**This is Our GUARANTEE**  
We guarantee all our goods to be and do as we say. If you have trouble in getting results, or if there is any defect in what you buy, let us know and we will adjust it satisfactorily.

70 Holsteins by Auction 70

Having sold his farm, Mr. Thos. Hartley, of Downsview, Ont., will on THURSDAY, MAY 23, 1912, sell his entire herd of 70 head of R. O. M. and R. O. P. Holsteins; 20 of them daughters of the famous champion Cornelias Posch; 10 heifers are daughters of the richly-bred Butter Baron; 30 cows nearly all in official records. Write for catalogue. L.-D. phone. THOS. HARTLEY, DOWNSVIEW, ONT.

LAKEVIEW HOLSTEINS!

Bull calves sired by Dutchland Colantha Sir Mona, and out of heifers sired by Count Hengerveld Fayne De Kol.

Telephone. E. F. OSLER, BRONTE, ONTARIO

Fairview Farms Herd

Is where you can secure a son of Pontiac Korndyke, admitted by all breeders to be the greatest Holstein sire that ever lived. Look what his daughters are doing. Two of them with records over 37 lbs. each. Then, look at the work his sons are doing. HE IS THE GREATEST PRODUCING SIRE OF THE BREED, THROUGH HIS SONS. Every son of Pontiac Korndyke that has daughters old enough to milk is a sire of good ones. We can offer you several young ones that will give you great daughters.

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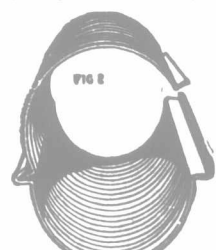
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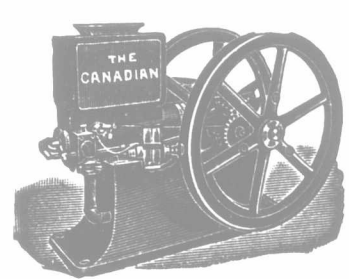


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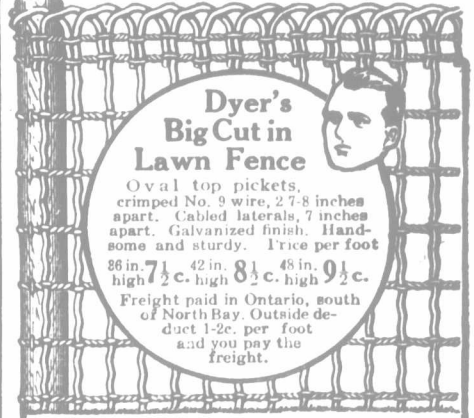
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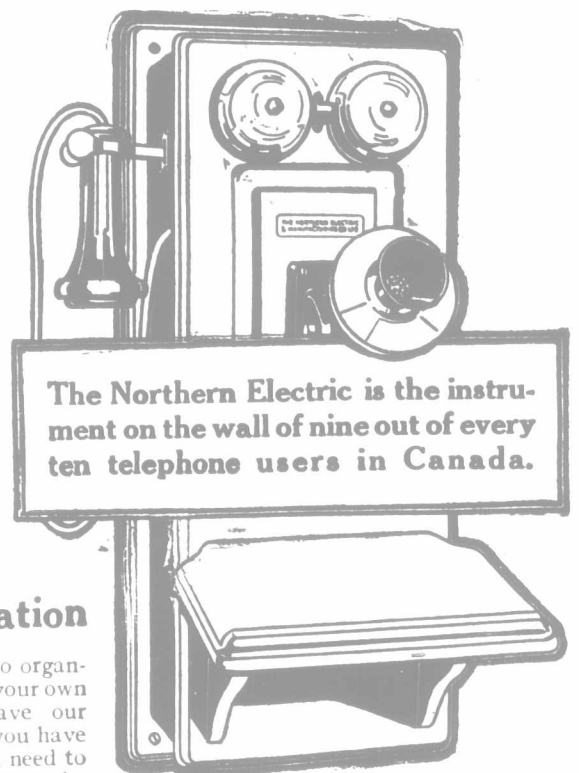
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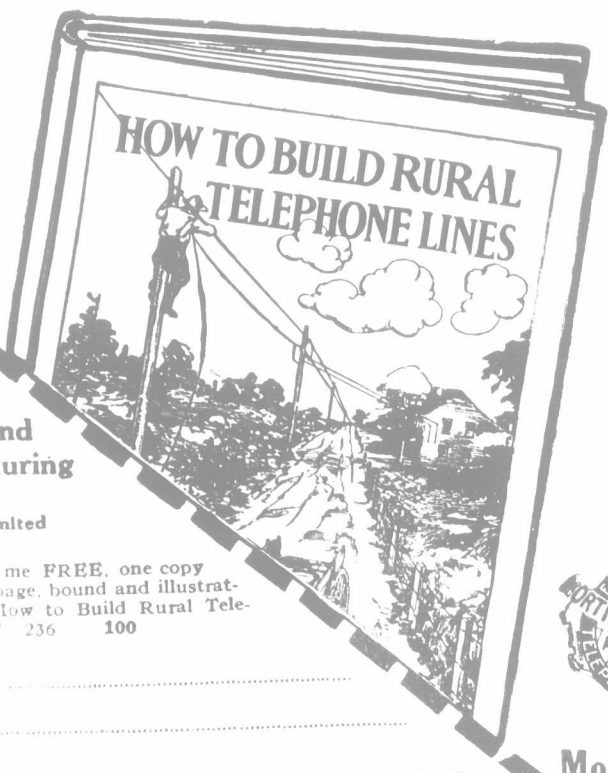


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