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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE SUCCEED FOUNDED 1875

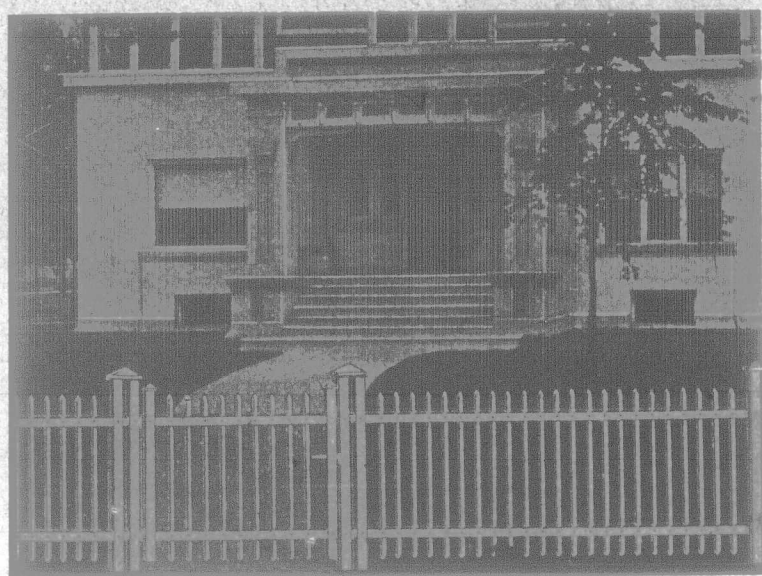
\* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRC \*

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Vol. LI.

LONDON, ONTARIO, MARCH 30, 1916.

No. 1227



## Frost Ornamental Fences

### Present a Good Front

ANGLE IRON AND WOVEN WIRE

NEAT LOOKING

PRICES REASONABLE

**Made From Angles—**  
**Strength and Lightness Combined**

Being constructed from angles, the fence is light, but stronger than round or square bars of 1/2-inch or 3/4-inch thickness. Quite massive in appearance, but much lower in cost than the ordinary types of iron fences, on account of its lesser weight. FROST ANGLE PICKET FENCE is durable and neat.

**MATERIAL IN DETAIL:** Horizontal rails, 2-inch angles, 1/8-inch thick. Pickets, 3/4-inch angles, 1/8-inch thick, fastened to horizontals through a "V" slot and securely rivetted. Fence is practically rigid. Six-inch square posts at ends and gates. These 6-inch posts are made from four of the 2-inch horizontals fastened 2 inches apart by 2-inch steel plates, top and bottom, strongly rivetted. Line posts are made of two horizontals fastened closely, making a 2-inch square post. The made-up panels, 8 feet long, are tightly bolted to line and end posts.

## Woven Wire Lawn Fences

(Made in Three Styles—Standard Heights)

Perfectly Woven Fabric—Only Automatic Loom in Canada.

The illustration below is Style "S." There is also Style "L," with the shorter bowed stays omitted, and Style "LP," with stays close all the way to the top.

FROST WOVEN WIRE LAWN FENCES can be built on iron posts with pipe top rail or on wooden posts with scantling at top. We use heavily-galvanized material, as the painted fence soon shows cracks and peelings; rust soon follows. The wire in these fences, like all our material, is drawn and galvanized in our own mills, so we know its quality.

Standard heights: 3, 3 1/2 and 4 feet. Bowed tops or even. The uprights of No. 9 are deeply crimped and securely held in place by a reverse twist of the two No. 13 twisted lateral wires. To prevent the bottom of fence from becoming loose or "pulled out" the uprights are alternately crimped one way, then the other.

Gates are made to match any style or height of iron or woven wire lawn fence.

Flower border, heights 16 inches and 22 inches, same construction as Style "L."

Send in a rough sketch of any property you contemplate fencing, and we shall be glad to give you an estimate of the cost of whatever style you prefer. We have reliable agents in almost every district.

Get a catalogue with detailed information.

**Frost Wire Fence Co., Ltd.**  
 Hamilton, Canada



### GILSON ENSILAGE CUTTERS

Highest quality silage. 1/4 less power. Large capacity. Elevate to unusual heights. Built to last. Throw, blow and lift.

#### LIGHT RUNNING

One-piece semi-steel frame and perfect alignment of main bearings at all times. Capacities 3 to 30 tons per hour, in sizes from 4 H.P. up. When silos are high, conditions hard, or power thought insufficient, the "Gilson" invariably handles the job successfully. Thousands in use. Write postal today for free Catalogue on "The Wonderful Gilson" line of cutters. Your gas engine will run them.

GILSON MFG. CO., Limited  
139 York St., Guelph, Ont.

### THE GILSON

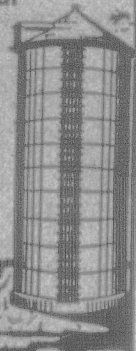


IT THROWS AND BLOWS

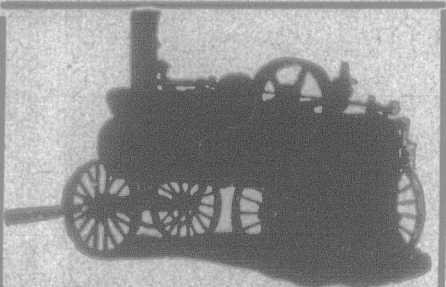
### HYLO SILO

Sweet Fresh Ensilage down to the last forkful

THE HYLO SILO is perfectly air-tight. No frozen or spoiled ensilage around the walls. Convenient and perfect fitting doors, adjustable without hammer or wrench. Made of Guaranteed Long Leaf Yellow Pine. Built to last a life-time. Stands rigid when empty.



Write for prices and catalogue. AGENTS WANTED.  
Gilson Mfg. Co. Ltd. 49 York St. Guelph (4)



### Rebuilt Portable and Traction Engines and Threshers

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

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

### RIDER AGENTS WANTED

In every locality to ride and exhibit a 1914 Hyslop Bicycle with 10 DAYS' FREE TRIAL

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

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

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

HYSLOP BROTHERS Limited  
Dept. "2" Toronto, Ontario

OUT THIS OUT

**LOUDEN DAIRY BARN EQUIPMENT**

**PASTURE COMFORT WITH LOUDEN STANCHIONS**

**LOUDEN Roller Bearing Litter Carriers**  
—make quick, easy work of stable cleaning. No bother with brakes or ratchets. Loads easily elevated; a light pull on hand chain does it. Box loaded or empty will stand at any height. Roller bearing track wheels give ease and steadiness of motion on the track. Heavy galvanized steel box carries a big load.

**LOUDEN Steel Stalls and Stanchions**  
—are neat, strong and sanitary. Heavy high carbon steel tube, and malleable fittings used in constructing Loudon Equipment. No sharp corners on Loudon stalls, stanchions or mangers to injure or make the cows uncomfortable.

**LOUDEN STANCHIONS**  
—are fitted top and bottom with single chain, which gives the cow freedom to lie down and rise as she would in the pasture. High-built-up curb can be used only with Loudon stanchions.

**LOUDEN BARN PLAN BOOK**  
112 pages of valuable information

Write for Free Catalogues.

Write for Loudon Plan Book. It's Free.

**LOUDEN MACHINERY CO. • Dept. 412 Guelph, Ont.**

BRANCHES: WINNIPEG, MAN. ST. JOHN, N.B. VANCOUVER, B.C. (4)

**Home Seekers Excursions**

Every Tuesday, March to October "All Rail"

Every Wednesday During Season Navigation "Great Lakes Route"

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

**CANADIAN PACIFIC**

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

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

**GILSON POWER and SERVICE**  
After 9 years of Service

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

Customer—As my 6 h.p. Engine has been such a big saving to me during the 9 years I have had it, I thought I would write you. I have 275 acres, keep a lot of stock, and do all my own chopping, feed cutting, wood sawing, etc. My engine is as good as new now, and compared with other makes around me, I am perfectly satisfied with its superior fuel economy, power and reliability.

Write for FREE catalogue and prices. —ALL SIZES—  
Gilson Mfg. Co. Ltd. 59 York St. Guelph, Canada

**"London" Cement Drain Tile Machine**

Makes all sizes of tile from 3 to 18 inches. Cement Drain Tiles are here to stay. Large profits in the business. If interested, send for catalogue No. 2.

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

**Corn That Will Grow**

Canadian-grown seed corn. Your money back if not satisfied

J. O. DUKE, RUTHVEN, ONT.

**CLOVER SEED**

Our Alsike, Timothy, Red Clover, etc., will compare favorably with anything on the Canadian market. Send for price list.

"Purity Our Pride"  
1887-1916

S. F. M. O'FLYNN & SON, Shelburne, Ont.  
Dufferin County

**Don't Buy Seed Corn**

of doubtful germinating qualities. Our Golden Glow corn was dried over furnace heat. Almost 100% grows. Keep it ten days and test it. Money back if not satisfied. \$3.00 per bushel shelled.

Spruce Row Farm, Route No. 1, Sarnia, Ont.

**FREE LAND**

FOR THE SETTLER IN

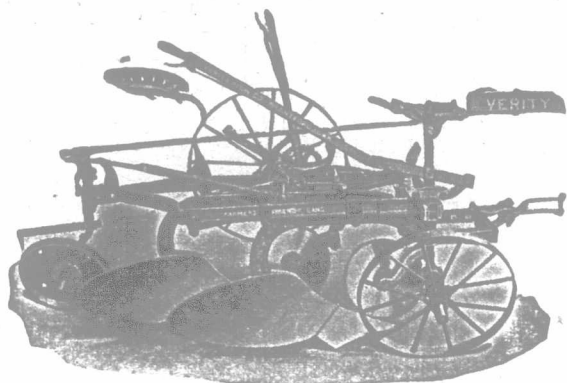
**New Ontario**

Millions of acres of good soil, obtainable, free of a preliminary cost, are calling for cultivation. Thousands of farmers have responded to the call, and the fertile country and are being made rich and happy. Here, right at the door of old Ontario a home awaits you.

For full information as to terms, conditions, and settlers' rates, write to:

H. A. ... Director of Colonization  
P.O. Box ... TORONTO, ONT.  
J. ... FERGUSON, Minister  
of Lands and Mines.

# Massey-Harris High-Grade Farm Implements

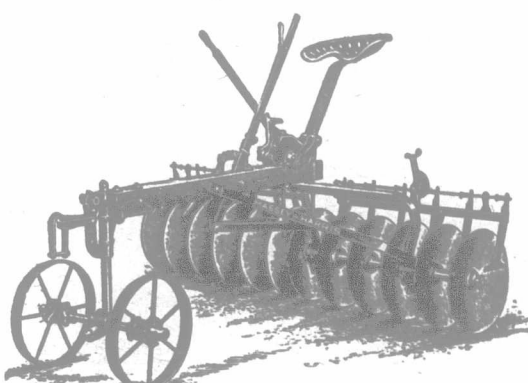


### Farmer's Friend Gang Plow

Strong and rigid Main Frame—strong where others are weak; Adjustable, Easy-Acting Foot Lift; handy Landing Lever; Improved Rear Wheel Control; ample clearance under the Beams; substantial Steel Wheels with extra long dust-proof Hubs; "Never-Slip" Rear Axle Bracket.

Unequaled for Good Work, Strength, Durability, Light Draft and Ease of Management.

Also made with Single Bottom.



### Massey-Harris Disc Harrows

Being equipped with Pressure Springs, the Gangs are held to their work on rough and uneven ground, on ridges and in furrows, so that the entire surface is cultivated.

Should one Gang strike an obstruction, it may rise and pass over it without disturbing the other Gang, or without danger of injury to the machine.

Angle of Gangs is readily controlled by a single, easily operated Lever.

Bearings have oil-soaked Maple Bushings and Spring Oil Caps.

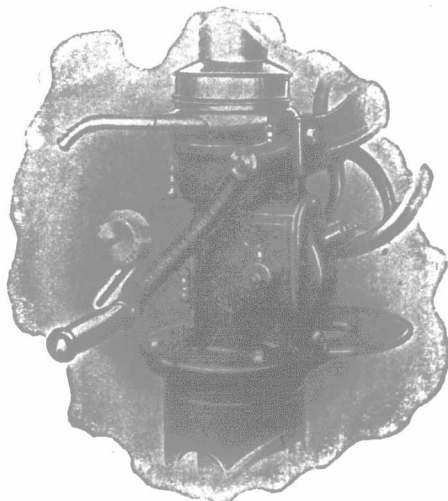
The Low Hitch takes all the weight from the horses' necks.

## Massey-Harris

The Massey-Harris Separator is easy to fill, easy to turn and easy to clean—simple, safe and durable.

The new Speed Indicator enables the operator to turn the Crank at just the right speed to get the best results.

All parts of the Bowl are heavily Nickel-Plated over Copper.



## Cream Separator

Skims close with hot or cold milk because of the Improved Bowl.

The Self-Balancing Bowl is a feature which adds much to the efficiency, easy-running and durability of the machine—it runs without vibration and with the least possible friction on the Bearings.

## Massey-Harris Co., Ltd.

Head Offices  
TORONTO, CANADA

— Canadian Branches at —

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

— Agencies Everywhere —

**\$15** 95 UPWARD  
**ON TRIAL**  
Fully Guaranteed

**American CREAM SEPARATOR**

A SOLID PROPOSITION to send a new, well-made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream.

**ABSOLUTELY ON APPROVAL**  
Bowl a sanitary marvel, easily cleaned. Different from picture which illustrates our large capacity machines. Samples made promptly from Winnipeg, Man., Toronto, Ont., and St. John, N.B. Whether dairy is large or small, write for handsome free catalog. Address: AMERICAN SEPARATOR CO., Box 3200, Bainbridge, N. Y.



The "1900" GRAVITY Washes Clean—Try it at our Expense


This is the washer with the perfectly ideal action—ideal, because it does wash clothes clean, yet does not tear or wear them. Up and down, and out and in among the fibres and meshes of the fabric, the soapy water is vigorously forced. It's the tub and the water that are agitated—not the clothes—they are held stationary, so they cannot be injured. Even filmy lace will not tear—buttons won't come off—edges won't fray. It takes just six minutes to wash a tub full of very dirty clothes.

Gravity plays a big part in its action, making it the easiest operated machine on the market. You need this machine—it will remove the heaviest burden of the house work. We know what it can do—we want you to know too. We want you to try it at our expense for 30 days before you decide to buy it. We will send it prepaid. Do as many washings as you like with it, without a cent at time. Then if you find you do not want it—send it back at our expense. Could any offer be more fair than that? Fill in the coupon—or write to-day for book that tells all about the "Gravity" Washer.

A.L. MORRIS, Manager, 1900 WASHER CO.  
357 Yonge Street, Toronto

Send me particulars of free trial offer.

Name \_\_\_\_\_ Address \_\_\_\_\_




## Who Pays for the Galvanizing

### B.T. Steel Stalls

BT STEEL STALLS and Pens are galvanized so that stable acids and moisture will not attack them and cause them to rust.

The galvanized pipe of which Steel Stalls are made costs twice the price of ordinary black pipe, as you will find if you ask for a quotation from your plumber or hardwareman.

Steel Stalls are therefore worth twice the price of stalls which are not galvanized.

In spite of this fact, we offer BT Steel Stalls and Pens GALVANIZED, without extra charge.

Who pays for the galvanizing?

The answer is simple. More BT Steel Stalls are sold than all other makes combined. This wide sale has enabled us to put in labor-saving machinery. It has also enabled us to buy our materials at lower prices. These and other savings, directly due to the large sale of BT Equipment, pay for the galvanizing.

Send for the new 336-page BT Barn Book, that illustrates the galvanized equipment in 75 fine barns, and tells all about building the dairy barn.

**Beatty Bros., Ltd.**  
1194 Hill Street  
Fergus Ontario

## Steel Rails

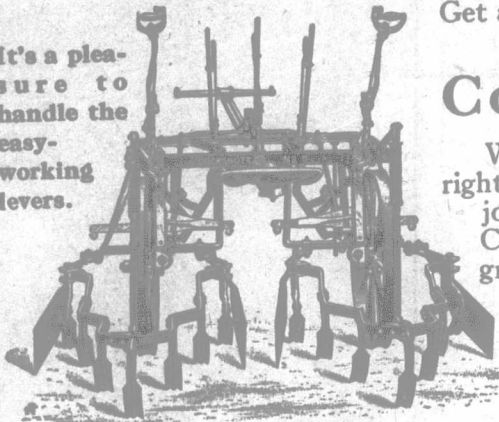
for Reinforcing Bridges and Barn Driveways

CUT ANY LENGTH

JNO. J. GARTSHORE  
58 Front Street West, Toronto

# Don't let the weeds eat you out of house and home

It's a pleasure to handle the easy-working levers.



Get after them early, get after them right—bundle them out, "bag and baggage," roots and all, with the

## Cockshutt No. 5 Cultivator

Weeding is a tedious job, but its got to be done, and done right if your crops are to get a show. Might as well make the job as pleasant and easy as possible. Use a Cockshutt No. 5 Cultivator, and cultivate two rows of corn and other row-grown crops at once. Mighty valuable time saver when labor and season are short.

Handy and easily operated levers give rapid and easy guidance to the teeth sections when rows are crooked or the ground is rolling. In fact, once the implement is set anyone who can drive can do splendid work with this very capable, light draft cultivator.

Our agents are trained to give you expert advice free of charge on any implement whatever you are thinking of buying. Why not use this service?

Any boy, or girl, who can drive horses can do splendid weeding or even field cultivating with the

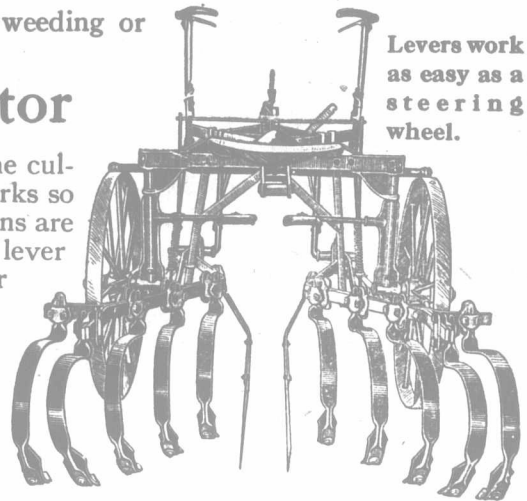
## Cockshutt No. 2 Cultivator

If Canadian girls or women ever have to help out with the cultivating, it's interesting to note that this implement works so easy as to almost seem to be made for them. Teeth sections are turned either to right or left with slight pressure on a foot lever. Hand levers, assisted by powerful springs, raise or lower them almost without effort.

Comes with stiff teeth instead of spring teeth, if desired.

Both implements made of the highest grade steel throughout, and are good for a lifetime of the hardest use.

Write to-day for new catalogue giving full particulars of these splendid implements to our nearest branch.



Levers work as easy as a steering wheel.

**COCKSHUTT PLOW CO. LIMITED**  
BRANTFORD, ONT.

Sold in Eastern Ontario, Quebec and Maritime Provinces by

**The FROST & WOOD CO. LIMITED**  
Montreal, SMITHS FALLS, St. John

**SPECIALLY MADE FARM FOOTWEAR DELIVERED TO YOU \$3.25**



Here is a light weight, durable and comfortable working shoe specially suitable for farmers, woodsmen, millmen, trackmen, laborers—all who require extra strong, easy footwear for working in. We make them of the splendid oil-tanned Skowhegan water-proof leather that has made

### Palmer's "Moose Head Brand"

famous for almost forty years. No need to suffer with tired, sore, aching, burning feet. Get a pair of these and find ease and comfort. If your dealer doesn't carry them, send us his name, enclosing \$3.25 and we will ship you a pair, all charges paid, to any address in Canada or U. S. Remit (stating size) by postal or express order. Same style as shown, 8 pockets high, \$3.75. Write for catalogue.

JOHN PALMER CO., Limited, Fredericton, N. B., Canada. 27

**REFINED** ALL THE NEATNESS AND STYLE OF THE FINEST LINEN MAY BE YOURS IN **CHALLENGE COLLARS** — THE MOST DESIRABLE WATERPROOF COLLARS ON THE MARKET AT YOUR DEALER'S, OR DIRECT — **25c**

THE ARLINGTON CO. OF CANADA, 54, 56 FRASER AVE. TORONTO

## The Farmer's Life Insurance



FARMERS are profound believers in fire insurance, and we'd they might be, removed, as most of them are, far from fire fighting facilities.

The farmer is careful to insure his barn, his house, his grain and his livestock. Yet the most valuable thing of all, his own life, he often leaves uninsured.

A farmer aged 40, in good health, and able to produce only \$1,000 annually from his farm is worth at least \$16,000 to his family if this sum earned 3 1/2%.

In the event of the farmer's death his thought and labour must be replaced by hired help. This would require money. Insurance would provide the money.

Perhaps a mortgage burdens the mind of the farmer and his wife. If so, a policy should be taken for the amount of the debt. If the husband dies, the policy would prevent foreclosure.

Every farm in Canada should be mutualized. Is your farm mutualized?

**The Mutual Life Assurance Company of Canada**  
Waterloo, Ontario



## A handy book on home decoration

(With furnished rooms in colors)

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

## Alabastine

### Sanitary Wall Tints

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

THE ALABASTINE COMPANY LIMITED

86 Willow Street Paris, Ontario

## PLEASURE CRUISES BY

### R.M.S.P. TO WEST INDIES

FORTNIGHTLY SAILINGS By Twin-Screw Mail Steamers.

SPECIAL FACILITIES FOR TOURISTS.

Next Sailing from HALIFAX! R.M.S.P. "Carriquet" April 7, 1910

Apply to The Royal Mail Steam Packet Co., 67-69, Granville Street, HALIFAX (N.S.)

OR TO THE LOCAL TICKET AGENCIES.

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

Send for Canada Booklet-Free

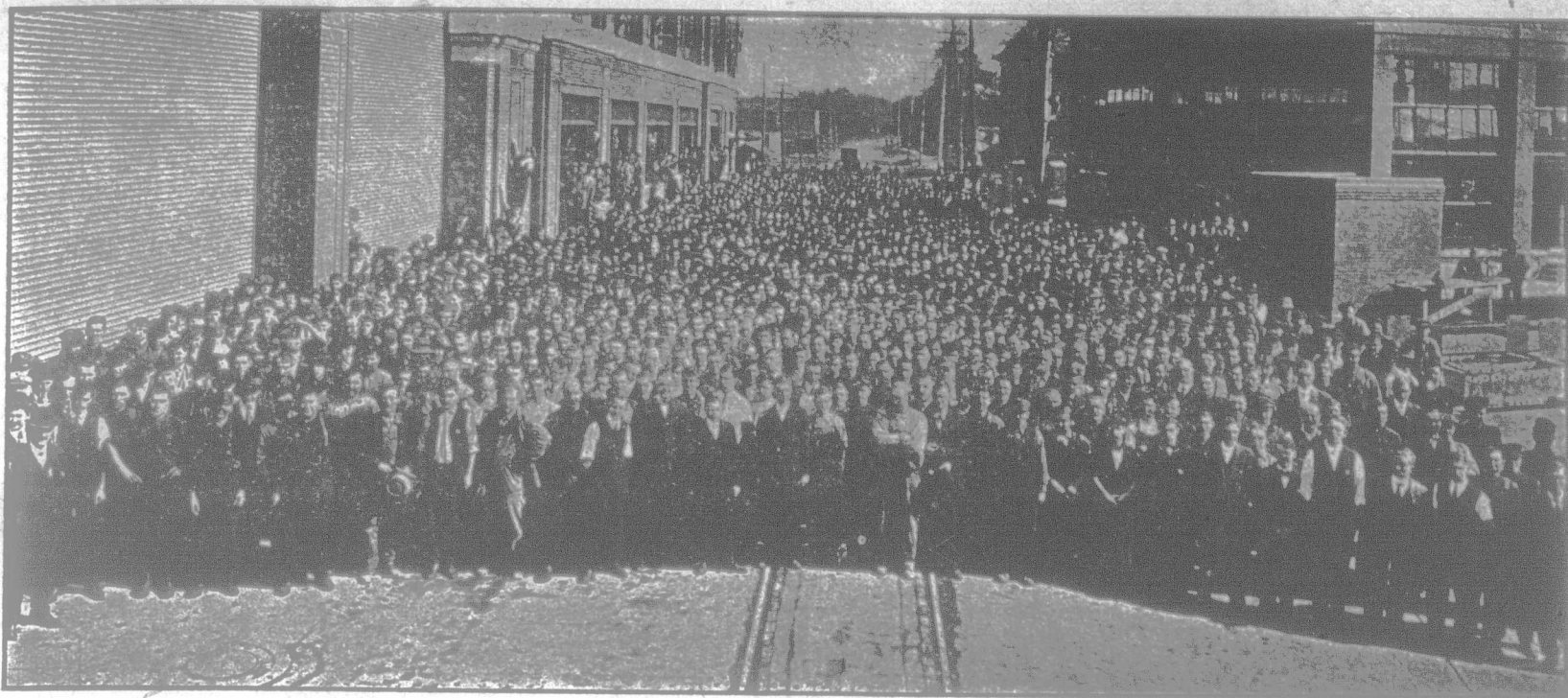
**The American Agricultural Chemical Co.**

New York, Boston, Buffalo, Detroit

BE SURE AND ASK FOR THE **Maxwell**

Line of WASHERS, CHURNS, BUTTER WORKERS, FOOD CUTTERS, GAS ENGINES, etc. Write for Catalogue.

Maxwells Limited, St. Mary's, Ontario



Factory Employees at the Canadian Plant at Ford, Ont.

## \$50,000 a Month Increase In Wages—Staff Increased By 900 Men Since War Was Declared

Increase the prosperity of the individual and you increase the prosperity of the nation.

The influence thus exerted by the Ford Canadian Company towards upholding and upbuilding the prosperity of the Dominion in times when such an influence is intensely valuable forms a story of real human interest.

This story is founded on three events:

1. An increase in wages of \$50,000 a month.
2. The reduction of working hours from nine to eight.
3. The addition of 900 men to the pay roll since war began.

In the Spring of 1915, Canadian manufacturing interests were in most cases being guided by a policy of retrenchment rather than of expansion. It was a time when caution seemed the better part of valor.

The Ford Canadian executives, however, preferred to look upon the situation with more optimism. At that time they were considering putting into effect a higher standard of wages for their employees. They saw no reason why they should stop the wheels of progress on account of the war, so in April 1915, the new Ford standard of wages was adopted.

Here was a war-time increase of from 15 to 60% for every eligible worker in the plant. The average laborer was at once presented with a \$38 a month raise.

It is estimated that this increase distributed among the 2,400 Canadian Ford employes amounts to about \$50,000 a month. And bear in mind that their previous rate of pay was considered good.

So, by April 16, 1916, the Ford Canadian Company will have given its employes \$600,000 in increased wages for one year.

Surely, this is increasing the prosperity of the individual with a vengeance.

Likewise it increases the prosperity of the merchants from whom these employes buy. And it increases the prosperity of the wholesaler from whom the merchants buy and so on down the list. The commission man, the jobber, the manufacturers in all parts of Canada share in it. And in the natural course of events the whole nation benefits from this increased distribution of money.

In the nine leading cities from St. John to Vancouver there are Ford Branch establishments that are also assisting in this promotion of prosperity.

In the plant at Ford City there are about 2000 employes whose places of abode are in the four towns of Ford City, Walkerville, Windsor and Sandwich. There are 1000 more employes working in establishments in these four towns whose output either in its entirety or its greater part is taken by the

Ford plant. Thus 3,000 persons there are dependent upon the Ford factory.

Basing an estimate on the fact given in the last census report that there are five in the average family, this makes a total of 15,000 people that look to the Ford Plant for their support.

In other words half the people in these four towns whose combined population is about 30,000 are directly benefited by the prosperity of the Ford Canadian Company.

At the same time that they received this increase in wages, the Ford employes were further benefited by a reduction in working hours of from nine to eight per day.

Few firms, excepting those working on government contracts, have found it desirable to add to their number of employes to any great extent since war began. But so resultful has been the Ford Canadian policy of full speed ahead, war or no war, that it has been necessary to take on 900 additional employes since August 1914.

Has the Ford Company as a Canadian Plant with its own army of highly paid workers done "its bit" for Canada outside of boosting her prosperity? Again let us consult statistics.

In contributing to the Patriotic and Red Cross funds, the employes, officers and stockholders gave \$59,304.39 or an average of \$29.60. The factory workers alone gave \$30,410.04 or an average of \$18.71 per man. Office employes gave \$6,168.60; everyone, almost without a single exception gave to the absolute limit. For instance, twenty-two girl office employes, stenographers and file clerks contributed a total of \$77.50 per month for 12 months.

The total contribution from the town of Ford with its 2,200 population was \$75,776.99 or an average of about \$34 per capita which is one of the largest per capita contributions of any city or town in the Dominion.

Ford employes are the highest paid automobile workers in the British Empire. They are paid 3 times as well as the average Canadian workmen—receiving \$1,200 a year as against the average wage of \$435 as given by the last census reports.

The Ford Canadian executives have proved to their own satisfaction—and figures make this proof obvious—that the increased permanency of a man's employment, his increased skill gained through this longer time of service, and other factors, fully counterbalance this increased expenditure in wages.

And so the owner of a Ford car receives a direct benefit from all this since it results in putting into his car a skilled workmanship that is most unusual and that goes far towards making the Ford car the wonderful mechanical production that it is today.

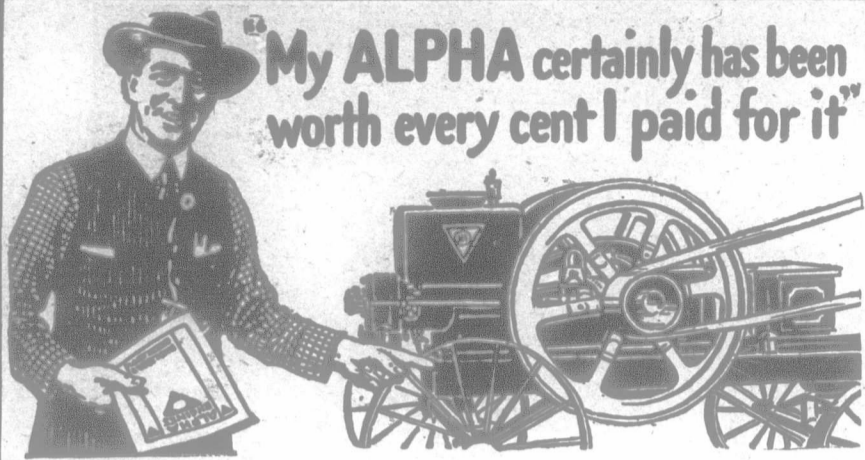
## Ford Motor Company of Canada, Limited Ford, Ontario

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

f. o. b. Ford, Ontario



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



"My ALPHA certainly has been worth every cent I paid for it"

YOU, too, will say that your Alpha has been worth every cent it cost you. You will have proof that it gives you the most for your money. The ease of operation and the many years of service you will get will be a constant source of satisfaction.

The fuel consumption of the Alpha is the lowest. Either gasoline or kerosene may be used. The amount of fuel used is accurately regulated to the load by a sensitive governor, so there is no waste when the engine is pulling a light load.

There are no complicated, delicate parts to get out of order or require expensive and time wasting repairs. You can always depend upon the Alpha being ready when needed. You will not even have to bother with batteries. This engine starts and operates on a simple, low-speed magneto.

The quick and accurate operation of the governor keeps the Alpha running smoothly and steadily under all loads. The governor will adapt the speed and fuel consumption instantly to any variation in the load.

You are not getting your work done as easily, quickly and cheaply without an engine as you could with an Alpha. You are losing more than the cost of an Alpha by doing without one. Buy an Alpha now, put it to work and in a few months it will pay for itself.

Ask for a copy of the Alpha Engine catalogue. It contains a lot of valuable information about gas engines. Alpha Engines are made in eleven sizes—2 to 28 H. P.—each furnished in stationary, semi-portable, or portable style with hopper or tank cooled cylinder.

**DE LAVAL DAIRY SUPPLY CO., Ltd.**

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

MONTREAL PETERBORO WINNIPEG VANCOUVER

**This Silo is "Right"**

Toronto Economy Silos are fitted for you to set up without carpentry. Staves are 2-inch spruce, all wood parts are creosoted against weather and decay, also making them proof against acid, warp and shrinkage; double-tongued and grooved, with steel splines in ends; special steel hoops have malleable frost-proof lugs; doors airtight with three sealing surfaces, yet very easy to open. Roof has three supporting iron rings, is covered by waterproof roofing, and has galvanized, protected ventilator at top. This is the real ECONOMY Silo, and the real service Silo, too.

THIS Dairy Silo gives your cattle summer food in the midst of winter. Ensilage keeps cattle "on their feed" and supplies exactly the kind of fodder which makes best and most beef, and best and most milk. All this with minimum labor and least cost, when you use our engine power and our silo cutter, feed grinder and other equipment for easing barn work. Buy the well-made Toronto Economy Silo; shipped ready to set up at your barn. No skill could ever make a silo better than ours, and no other material equals good spruce wood.

**Get the Silage Machinery from Us, too**

Besides our complete silo, remember that we can sell you a Cutter and Blower possessing important exclusive features. Our machine cuts the silage and fills the silo at the same time.

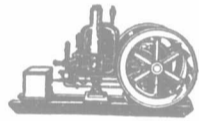


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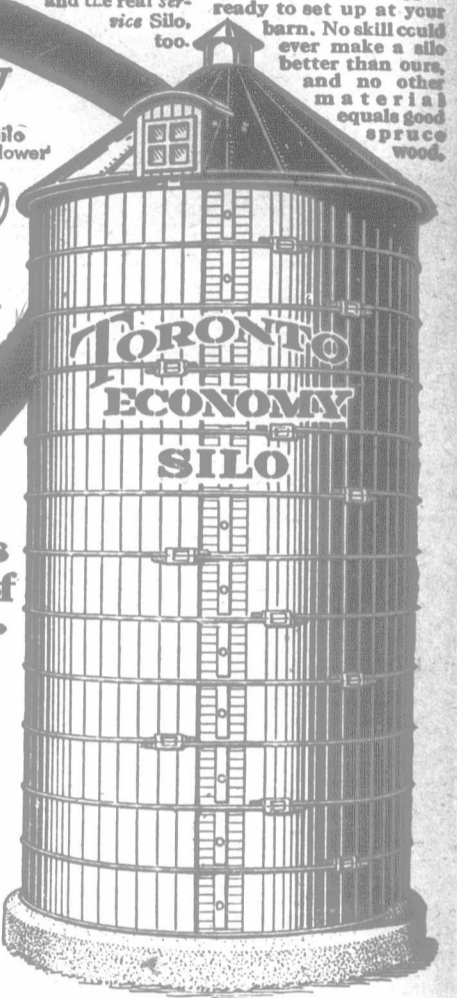


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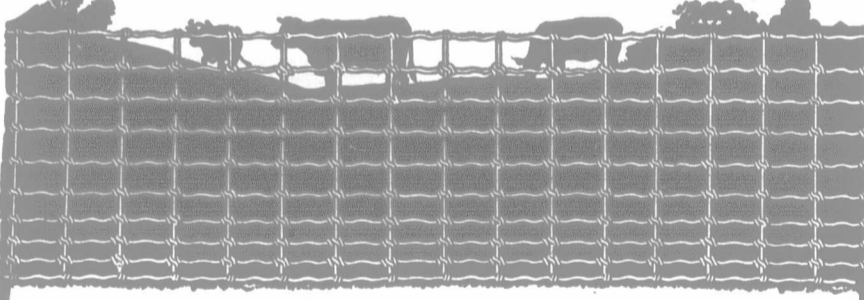


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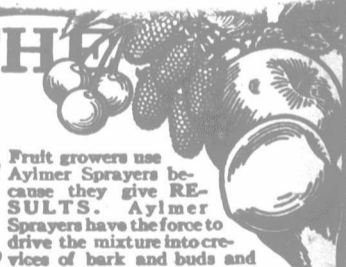
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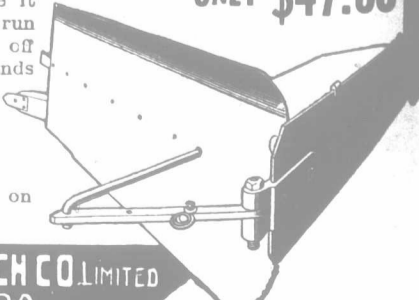
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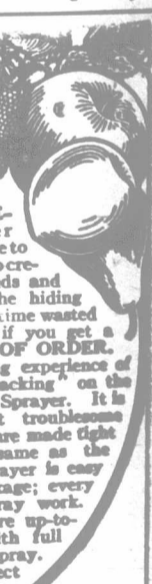
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# The Farmer's Advocate and Home Magazine

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1860

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L.I.

LONDON, ONTARIO, MARCH 30, 1916.

1297

## EDITORIAL.

The most stable capital in any nation is its people.

Many aver that we had our January weather in March this year.

Now all hands together for a bigger and a cleaner crop in 1916!

Sow good seed and reap good crops. Sow weeds and reap weeds.

When it comes to taxation it seems railroads in Ontario get off easy.

The newspaper that can be muzzled by an advertisement is not the best influence in any community.

G. K. Chesterton says: "If the trade unions drop their rules, the employers ought to drop their profits."

Where labor is scarce it might be as well to dispose of the fat cattle, if they are finished, before seeding.

Germany has not changed her submarine policy, but it never can accomplish victory. It was made for murder.

This week we publish all the latest information on spraying. Save the "Spray Calendar" and the explanation of different methods of spraying.

There may be as much money in the world as before the war, but the wealth of the world has been badly depleted by the unprecedented destruction.

If the surplus horses have not been sold make them do a part of the spring work. The Government cannot keep you from working them if sales have been prevented.

Some bachelors, and perhaps rightly, believe that it is no more their duty to fight and die a sacrifice upon the altar of their country than it is the duty of married men.

The January prophets who forecasted no ice and no maple sap season this year because of the lack of winter weather, had their fears allayed during February and March.

It is amusing to read some of the changed opinions of city men regarding farm work. They now think it is "very hard," after being invited to spend their summer vacations on the farm.

Over in Britain the accusation is made that the Brewers' Dray is getting in front of the Ammunition Wagon and Wheat-Truck. The transport problem demands prohibition at least till the war is over.

It takes 6,000 miners to mine the 36,000 tons of coal necessary to operate Britain's distilleries and breweries weekly. And men and coal are needed for work which means more to the national efficiency of the Empire.

An accusing calculation for the Kaiser would be to enumerate the benefactions he might have conferred upon his people with the untold millions of money blown away in the war begun and continued with such ferocity against humanity.

## Agricultural Individualism.

This is the third of a series of articles intended to draw out discussion and promote thought on agricultural co-operation in Canada. Perhaps it should have been first. As a buying concern we put forward the idea that it can never pay a group of agriculturists to cut prices, and as a group we emphasized the importance of the marketing end of the business they engage in. But why the group, association, company, club, or whatever its organizers choose to call it? Is there a need?

The experience of the past has demonstrated that there is need of a working-together spirit among farmers. Alone, the farmer can accomplish little in the way of a better market for his produce and more favorable terms in purchase and loans. Organized properly, farmers could improve marketing conditions, increase demand, get higher returns for their products without appreciably raising the price to the consumer, and could, if necessary, buy in bulk at no loss to manufacturers but at considerable saving to themselves. A writer has said that man is as free as his thought, but the farmer's thought is circumscribed and his isolation works sterilization. We agree that the farmer finds all too much of his time necessarily spent alone in hard, laborious work, which tends to make him more individualistic as time goes on. The more a man works and thinks apart from his fellows, in his own particular groove or rut, the less confidence that man has in his neighbors, in the farmers and business men round about him. The longer a man lives to himself and for himself and his family, the more difficult it is to induce him to co-operate. He spends all his energy of body and mind in an endeavor to produce, failing to pay sufficient and due attention to the marketing and sale of his products, and the conditions which govern these very important and sadly-neglected phases of his work as carried out under individualistic effort. Those who have studied the question know that agriculture in this country does not reap returns on production anywhere in comparison with those made from manufacturing and some other business. Figures given last week showed a gross return in 1911 on the capital invested in agriculture in Canada of 15.7 per cent., whereas the gross return on capital invested in all lines of manufacture in 1910 was 93.4 per cent. There is some truth in the statement of the economic writer who says of the farmer: "The economic laws of the state are deliberately framed to take from him the greater part of his production. He has the law-making power in his own hands, but, owing to his individualism, he does not exercise this power."

Why have thousands of the best boys and girls bred and born in rural districts left the farms during the past fifteen years? Largely because of the bane of individualism in rural communities. Pronounced application of the doctrine that the interests of society are best promoted by each individual seeking his own personal welfare has killed socialism and communism in rural districts. By socialism in this case we mean social intercourse, and by communism community or class spirit. Farmers are thought of as the "independent" class, and they are often all too independent in action and manner. Farm boys and girls have latent gregarious instincts, and many accordingly leave for towns and cities where they see better opportunities for social development. The young people of the farm are quick to perceive father's and mother's real life of toil and comparatively small returns, and the brighter outlook of higher wages in the city, made possible by the greater returns from city industry.

Is there a need of co-operative effort in Canadian agriculture? Rural depletion in people, finance and

social welfare is the answer and all are the results of rural individualism. Under the reign of farm "independence," agriculture, Canada's chief and basic industry, numbering in its class the majority of the Dominion's population, has lost prestige politically, financially and socially. Agriculture requires no government pap feeding doled out over a term of years and made so much noise about that dozens of other "noises," favoring other classes, are not heard in the rural districts. Give the farmer a fair field and agriculture will maintain its pride of place in Canada. He can never get fair field by acting individually, by allowing party politicians to cajole him, by distrusting his neighbor, by refraining from co-operating. The right kind of co-operation would mean organization which would ensure proper representation in parliament, law-making fair to agriculture, financial returns from the land more commensurate with returns from other industry, and more in proportion to work done, improved social conditions in rural districts, and the keeping of more boys and girls on the farms.

Individualism will not give way to co-operation until partyism, petty jealousies, distrust of neighbors, selfishness and so-called independence give place to a spirit of all for each and each for all in agriculture, until the class becomes of more importance than the party, until distrust and jealousy are wiped out by the personal contact of man with man, until the man on the back fifty and the man on the front hundred realize that they represent the only unorganized and disorganized class in this country, and that unless they get together there will be little left to organize. Then individualism will give place to some form of co-operation.

## Are You Prepared?

What preparations have you made to ward off the attacks of insects and fungous pests on the orchard? There is spray material to purchase, perhaps new disks are needed for the nozzles, or the hose will not stand another season's wear. Sometimes the valves need cleaning out and the plunger requires packing; the engine may be rusty, and the tank or barrel leaky. There are dozens of little things about the spraying apparatus that should be made ready so the work will go along smoothly when it once begins. There is nothing more exasperating on a fine day than to be "tied up" in the orchard with a balky engine or defective equipment. Above all, have the material ready to use when the season arrives, and arrange the mixing tanks or barrels so the spraying tank can be filled with the most expedition possible. In many cases as much time is required to fill the tank as is necessary to apply it. Such should not be. The spray material should be prepared in advance, so far as possible, and allowed to run by gravitation into the tank or barrel on the wagon. A little preparedness will be as valuable as an extra hand.

In this issue will be found full information regarding when and how to spray. The Spray Calendar, which is a guide to thousands of fruit-growers, should be preserved and posted in a conspicuous position, after it is studied faithfully.

The prospects are for a large crop, and it should be clean. Fruit of good quality can only be produced by the application of the principles laid down in this issue, along with careful pruning and cultivation. It is not too early now to begin. If there is scale in the orchard, prune the affected trees thoroughly, burn the brush and apply the dormant-wood spray until every part of the tree is drenched. Nests or eggs of injurious insects, when seen, should be destroyed and the old leaves should be covered by plowing or cultivating to prevent the spread of fungus. Energy

## 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,"  
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London, Canada.

and perseverance, assisted by a well-thought-out scheme of preparedness, are required to produce clean, marketable fruit. Are you prepared?

### Why Not?

As the weeks pass by and recruiting goes on, more evidences of dissatisfaction with the promiscuous methods practiced in this country are apparent. The Hamilton Recruiting League have gone on record favoring:

"(a) Taking a census of all men in the Dominion from 18 years of age and upward, specifying those married and unmarried.

"(b) Classifying the men according to their occupations or their fitness or preference for certain kinds of work.

"(c) Classifying the industries with a view to the restriction or the ultimate elimination of such as are non-essential to the welfare of the country, or are not economic factors.

"(d) It being understood that the foregoing is urged with a view to the immediate application of some just and comprehensive system of draft whereby the men necessary to complete the Canadian Expeditionary forces may be readily secured."

Already it seems that men vitally interested in industries other than agriculture are beginning to experience a shortage of the right kind of help, while some of the other kind is available because it has not enlisted for overseas service. We are glad to know that many thinking men outside the calling of agriculture believe as many farmers do. No longer can the finger of scorn be pointed at the rural districts regarding recruiting. They are sending their best in large numbers, and those upon whom the burden of the summer's work of production must fall are wondering why their boys should go, and boys from other families, some of whom could be spared, have not gone. City industry is experiencing the same difficulty, and our army is only nicely past the half-way mark of its proposed strength. We are inclined to believe that some have gone that could have been of greater service to their country at home, and many have remained who could be of vastly greater service at the front. If Canada is to maintain national efficiency, and is to send the maximum number of recruits to

the front, some system should be followed. Why not universal enrolment? Why not a classification of industries and men? Why not national efficiency?

### A Country's Best Capital.

The most valuable and permanent capital of any nation is people, or children. A writer in the London, England, Times says:

"Our national business is to eliminate waste in human beings, and to make each human being capable of realizing to the full his or her potential capacity for creative work, whether such work be material or moral or spiritual. Those ends can only be reached by the best training of childhood in the homes and in the schools.

"Something, of course, can be done among adults; but in the aggregate it is, comparatively speaking, very little. The bulk of humanity is made or marred in youth. Now there is no more appalling fact in our national economy than the waste of that supreme natural product—the child. We do not refer particularly to the waste of infant life, for that is merely one of many by-products of ignorance. We refer to the waste of efficiency among the children who survive.

"Consider the children of the people, how they live, after the experience of half a century of compulsory primary education. There are nearly half a million children between the ages of twelve and fourteen years who are receiving no education, or no education worth having. Some of these are at school, but all are at work, work leading no-whither, at the very age when moral and physical development are at stake. In addition to those there are at least a million and a half of children between the ages of fourteen and seventeen years who are receiving in the week no school education of any kind."

The writer of the article from which the foregoing is taken, states the primary school system of Britain has failed and that the "ladder" system, referring to the secondary schools has lamentably fallen down. He has figured out that Britain has two million children running to waste.

Canada may not be suffering in the same proportion, but the fact remains that if we are to make the most of the best capital in this country we must see to it that Canada's children are well and properly educated. The hope of this country lies in its children, and the hope of the children has for its basis education. Every father and every mother should make themselves familiar with the education of their boys and girls in so far as possible, and the importance of study and independent thought should be impressed upon them early in life. Our law-makers and parliamentary leaders should interest themselves in better public, secondary and advanced school education for our children. The safest asset of the country must be made the most of.

### Too Hard for the Men—Easy for Women and Boys.

Some amusing answers were given recently to a reporter on a Western Ontario city daily, who was interviewing city business men and office workers with regard to a proposal that city men who take holidays should plan this year to profitably spend their vacation on the farm of some friend who happens to be engaged in Canada's basic industry. The answers were particularly amusing because at the present time there is no small amount of discussion going on over the shortage of farm help, and the replacing of able-bodied farm laborers, farmers' sons, and farmers, with city society women and school boys. Of course, the latter believe that they can do the work, but the general consensus of opinion expressed by city men interviewed was that the farm work would be so heavy that after one strenuous day of it the average city clerk, office man, or business man, would be incapacitated for further work on the land, and his muscles would be so sore that he would terminate his vacation rather abruptly, realizing that he was of very little use to his country cousin.

About the time this was printed, a prominent city educationist made this remark to us: "Do you think that the farmer wastes a lot of time talking over the line fence to his neighbors?" Our reply, from experience, was that no time was wasted in that manner, the farmer generally having his talk about crops and cattle while his horses were taking a necessary "blow" at the end, and anyway surely the farmer deserves the recreation from all the time spent in such manner.

Many a city man is nowadays heard to remark that the farmer has a soft time, and is the only man making money in this day and age. We refuted the latter contention in an Editorial last week. The city business man afraid to go to the country, because of the hard work, pours a little cold water on the "soft

job" flame. But is it not strange that the scheme to send city boys and city women to the country to do farm work is flaunted in the face of the farmer, as a solution of the farm labor problem, when big, able-bodied, strong, city men are afraid the work would be too heavy for them? Is it not rather odd that the man who sees the farmer marketing butter at upwards of 30 cents per pound, and eggs at 25 to 30 cents per dozen, thinks he has a "snap," but when invited to help make the "snap" snapper in a war year, puts up the excuse that the labor is too strenuous? If Mr. Coal Man, Mr. Lumber Man, Mr. Store Keeper, Mr. Clerk and Mr. Office Man, and all their city brothers are afraid of farm work, how can Mrs. and the Misses Society, who have never lifted anything heavier in their lives than a silver teapot full of afternoon tea, expect to be of material aid to the farmer with his 1916 crop, and where will the school boys, sons of all the men mentioned come in as farm help?

A Torontonian has been reported as suggesting that domestic servants from the city take the place of farmers' wives and daughters, in the farm homes, while the latter go to the fields. It would require three or four city domestics to go through the work the average farm woman has to do, and why should the farm woman be called to go to the fields and leave her house in charge of the girl from the city? No, it will not work.

Then what! Farmers will have to look after themselves, as they generally have to do. The problem of production is bothering the Dominion Government. It should, but it has not so far bothered them to the extent that they are ready to say which is the more important just now: that the farm boy enlist or produce. The only reason that many M. P's. are concerned is because a falling off in production may mean a serious drop in revenue. Every farmer who early makes his own arrangements to get through 1916 will get through more satisfactorily than if he waits for help from any outside source. We believe it would not hurt many city men to spend their vacations helping on the farms of friends. If you have an able-bodied friend in the city, and he is willing to spend his two weeks, or a month, in the country suggest that he come to your place, not as a summer boarder but as a worker for good wages. It is his patriotic privilege to do so. Co-operate, change work, use wide implements and more horses, and do not depend upon city boys and city women to put in and harvest your crop.

### Boycott the Cheap and Nasty.

Next to impressions through the ear channel, those made through the eye upon the mind of the youth are most lasting for good or ill in habit and character. It is, therefore, deplorable that an occasional Canadian newspaper, of otherwise good repute, continues to follow the lead of American sheets whose outstanding feature is the illustrated comic supplement. Wholesome wit and humor enlivened with line drawings of merit, we can welcome as a spice to life and a safeguard against moroseness, but caricature has degenerated into crude monstrosity and a perversion of natural taste. What was once conceived as entertainment has sunk into coarse cynicism. From the standpoint of the education of young people, some of these sheets are hopelessly degrading and frustrate the best efforts of home and school to cultivate the natural artistic sense which youngsters possess in greater or less degree. Making an initial and vivid impression upon the mental film, pictorial reproduction of what is good finds itself discounted and displaced. Life-long mischief is thereby wrought, and we do not wonder that American journals of undoubted standing and discernment have felt it necessary to enter a vigorous protest against the educational injury being wrought thereby to public taste. To our mind the mischief goes still farther and deeper in that the character of the pictures, in which youngsters figure so prominently, tends to destroy a wholesome respect for elders and sane ideas of life by inculcating a senseless and often brutish sort of practical joking, the results of which are plainly to be traced in a deplorable absence of decent civility and growing hooliganism in the towns from whence it filters through the country districts. Teachers, parents and journals of influence cannot too clearly and sternly set their faces against the circulation of such matter. Newspapers using it pay a very low compliment to the intelligence and appreciation of their readers, and in trailing after "yellow rags" from beyond our borders are deliberately educating their constituency down to a low and vulgar level. Canadian newspaperdom as a rule, sets and sustains a distinct and reputable pace of its own, and surely possesses the necessary gifts and enterprise in relation to life in its lighter vein, to develop something more in keeping with these standards than cheap and nasty vulgarity.

The war is beginning to drain the Central Powers. Germany has refused help for Turkey and has had to withdraw men from the Balkans, and Austria-Hungary has called up her 1919 class of recruits. Food for powder is waning.

Thirty thousand tons of barley and other produce is imported into Britain each week for brewing and distilling. Think of the increased cartage, haulage and demands on merchant marine in war time.



Studies in Political Economy—IV.

EDITOR "THE FARMER'S ADVOCATE":

Hitherto, in our study of the problem of distribution, we have been considering the question of how to divide justly between the members of society the wealth which they co-operate to produce. Our minds have been centered upon the human units as factors in production. But there is a different class of factors in production, whose consideration at this point will greatly simplify our task: I refer to the factors of Land, Labor, and Capital.

By Land is meant the earth, and all its resources, both of matter and energy,—all natural resources of land, air and sea, and all forces such as gravitation, chemical affinity, electricity, etc. Land was here before man came and will remain when he is gone. "The earth is the Lord's and the fullness thereof."

By Labor is meant those human forces of muscle and mind which are directed by the human will towards the satisfaction of human desire. Labor applied to land produces wealth,—sows and reaps the grain, fells the forests, digs into the bowels of the earth for coal, or scours the seas. These two factors of Land and Labor are fundamental in the production of all wealth. Land is the passive factor, and Labor is the active factor. There is, however, another factor in the production of wealth which is of great importance. But it is a secondary factor. It is Capital.

By Capital is meant all those products of labor, such as tools, implements, machinery, buildings, etc., which are produced not for the direct satisfaction of human desire, but in order to assist in the production of those things which minister directly to human wants. For example, a plow ministers indirectly to human desire by assisting in the production of grain for food. Without capital man's powers are enormously limited; what could our best efforts bring forth if they were unassisted by any tools? Capital is, therefore the third factor in production, of great importance but secondary in its nature, since it is produced by the conjunction of the two prime factors, Land and Labor.

Now, since these three factors of Land, Labor and Capital co-operate in the production of wealth, it is logical that the product should be divided into three corresponding shares, the share of Land, which is called Rent, the share of Labor which is called Wages, and the share of Capital which is called Interest. We have already traced the origin and growth of Rent. We have seen that it does not depend upon the efforts of any one individual or any one class of individuals; but that it depends upon the activities and necessities of the community, resulting in a competition for land. It is therefore, the share which the land may properly claim as a necessary factor in all production. Wages are, by universal consent, the proper share of Labor. But it may not be so obvious, at first, that Interest is the just share of capital. Let us examine this latter point a little.

The added efficiency which the use of capital gives to labor, under given conditions, is a definite thing. But it can only be determined approximately in practice by averaging the various estimates of those producing and of those wanting capital, acting and reacting upon one another through the law of supply and demand. For example, if I as a farmer pay more for the use of the labor stored up in a grain binder than the same labor will produce in using this grain binder, labor will naturally be diverted from the use of binders into the manufacture of binders, because it will thereby reap a greater reward. Therefore, the supply of binders will increase in relation to the demand, and the price will fall—assuming, of course, no interference with the operation of the law of supply and demand—until an equilibrium has been restored. Thus, whether Labor will be stored as Capital at all, or whether it will be stored in this shape or that, depends upon the average share of capital or upon the share which it can get in this shape or that. In actual practice and with no artificial interference the direction of human labor into the production of capital responds most marvellously to the law of supply and demand. Where capital is scarce and the demand strong, the price of capital—its share, which we call Interest—will be relatively large, and there will be a strong tendency for labor to be stored as capital. On the other hand, where capital is plentiful and the demand for it weak, its share will decline, and labor will cease to be stored as capital. In all cases the operations of supply and demand will, if not interfered with, ensure to Capital approximately its just share, and this share we call Interest. Interest is, in fact, the wages of stored up labor; for, just as there are only two prime factors in the production of wealth, so there are only two necessary parts into which the wealth produced must be divided, those, namely, of Rent and Wages. The following tabular explanation may express this more concisely:

Factors in Production	Product	Shares in Distribution.
Land	Wealth.	Rent.
Labor (including Capital)	Wages (including Interest)	

Now, in so far as the functions of landowner, capitalist and laborer co-exist in the same individual, the problem of distribution is one of merely theoretic interest, one which the individual in question may solve for his own delectation. But when these functions became separated in part or in whole, then questions of great practical importance arise, which we shall consider next week.

Brant Co., Ont.

W. C. GOOD.

Nature's Diary.

A. B. KLUGH, M. A.

During the past month various points in Ontario have been visited by a bird which always attracts a good deal of attention among people who pay any attention what-so-ever to our feathered friends—the Evening Grosbeak. This species is about eight inches in length, is heavily built and has an extremely large bill—it is indeed "unca thick i' the neb" as the old Scotch farmer said of it. The adult male is dusky yellow nearly all over, the yellow being brighter on the forehead over the eye, and on the under tail-coverts. The crown, wings and tail are black, the wings having a large white patch. The bill is greenish-yellow. The female and young male are brownish-olive above, paler below, the white of the wings is tinged with yellowish and the yellow markings of the head are lacking.

While on visits to Ontario the Evening Grosbeak is seen feeding on the fruits of the Mountain Ash, Red



Evening Grosbeak—Male.

Cedar, and Staghorn Sumac, the seeds of the Manitoba Maple, or the seeds of apples which have remained hanging on the trees.

The home of this species is in the coniferous forests of the West, and it breeds on the mountain-sides from Arizona northward. The bird was known for some time before its nest and eggs were discovered, this discovery taking place in 1884. The first nest was found near Springerville, Arizona by John Swinbourne who thus described it and its location: "The nest was a comparatively slight structure, composed of small sticks and roots lined with finer portions of the latter. The eggs, three in number, were of a clear greenish ground color, blotched with pale brown. The nest was placed about fifteen feet from the ground in the extreme top of a thick willow bush. The slight canon, with a few willow bushes in its centre bordering a small stream, lies in the midst of very dense pine timber, at an altitude of 7,000 feet, as far as I can judge."

In Canada it has been found breeding at Lesser Slave Lake, at Dunvegan, Sask., at Chilliwick, B. C. at Robson, B. C., and at Hope, B. C.

We have no records of this bird having been seen in the Maritime Provinces and the most easterly Canadian record we have is for the vicinity of Quebec. In Ontario it is, in most localities, extremely irregular in its visits being seen in considerable numbers during some winters, and being entirely absent for several



Birk Gill.

Winner of King's Cup at the Thoroughbred Show recently held in England.

consecutive seasons. In some winters very extensive migrations of this species take place, and large flocks are seen at numerous points throughout the province. Such a flight took place in the winter of 1889-90. The earliest date that they have appeared in the East is Nov. 24th, and the latest date on which they have been recorded is May 26th. The latest date on which I have seen them in Ontario is May 9th, 1911, on which date I saw a flock of seventeen along the shore of Colpo's Bay on the Bruce Peninsula. They were feeding on the ground on the fruits of the Staghorn Sumac which had fallen there.

Some points in Ontario seem to be on its favorite migration route. Such a point is Kingston, as the present season is the fifteenth consecutive year that they have been seen here.

In Manitoba the Evening Grosbeak is a regular and common winter visitor, and as it has been seen there in August it is probable that it breeds in the province.

In their winter migrations these birds go as far south as southern New England, New York, Pennsylvania, Kentucky and Kansas.

Many people are inclined to regard the presence of winter visitors from the north as a sign of a severe winter, arguing that the birds have been driven out of the north country by the cold. But like most of the "signs" which are popularly believed in there is nothing in it. The fact is that none of our birds or our mammals are ever killed or driven out of their range by the cold as long as they have enough to eat, and it is failure of the food supply which causes such winter migrations as occur. Cold alone will not harm them as long as an abundant food-supply is available, but cold plus a shortage of food is soon fatal.

Another bird which has been fairly common in Ontario recently is the Pine Grosbeak. In this species the male is carmine-red, the female and young are smoky-gray with brownish-orange on the head and rump. This bird is about eight inches in length and the bill is large but not nearly so large as that of the Evening Grosbeak. While with us in the winter this species feeds on the same fare as the Evening Grosbeak and also on the buds of the Maple and Spruce and the berries of the Nightshade. It is often reported as the "first Robin of spring" though one would think that even the most casual glance would assure anyone that a bird with a short, thick bill and red on its back was not a Robin. The Pine Grosbeak breeds in the north country as far north as the limit of trees.

THE HORSE.

Lameness in Horses—XV.

Navicular Disease.

Navicular disease, often called *coffin joint lameness*, is a very common disease, especially in the lighter classes of horses, those that are used for road-work, either in harness or saddle. The navicular, or coffin joint, is situated within the hoof, hence the name *coffin joint*. It is formed by the articulation of the lower end of the small pastern bone with the upper surface of the bone of the foot, with the navicular bone (a somewhat shuttle-shaped bone) placed immediately behind, with its long axis transversely placed. The flexor tendon of the foot passes over the posterior aspect of the joint, immediately over the navicular bone, before becoming attached to the os pedis (the bone of the foot.) The disease under consideration consists in inflammation being set up in the joint. In well-established cases the inflammation causes an alteration in structure of both bone and tendon, the fibrous covering of the bone becomes destroyed, a form of decay is established and the bone and tendon become united. In the normal state the tendon plays over the bone in somewhat the manner of a rope playing over a pulley.

**Causes**—In many cases there is doubtless an hereditary predisposition not altogether due to conformation. Horses with short, upright pasterns are predisposed on account of conformation. This is readily understood from the fact that concussion is greater than in horses with oblique pasterns. Ordinary concussion, from travelling on hard roads, is doubtless the most fertile exciting cause. Irregular exercise is also often noted as the cause. Horses that are used only occasionally, those that often stand in the stable, (especially in dry, hot weather, when no means is taken to supply moisture to the feet), for several days without exercise, and, when taken out, are driven fast, then again allowed to stand for a variable length of time, then again given a fast drive, etc., etc., frequently suffer from the disease. The dry and somewhat hot condition of the feet predispose to the trouble, and concussion acts as the direct cause.

**Symptoms**—The symptoms are very insidious. The trouble may be developing in one or both fore feet. Lameness is usually very irregular. The patient will be noticed slightly lame, probably the driver cannot readily decide whether or not he is lame, but he is not going quite right; or he may show suspicious symptoms when first brought out, but soon goes sound, and the driver decides that he was mistaken in suspecting lameness. Then he may go sound for a variable time, then show suspicious, or probably decided symptoms, then again go sound, etc., etc. The intensity of the lameness varies greatly without apparent cause. An examination of the foot and leg will not reveal any cause for lameness, and the horse stands sound. After a variable time the symptoms of lameness become more decided and constant, and the patient will be noticed pointing his foot when standing, but even now often go practically sound after being driven a variable distance. The symptoms increase until he will show lameness at all times, will step short with the lame foot and stub the toe, wearing the toe calk off quickly. An examination at this stage will usually reveal the foot smaller, and probably narrower and deeper in the heel than its fellow, and there will be more heat in the foot, but this is hard to detect. The patient is supposed to show tenderness upon pressure exerted upon the hollow of the heel with the thumb, but we have never seen this symptom well marked. There being an absence of apparent cause of lameness in any other part of the limb, the symptoms having been more or less as described, and the foot having become smaller than its fellow, is usually considered sufficient reasons for diagnosing "navicular disease." We may say that

"we are forced to judge largely by negative symptoms." When both feet are diseased, the step will be short and groggy, the toes stub, and toe calkins wear off quickly, and, when standing the patient will point one foot and then the other, and when in action will often be inclined to canter rather than trot. Both feet being diseased, there will not be a difference in size or shape, as they will both have become smaller than normal, but this will in most cases be hard to determine.

**Treatment**—If treatment be adopted during the early stages of the disease, a perfect cure may be effected; but, if the disease has advanced until there is an alteration of structure of bone and tendon, a cure cannot be expected. In such cases the symptoms may be allayed to a considerable extent, and the horse rendered of some service for slow work, but he will never be valuable or serviceable for any considerable amount of work on hard roads. Treatment should be directed to allaying the inflammation and increasing the growth of horn. The patient must be given a long rest, the shoes removed, the heels lowered and the soles pared well down. Poultices, either hot or cold, should be applied to the feet, or the patient forced to stand in a tub of water several hours daily for a week or ten days. Then a blister should be applied to the coronet all around the foot. Nothing is equal to a blister to encourage the growth of horn. The blister should be repeated every four weeks for several months. When again put to work, rubber pads should be worn between shoe and foot or bar shoes worn, to lessen concussion; the rubber pads give the best results. Even where there is alteration of structure, this treatment will usually alleviate the symptoms by increasing the growth of horn, and thereby relieving the pressure that is caused by contraction of the foot. In regard to contracted feet, we must always remember that it is not a disease of itself, but the result of disease. When a horse becomes so lame from navicular disease as to be practically useless, and treatment will not give relief, all that can be done is to get a veterinarian to perform neurotomy. This consists in removing the nerve supply to the feet, and, while it removes the lameness, it does not cure the disease. It is not advisable to operate unless the horse is practically useless, as the freedom of action after the operation often causes a fracture of the weakened navicular bone or a rupture of the weakened tendon, or both, which of course necessitates the destruction of the patient. In some cases the animal is serviceable for years after operation. The feet of horses that have been operated upon should be examined regularly, as, although sensation has been removed, the processes of decay and repair continue, as in a healthy foot, hence the animal may pick up a nail, etc., and will not show lameness, but the ordinary results of the accident, viz., the formation of pus and sloughing of the tissues, will occur and may not be noticed until past the stage where treatment would be effective. W.H.F.

## Old Country Light Horse Exhibition.

### English Hackney Show.

The thirty-second show of the English Hackney Horse Society was held recently at the Royal Agricultural Hall, London. As had been surmised, entries were not quite so numerous as last year, a circumstance which is easily accounted for by the fact that so few men are available for the somewhat strenuous task of running Hackney's. Still, it is satisfactory to note, that in the more important breeding classes the decrease was but slight, and certainly some very high-class horses were forward, amongst them some that were quite new to the show ring.

Notable amongst these were F. W. Buttle's Kirkburn Leader, which made his debut with considerable éclat, inasmuch as he beat last year's champion, A. W. Hickling's Adbolton Kingmaker, in the four-year-old stallion class. But Kirkburn Leader had no easy victory to his credit, last year's champion putting up a remarkably good show. Indeed, the merits were so evenly balanced that it was not until the last "run out" that the issue was decided.

There was another very interesting struggle in the class for stallions four-year-old and upwards, and over 15 hands 2 inches. In this class W. W. Rycroft's Hopwood King, by Admiral Crichton, won. He is a very shapely chestnut, short legged, with good bone and he goes with great force and at a good pace. He won the senior cup last year, and was reserved for the championship, which his many admirers say he should have won. He now found his strongest opponent in his class in Mrs. Fletcher and Son's Angram Majesty, which won in the four-year-old class last year. Angram Majesty, by Flash Cadet, has scarcely thickened so much as he might have done, but he will probably show to more advantage later in the year. He is a very fine mover.

Three-year-old stallions were a numerically strong class, but it could scarcely be said there was anything very striking amongst them. There is great promise in H. B. Brandt's Capenor Foremost, which won, and was the winning two-year-old last year. There is also something taking about Walter Brigg's Allin Prince Sizergh, which was second and may be the better horse some day. The winning two-year-old stallion was Ernest Bewley's Danna Ballyowen by Polonius. He is one of the most promising young horses of the Jay, reminding one very much of his sire. He won at the Royal last year. Sir Edward Mann's Thelveton Leopold won the yearling colt class.

Fillies and Mares were a good lot, and they numbered one more than last year. Yearlings made a strong class numerically, with eleven of thirteen entries forward in the ring. It was a fairly level class, and would

have looked better than it did but it was smothered by the winner, James Atherton's Mersey Flashlight, a big, upstanding, level, brown, with the finished action of a three-year-old. It is not often that a yearling filly of so much excellence is seen in March. Two-year-old fillies also made quite a good show, though there were only seven of the nine entered present. Ernest Bewley's Adbolton Bountiful was the winner. She is an upstanding chestnut by Mathias. Her shoulders perhaps might be better as she stands still, but no fault can be found in the way in which she uses them. H. V. Sheringham's Creak Lady, second at the Royal Norfolk last year, now made a good second to her.

Three-year-old fillies were only five in number, but their quality was excellent. F. E. Colman won with the much improved Crystal of Lark, which won at the Royal last year. Second to her was Ernest Bewley's Beckingham Lady Rathgar. Mares four-year-old and upwards exceeding 14 hands, in foal or with foal at foot, made a very good class. Ernest Bewley won with Beckingham Lady Gracious, the London and Royal winner of 1914. Beckingham Lady Gracious is all over a brood mare and there is more of her in every way than there is of Chas. Clark's Quality Girl, which was second. Quality Girl is by Polonius and is a very pretty mare and a fine mover but she has not the bone or the scope of the winner. A well-known winner in good company was third in W. Brigg's Bygrave St. Agatha.

The winner in the class for novice harness horses not more than five years old and not exceeding 15 hands, was Thomas Black's Northern Star, a very fine mover by Mathias.

In the novice harness class for horses exceeding 15 hands W. S. Miller the Scottish breeder won with King Mathias and was second with the Valet—a rare pair of youngsters. King Mathias won the novice harness cup. The open harness cup fell to the Cheshire owned horse. Philip Smith's black gelding Adbolton Black Prince, about the most perfect mover all round there is in the world but the slowest champion I have ever seen.

The champion pony mare was James Hale's Rougham Lady, a bay six-year-old by Sedgemere Nightingale, and bred on the same lines as the Hackney pony Sharplo which is now in Toronto, Canada. This Rougham Lady combines rare quality with a sweetness of outline and a beautiful type of action. The champion pony stallion was W. W. Bourne's Fusee, bred by Robt. Whitworth the owner of Polonius. Fusee is full of fire and goes at a rare pace. He could smother all the big Hackneys in the show for scintillant action, albeit he was run hard by A. C. King's dun pony Harviestown Wattie, a Scots bred one.

The supreme Hackney stallion championship was won by F. W. Buttle's Kirkburn Leader placed over his senior Hopwood King. It is not very often a complete new comer goes to London and carries off the chief male honour. I knew all about the horse a month ago and prepared my friends for the surprise Mr. Buttle gave the London public.

The supreme mare championship fell to Mr. Ernest Bewley's Adbolton Bountiful the winning two-year-old filly. She was placed over her stable companion, Beckingham Lady Gracious. It is not often a two-year-old wins a Hackney show championship in London and we have to go back to the early "nineties" to find Bashful Kate doing so.

In the group classes for trios of stock got by the one stallion, Mr. John McKeague's Kings Proctor and Mr. Robt. Scott's Mathias divided the honors between them. Mrs. A. C. King's pony stallion Tissington Gideon won the pony group contest.

### King's Gift to Canada.

The King has presented his racehorse Anmer to the Canadian Government for remount breeding.

Anmer, now a six-year-old, was one of the sensation horses of the famous Derby of 1913. He was somewhat fancied for the race in certain quarters but rather, perhaps, because he carried the Royal Colors than on any of his past form. A hot favorite, regarded as a racing certainty, was Bower Ismay's Craganour. Craganour duly won by the narrow margin but the stewards disqualified him for bumping and boring, and awarded the race to Aboyeur, started at 100 to 1.

The other sensation of the race was provided by Anmer. The Suffragette campaign was at that time at its height and as the horses were rounding Tattenham Corner a woman rushed on the course and tried to stop the Royal candidate. Anmer crashed into the woman, who was mortally injured.

### London's Hunter & Pony Shows.

At the National Pony Show, held in the Royal Agricultural Hall at Islington recently, a new class for groups of mountain and moorland ponies, shown in the rough, was instituted. No fewer than 13 groups were brought before the judges, and these included Dartmoor, Exmoor, New Forest, Welsh, Fell, and Highland ponies, there being six groups of New Forest, two of Dartmoor, two of Welsh, and one each of Exmoor, Highland and Fell. The last-named took the first prize and were the most powerful ponies in the class for their inches, but not so big as the Highland group, which were cart horses in miniature, and were probably passed over because of their lack of quality. The group which stood second were Dartmoor ponies, shown by the Prince of Wales. These were much smaller than the Fell ponies, but more on riding lines. The New Forest ponies made a capital show, but of these, while one pony looked like carrying a saddle, very likely its immediate follower suggested harness. The Exmoor ponies also passed muster, but these western breeds are on the

small side, and must be bred to a bigger size if they are to come into fashion as riding ponies.

S. Munford's Spanish Hero won the Polo Pony stallion championship once more, and the double triumph of Tresham Gilbey's mares, Naughty Girl and Marcia, in the female championship was an honor well bestowed. In the polo-bred classes the Cheshire breeder, George Norris' Midwood came in for much official recognition, and C. Howard Taylor's stock from Yorkshire won for him quite a lot of kudos. The show was well attended and was graced by the presence of H. M. Queen Alexandra.

The one day Hunter show lived quite up to the reputation of the past, and while the young stock were particularly good the three-year-olds were perhaps the better coterie. "Blood", or rather the full Thoroughbred qualifications, prevailed in the older classes. Half the peerage were at this show. It wanted very little imagination to believe one was at Olympia over again, or perchance at Ascot or Goodwood. The champion hunter was John Brown's Blacksmith, a son of Matchmaker, bred by a Yorkshire farmer.

At this show, much praise was bestowed upon the useful polo pony. Colonel Sanders Darley told me he knew of a case where an officer had taken two chargers and a polo pony to the war. After very hard work the chargers were knocked out and he had to fall back upon his polo pony. He used the pony daily for a month, and it kept its condition, until unfortunately it was blown to pieces by a shell.

Colonel Fraser Tyler declared he knew of a pony that had been in the retreat from Mons, and was still going strong.

### A £20,000 Light Horse Show.

His Majesty the King visited the Thoroughbred Show at Islington on March 1 and watched £20,000, not speaking of cups and other things, awarded to owners of race-horse stallions, competing for the King's Premiums, offered by the Board of Agriculture in connection with the scheme of light-horse improvement, that meaning, of course, hunter and remount breeding, chiefly. Sixty premiums were offered and each one is of the approximate value of £326, the twelve super-premiums for stallions of exceptional merit being worth in addition £100 each. The total prize money represents a little over £20,000. It is the extent of the Government's aid in the encouragement of horse-breeding. Before another year has passed, however, we may be told of a large augmented grant of money, for it is not long since that Parliament was presented with a striking report from Lord Middleton's Committee, which was appointed "to consider and advise what steps should be taken in England and Wales to secure an adequate supply of horses suitable for military purposes." The entries numbered 174, with one withdrawal. This is 44 more than last year, and it may fairly be said that both for numbers and average quality the show ranks as the best that has been held. It may be interesting to look for a moment at the heights of the exhibits. Seventy-five of them were 16 hands 1 inch and over, some of them being over 16 hands 2½ ins.; here were 14 of them standing 16 hands ½ inch, 57 standing 16 hands, and 27 standing under 16 hands, many of these being 15.3, which is in the eyes of some good judges, the best height for a stallion for siring half-bred horses. However this may be, the tendency to increasing height in stallions is not one to be viewed lightly but the average of horses over 16 hands does not show any increase worth noting over that of last year, when the numbers were 67 over 16 hands to 63 16 hands and under. It should be remembered that all the exhibits had passed a veterinary examination before they came to the show, a circumstance of vast importance when the relative merits of former shows come in for comparison.

The winner of the King's Gold Cup as champion stallion in the show was Birk Gill, owned by Captain T. L. Wickham-Boynton, and his cousin, H. A. Cholmondeley. They have a big haras in East Yorkshire. Birk Gill looked and went well and his reaching stride and excellent action in his walk made him stand out clearly from the rest. Reserve for the title of champion was the Compton Stud's Gilgandra. ALBION.

## LIVE STOCK.

### Formalin for Bloat.

Two members of the Kentucky Agricultural Experiment Station staff, D. J. Healy, and J. W. Nutter, believe they have discovered a practical remedy for clover bloat in cattle. In Circular No. 5, issued by the Station, these gentlemen describe their experimental work in this connection. It occurred to one of the members of the staff that fresh clover blossoms might contain an appreciable quantity of sugar, which undergoing a rapid fermentation in the rumen would account for the acute distention of gas. They were able to demonstrate that fresh white and red clover blossoms, and also alfalfa blossoms, contain a considerable quantity of sugar. The amount of sugar varied from 3.6 per cent., by weight, in red clover blossoms to 2.8 per cent. in alfalfa blossoms, and 2.4 per cent. in white clover blossoms, whereas in the blossoms of the bluegrass and in the leaves of the clover and alfalfa the quantity of sugar present was less than one per cent. They were also able to demonstrate that a natural fermentation will occur whereby the sugar present in these blossoms is largely converted into carbon-dioxide gas. The experiments were conducted under conditions similar to those which would

occur if the blossoms.

In view of the fact that following the treatment it was suggested that on white clover with water placed in the end of two No bad after cow badly recovered in of clover bloat by the adm Station e of formalin with which or vanilla something wood or se escape of

Instance something arrive and may escape be applica

EDITOR "T

Cattle without harmful ap that they i them. Ma idea of prot and vicious or attaching past curin general pra this system who would standpoint. have demon by the ope as compar cow frequ herd in the

Cattle Caustic pot Gillett's lye these agent life of the h animal a the instrum inclination t or lye is don soon as the calf-poll. T off and the using the po in paper to moistened a fer about five and red, but must be tak down the sid burned and a scab soon becomes co part. With formed at fo it is necessa longer. If calf is two d killed with horn is the is moistened

occur if the cow ate heartily of fresh, moist clover blossoms.

In view of the facts demonstrated to their own satisfaction that fermentation is the cause of bloating, following the ingestion of fresh clover and alfalfa blossoms it was suggested that the administration of formalin might act as a remedy. One cow which bloated badly on white clover was given a dose of formalin diluted with water, and a block of wood was, at the same time, placed in her mouth, thus keeping it open. At the end of twenty minutes she had entirely recovered. No bad after-effects followed this treatment. Another cow badly bloated was treated similarly and entirely recovered in 25 minutes. These and four other cases of clover bloat were promptly and thoroughly relieved by the administration of the formalin treatment. The Station experimenters recommend one-half ounce of formalin in one quart of water as the proper solution with which to drench the animal. The small lemon or vanilla bottles, usually purchased, hold one ounce. Something to hold the mouth open, such as a block of wood or several plies of an old rope also assists in the escape of gas.

Instances occur when the stockman feels that something should be done before the Veterinarian can arrive and he is also loath to puncture that the gas may escape. In such a case the formalin remedy might be applicable.

**Dehorning the Calf.**

EDITOR "THE FARMER'S ADVOCATE":

Cattle as now reared and cared for are better without horns, which have come to be regarded as harmful appendages and useful only to the extent that they improve the appearance of animals wearing them. Many years ago cattle raisers conceived the idea of protecting the weaker animals from the stronger and vicious ones by removing the points of the horns or attaching brass knobs. Towards the end of the past century the entire removal of the horns became general practice in many sections. The success of this system has left no ground to stand on for those who would prevent the operation from a humane standpoint. Careful observation and investigation have demonstrated clearly that the suffering caused by the operation on even mature animals is trivial as compared with the injury that even one mean, old cow frequently inflicts on the other members of the herd in the field, the yard and at the watering trough.

Cattle are more easily dehorned during calfhood. Caustic potash is the usual agent employed, while Gillett's lye does a satisfactory job. The action of these agents when properly used is to destroy the life of the horn in its early stage, rendering the treated animal a smooth-headed beast, deprived not only of the instruments of defence, but to a large extent the inclination to bully its mates. Dehorning by potash or lye is done before the animal is ten days old, or as soon as the button-like embryo can be located on the calf-poll. The hair surrounding the spot is clipped off and the parts moistened with soapy water. When using the potash in the stick form it should be wrapped in paper to protect the hand, and an exposed end moistened and rubbed gently on the buttons in turn for about five minutes or until they become sensitive and red, but not to the extent of bleeding. Care must be taken that the dissolved potash does not run down the side of the head, or the skull may be seriously burned and permanently disfigured. If carefully done a scab soon forms, healing follows, and the spot soon becomes covered with hair from the surrounding part. With some calves the operation may be performed at four or five days of age, while in others it is necessary to defer the operation for a few days longer. If treatment has been neglected until the calf is two or three weeks old the horns may yet be killed with Gillett's lye. The preparation of the horn is the same as for caustic potash. The powder is moistened and worked into a paste which is ap-

plied and rubbed well in with a knife blade or piece of wood. It is a safe practice to apply grease or oil to the skin around the horn to protect those parts from the action of the lye, but no oil should touch the part to be treated. The calf dehorned by either potash or lye should be kept dry for three or four days following the treatment, so that the dissolved caustic will not run down and burn the skin. The calf will suffer some pain for an hour or two, but no other inconvenience is experienced. Treated calves should be tied separately so that they cannot lick each other.  
Elgin Co., Ont. E. L.

**Some Scourges of the Good Herd.**

The breeding of scrub stock is, in these days, a misfortune in itself, but pure-bred breeding is frequently wrought with adversities which are unknown to the owners of common and ill-bred animals. In order to bring pedigreed animals to a high degree of excellence, or to induce females to make for themselves creditable records the herdsman is often overly kind. His charges are pampered, highly fed, not exercised sufficiently and generally subjected to treatment which tends to a lack of ruggedness and inability to resist disease. This is not true of all herds, but it is generally understood that pure-breds are not so disease-resisting as scrubs or grades. The reason is not easily explained. However, such is frequently the case. The Hereford breeders of England have a sane method of handling their breeding stock which is worthy of commendation. The Secretary of the Society, writing in defense of the breed says, "I should also point out that Herefordshire breeders of late years have practically ceased feeding females for show purposes and keep their breeding cows in ordinary store condition, letting them live out in the open most of the year, to which practice may be attributed the singular immunity of the breed from tuberculosis and other diseases." The climate of England permits the animals to remain out a longer period of the year than is the case in Canada. Nevertheless herds in this country can be kept in store condition, by feeding on succulent and nourishing feeds and giving plenty of exercise. Many herds are properly and skillfully managed, but there are too many which are not. Many of the herds at the institutional farms and at experiment stations in Canada have suffered from tuberculosis, contagious abortion, failure to breed, and other misfortunes from which many of the best practical breeders cannot claim immunity. If some of the most successful stockmen and our Colleges, with the information they have at their disposal, meet with these obstacles surely the amateur can be pardoned. What is needed is a saner method of caring for live stock, more thorough ventilation of the stables, more outdoor life, the exercise of more precaution when introducing new animals into the herd, greater care when sires stand for service and females from the surrounding community are brought to the place, and the practice of more preventive measures during parturition.

Tuberculosis has gained a strong hold on the live stock of this country, the inspection in slaughter houses reveals that fact. It has made business with breeders across the border difficult on account of the imposed restrictions, and yet live-stock men generally do not consider it seriously. If they did they would allow more sunlight into their stables, and would install more efficient systems of ventilation.

Contagious abortion during the last five years has been the means of delaying progress in many herds, and it is still working unrecognized on many farms. Our duly qualified veterinarians cannot agree on any treatment of the disease, so breeders should fortify against it in every possible way, by prevention and disinfection. Allow only females to be brought to the bull which are known to be from herds above suspicion. Watch cautiously for premature births, burn the foetus, if impossible to make it live, and

isolate the dam at once from her mates. Disinfect her stall and any place she has been previous to and subsequent to the time of abortion or premature birth of the calf. Abortion in its contagious form is a scourge of the worst kind; it should be guarded against diligently.

Failure to breed is often the result of excessive pampering and kindness. Animals kept in a healthy, vigorous condition and not fat usually give no trouble provided the heifers are bred before they get too old.

These three misfortunes which may befall a pure-bred herd are serious in the extreme. Many breeders have felt their influence, and have suffered therefrom. Those who have not yet known the losses resulting from these diseases or conditions of the herd should so manage their herds that they never may. Prevention is better than any cure.

**Registering Grade Stock.**

At the last annual meeting of the Dominion Shorthorn Breeders' Association a prominent member very forcibly recommended that the Herd Book be thrown open to animals that had been "graded up," and could boast of a sufficient number of top-crosses of pure-bred sires. This would be a very radical move for such a strong and conservative association as the Dominion Shorthorn Breeders, and the nature of the results, or ultimate effects, is an unknown quantity. A compromise to a small degree of this recommendation is to be found in the novel campaign inaugurated by the Northeast Demonstration Farm, Duluth, U. S. A. That station has established a registry for grade Guernseys, and the animals can qualify for registration only by complying with certain requirements as to production. According to the News Bulletin, issued by the University of Minnesota, the conditions of the registry are as follows:

All records must be made and vouched for by a regularly organized testing association, or farmers' club, through a special committee.

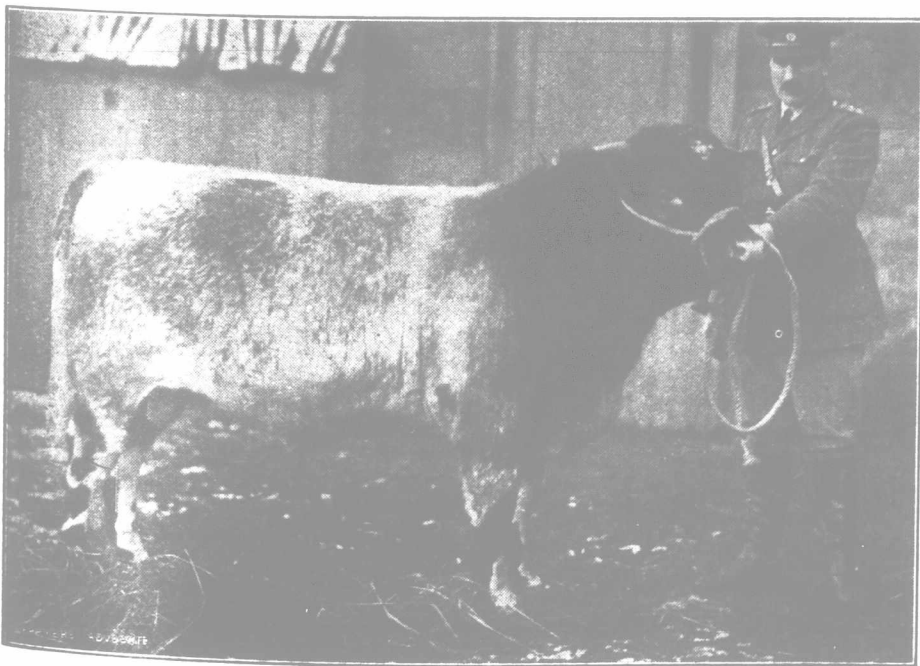
The dam must have an authentic record of at least 200 pounds of butter-fat in a single milking period.

The animal must be from a duly registered, pure-bred Guernsey bull, and a cow holding at least a minimum record for butter-fat. In case the dam's record is not available, the cow or heifer must make a record of 300 pounds in one lactation period. If she ranges between 200 and 300 pounds she becomes a foundation cow. In addition to production requirements and breeding, the cow must conform to general breed in color and type.

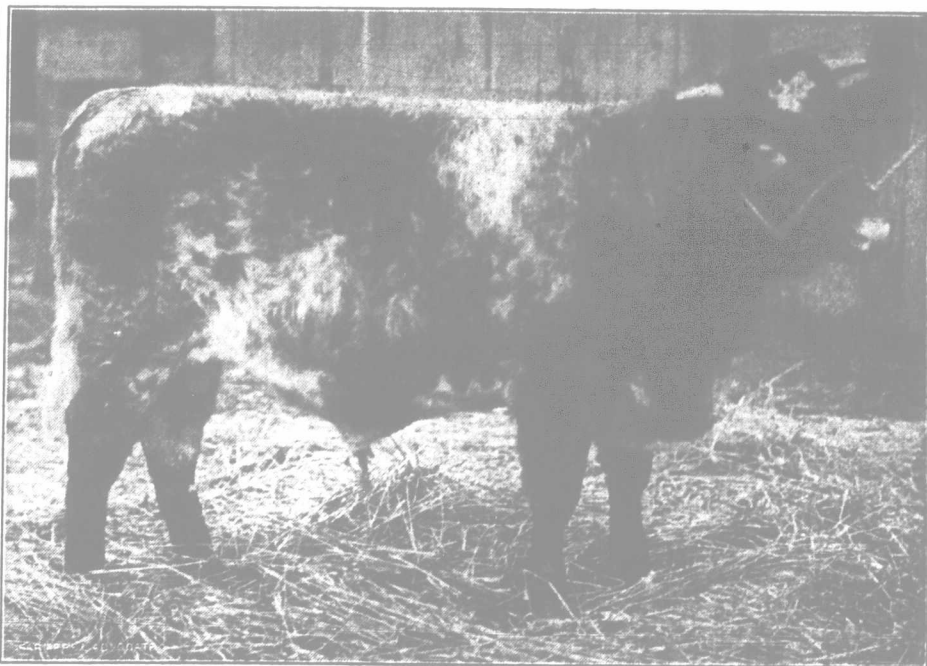
It is thought that the registry will stimulate improvement in Guernsey herds by placing a premium on registered bulls, and by standardizing the market price of good heifers. The only animals that will be included in the registry, as has been stated, are cows and heifers from registered Guernsey bulls. The registry is of production, not of individuals, and a certain production record must be made before the animal is eligible. The aim is to eliminate the scrub bull and the grade bull as well. Values will tend to become standardized on the basis of production, and as a result both buyers and sellers will be protected.

**Applying the Idea.**

The idea is, we believe, applicable to local organization or community breeding. There is no reason why the principles, with some modifications, could not be worked out in relation to beef and dairy breeds. In a great many localities no stronger foundation could be laid, upon which to build a farmer's club than a determination or a scheme to improve the live stock of the district. Perhaps a local live-stock breeders' association would be a more useful institution, and it could arrange its programs to provide the entertainment peculiar to a farmers' club. Breeders of pure-bred stock would, no doubt, foster such a



**Ramsden Regent.**  
Young Shorthorn bull which sold for 900 gs. at the Perth sale



**King Cruickshanks.**  
Sold at the Perth sale for 1,500 gs.

movement and lend it every assistance, for in promoting better breeding methods their business would be enhanced. The advice of experienced breeders would be valuable to such work. Such an organization, including from 20 to 50 members, could be managed quite successfully. We are aware that book-keeping is a stumbling block to the majority of rural societies which conduct business of any kind. But a card-index system or proper forms could be arranged and perfected that would apply to all organizations throughout the country, and any difficulties in the way of interpreting pedigrees could be overcome by the District Representative in the county, in whose office the Herd Books of all breeds are not but should be kept.

The records would not be voluminous, for only breeding females would be registered in the local association. In the haphazard breeding of grade or scrub stock there is not so much encouragement to improve, for there is no way of commanding recognition of the well-bred grade, except through the conformation and type of the animal. If the individual had a recorded lineage which was good its value would be increased. When entries were duly recorded, their owner could be given a "Pseudo-Official" record. The term "Pseudo-Official" is paradoxical, for it signifies false and official at the same time, but the terms used should not be confused with those adopted by the National Record Board and the Breed Associations.

The greatest good, we believe, that would accrue from such a movement is the desire it would instill into the young farmers to improve their stock, and make it the best possible under the circumstances surrounding their efforts. It would promote the use of pure-bred sires; it would bring about the realization of the value of good blood, and it would acquaint amateur breeders with the value of pedigrees and the requirements of registration. Its effect would be educational, as well as conducive to better breeding practices. The mention of sires would lead to a study of pedigrees and more complete information regarding the different breeds. Apparently there is an idea in this scheme which might be developed into something useful and very valuable to local or community breeding.

## THE FARM.

### Some Rural Problems.

EDITOR "THE FARMER'S ADVOCATE":

Perhaps there never was a time in the history of Ontario when there was as much need for instruction in agriculture as at the present day. Farming and farm operations have changed so materially that the father cannot now give the best and most up-to-date instruction, even to his own boys. Wheat is now but one of our minor crops, while corn, sugar beets, alfalfa, peaches, onions, tomatoes and tobacco are coming to be counted among our staple crops. The climate of Ontario seems to be adapted to the growing of so many varieties of crops that there is no reason why the farmer's daily life need any longer become monotonous. Ontario has challenged her methods with the new order of things, and owing to the superior intelligence of her people, has established herself as one of the best farming provinces of the whole world. Notwithstanding the great development in our Western Provinces, the field crops of Ontario yet exceed in value all the field crops produced in Canada west of Winnipeg, in spite of the fact that a large percentage of Western farmers have been drawn from Ontario farm homes. As one goes through this Province, from county to county, and township to township, he is forced to the conclusion that as an agricultural district, it is very highly favored indeed. Good land, well watered, an excellent climate, with plenty of sunshine always insures good crops, and while our bank managers in their annual statements often forecast good or bad times, according to the conditions of the crops in the West, yet, because they have never been disappointed in Ontario crops, they never speak of what might happen if we had a failure here. In this favored province, therefore, one would expect to find farming the most popular business of all, and the people from towns and cities would only live in such places until they made enough money to own and operate a farm. As a matter of fact, the situation is exactly reversed. Farmers' boys and farmers' girls are leaving in large numbers for the cities and towns, and most of the farmers themselves hope to remain on the farm only long enough to enable them to make enough money which at three per cent. will give them sufficient income to retire to the neighboring town or city. Here they hope to pass their days in peace and idleness, to sleep late in the mornings, and sit up late at nights, in fact "to eat, drink and be merry" all the rest of their lives.

The farmer has as much right to retire after a life of hard work as anyone else, perhaps more so, as he is one man who has earned every dollar he has made. The difficulty is that he does not know the difference between the life of the producer and the consumer, nor can he appreciate the circumstances with which he would find himself surrounded when he gets out of his own element.

Speaking of the retired farmer, it seems that the great pity is not so much that he does not fit into his new conditions, but that his long experience, his habits of thrift, his knowledge of the community, and his leisure time are now all lost to the neighborhood in which he has done all his work, and in which

position he should be able in his declining years to do a great deal of good. You know, perhaps better than I do, how much clear-headed, conscientious, broad-minded help is needed among the school boards in our communities. You know what one man of the right sort could do with a little leisure in improving the appearance of the school, and the condition of the school grounds. You know what can be accomplished by such a man coming forward, in the support of the teacher, in the introduction of modern methods, and you know how such a man should stand as a strength in the community, and could very easily secure additional funds each year for the purchase of those little things in the way of additional school equipment that make the difference between the humdrum teaching by lectures and text books and teaching by demonstration.

If then the coming generation of farmers are to be kept in the country, are to be expected to settle on a corner of the old farm after they have turned their larger property over to the son or son-in-law, then we must start very early to interest the boy and the girl in the ethics of rural living. The farmer boy must be encouraged to play in a systematic way; he must be taught to co-operate with his neighbors in everything; he must be instructed in the first principles of systematic farming; he must be encouraged to read widely and persistently; he must be taught to draw as well as to read and write; and he must be encouraged along the line of his talents, to do everything systematically that his later days on the farm may lead to neatness about the buildings and fences, orderliness in the barn, stables, harness room and the implement shed; shorter hours for men and teams, the desire to adopt new methods which have proven to be the best at the colleges and experimental stations, and the readiness to change from one method to another in the advice of the best farmers in the community. All such ideas must be impressed in youth, and as the parents are now asking for more help from the agricultural college, the boy will get more encouragement at home than would have been the case a few years ago.

Experiment has proven surely and definitely that farming certain fields in a certain way, that breeding and feeding certain classes of live stock, that introducing certain crops on certain soils, that by handling the orchard by certain methods, and by draining the land in a certain way, absolute success in farming is assured. As a matter of fact the difference between the average and possible yields on the ordinary farm is 300 per cent. For instance—alfalfa is worth, pound for pound, as much as bran is for feeding live stock. We can, and do, produce five tons of alfalfa hay per season on an acre in Ontario. Bran was worth \$22 a ton, which would make the alfalfa crop actually worth to the farmer \$110 per acre, and yet it is the hardest kind of work at times to persuade farmers who have suitable land to risk plowing up even an old pasture to put in alfalfa.

The average cow produces 3,000 pounds of milk per year, and yet there is a cow at the College Farm Guelph, which produced over 20,000 pounds by actual weight, in twelve months. This is a difference of nearly 700 per cent.

Farmer's Problems, of course, are many, as problems are in business of any kind, but the following seem to me to stand out as being the most important:

1. The killing of weeds, and the planting of crops best suited to the farm and the neighborhood.
2. The securing of better and more permanent farm help.
3. Marketing of crops by co-operation with the neighbors so that all may get the most possible for their labor.
4. The improvement of roads, the introduction of cheap telephones, and the securing of electric power on the farms.
5. Making the farm home and the farm life so attractive that the young people will not only be satisfied, but will be the envy of their friends in the towns and cities.

To accomplish these things, we must use all of the present machinery and more if we can get it, but perhaps the education of our teachers is wrong. Perhaps our educational system is at fault. Perhaps we have been so anxious that every child should know a little of everything that the average boy and girl turns out to know little or nothing besides how to read and write. Perhaps the time has come when we might introduce into our schools something of a real practical value, something that will want to make the child think and want to work as well as play. Perhaps something that will make them enjoy their play more because they at times have work. And perhaps it will make them enjoy their work more if it is work with plants and animals which are usually the delight of every child.

When the ordinary ratepayer comes to believe that the proper education of his child is his first duty, then he will not be satisfied with anything but the best teacher for his children. It is ridiculous to think that we leave our young people for several years during the time when their wits are brightest and their minds clearest, to the tender mercies of some young girl or man whose thoughts are scarcely formed, and who are only making the business of teaching the stepping stone to some other profession. Agriculture should be taught to every child in every rural school, and every teacher for such schools should have an agricultural college training before he or she is allowed to assume the responsibility of teaching farmers' sons and daughters. Money spent in school gardens and the improvement in the homes

surrounding in the neighborhood would be beneficial.

May I say in conclusion:

1. That I believe that farming might be made a very dignified profession if we only start to call it so.

2. That the cultivation of the soil and making close and intelligent observation in nature study are good for the body, soul and nerves.

3. That a strong body and good nerves are essential in the lives of happy boys and girls, and are not unimportant even in grown people.

4. That play is quite as essential for farmers boys as for boys in towns, and that farmers have got to come to recognize this if they are going to keep the young men there.

5. That money spent on school gardens and the improvement of school yards will lead to improvement in the homes surrounding in the neighborhood.

6. That I want you to believe that we are on the verge of a great awakening to the possibilities of life in the country, and—

Lastly, when transportation facilities have been further improved, when farm homes have been made more attractive, when farmers have themselves, through co-operation, come to appreciate a little more the advantages of a proper education and more social intercourse, and more play-time, may we not hope to see many make it their ambition to possess, not a mere mortgage, but a good Ontario farm.

Bruce Co., Ont.

R. B. DALY

### Sandy Goes to Prayer Meeting.

EDITOR "THE FARMER'S ADVOCATE":

I wis to the prayer meetin' in the kirk last week, me an' the auld wumman, an' ye'll maybe be thinkin' it kin' o' strange, but I heard somethin' there that did me guid. At least I'm hopin' it will dae me guid before I forget it. The meenister had just ended his wee bit sermon that he builds tae fit the size o' the congregation, an' says he tae ma auld friend, Donald Grant, that wis sittin' in ane o' the back pews, "maybe brither Grant will noo lead us in prayer?" "Na, na," says Donald, gettin' mighty uncomfortable lookin', "ye'll juist have tae excuse me Mister Shaw; it's no in my line. But I'll lead ye in work only time ye give the word."

As we were gaein' along hame that nicht I saye tae the auld wumman, "Jean," says I, "what dae ye think o' Donald Grant's 'principles an' practices' as ye micht call them?"

"Weel," says Jean, "I'm half inclined tae sympathize wi' his point o' view. He's an independent chap, is Donald, an' maybe he likes better tae earn a thing than tae get it for the askin'."

"Ye mind me," says I, "o' a story I wis readin' the ither day. It seems a couple o' auld Scotchmen were crossin' a lake in a wee boat, when a storm came up an' they were nigh tae bein' upset. 'Jock,' says Rory, 'ye maun pray.' 'I canna,' says Jock. 'Ye maun,' says Rory, 'we're gaein' doon.' So Jock raised his hand an' began: 'O Lord, it's fifteen year since I asked onything o' ye before, an' gin ye'll bring us oot o' this scrape it will be fifteen year before I'll bother ye again.' Juist then the boat touched the shore, an' Rory says: 'That'll dae Jock. The boat's tae the land. We dinna want tae be beholden tae onybody.' So, as ye say, that's the way wi' Donald Grant perhaps. He deesna believe in bein' under obligations tae onybody."

"Na," says Jean, "I'm thinkin' that's no' the idea exactly. Donald's notion is that work is the kind o' prayer that is maist likely tae be answered. He's a practical mon, is Donald, an' he's foond oot that about the only chance o' gettin' what ye want is tae get up an' gae after it. I'm no' sayin' that prayer willna' help a mon tae get intae a richt condection o' mind at times, maybe when he has tae gae through some trouble or misfortune as comes tae the maist o' us, but what I dae object tae is this beggin' sort o' prayin' that, gin it were answered, wad leave the individual naething whatever to dae but eat an' sleep an' think up new prayers. It wad be a guid idea, I think, tae keep in mind the laws o' nature whenever we're tempted tae pray, an' see gin oor actions are in accordance wi' these laws or no'. Gin we're breakin' them at the same time as we're askin' tae be saved frae the consequences, we're daein' na mair than insultin' oor ain common sense an' wastin' oor time. But when we wake up tae oor danger an' cut oot oor bad habits, then we're prayin' tae some purpose. Say what ye like, real prayer is action, an' action is the truest kind o' prayin'. When I see a farmer sowin' his grain in the spring I say tae mase: there's a prayer o' faith that's likely tae be answered onyway. An' gin he began his prayer by gettin' the best seed he could find an' then added a post-script tae it wi' an extra stroke o' the harrows the answer will be better yet. This is the kind o' prayin' that mak's religion guid for seven days in the week."

"Accordin' tae your theory, Jean," says I, "you wouldna' believe in prayin' that we micht whip the Germans in this little war we hae on oor hands the noo."

"Gin we let it take the place o' fightin' or sendin' food an' claites to oor boys in the trenches, I wouldna'," she replied. "I'm as sure as I can be o' onything that the Lord isna' going tae help us win unless we prove that we're better than oor enemies. Gin we get the best o' this scrap it will be because we warked for it an' earned it. We werna' pit on this airth wi' hands an' feet an' a heid, wi'oot the opportunity o' usin' them. The Lord has done his part, an' noo it's up tae us. How muckle guid wad it dae us tae beat the Germans wi'oot a struggle that

wad try oor manhood?—About a' it wad dae wad be tae fill us wi' pride an' conceit, an' leave us in a worse condection than we were before. An' ye ken that was bad eneuch wi' oor crookedness in business an' politica an' a guid mony ither things I could mention."

"Na, na, Sandy," she went on, "as she will when she gets a text that suits her, 'ye canna' expect somethin' for naething in this case ony mair than ye can in yer business o' farmin'. When ye pit plenty o' muscle an' what brains ye hae intae the enterprise ye expect returns on the investment, but no' otherwise. Juist the same will it be wi' oor nation an, empire. Gin we win it will be because we worked."

"Sae that's yer idea o' prayer," says I, "a sort o' thought an' action business."

"Aye," replied Jean, "ye first come tae a real zation o' what ye want, an' then gin ye're blessed wi' the necessary courage an' perseverance ye go an' get it. When ye've done this ye can say 'Amen,' for yer prayer is finished."

"Weel, Jean," says I, "I'm thinkin' you an' Donald Grant wad be agreein' fine in yer ideas o' the importance o' action in bringin' aboot results, but a' the same there's sic a thing as reckless action that a wee bit o' meditation an' auld-fashioned prayer micht prevent. There's a chance o' ye developin' sae muckle action that ye'd be like that perpetual motion wheel that yer cousin Hughie invented. Ye mind he said it kept gaein' faster an' faster, once it was started, until the hale thing went tae smithereens. But, however, an' a'thigither I agree wi' ye, Jean," says I, "as is gettin' tae be ma habit. I'm no' sic a horse tae wark mase'l', but I can easily imagine the guid effect it micht hae on some chaps I ken gin they got a middlin' lang term at hard labor. But that's gettin' awa' frae the point. What I wis gaein' tae say wis that I cam' across a prayer the ither day that I'm thinkin' should suit ye gin onything in that line would. It's unco' like the one I learned ma'sel' in ma young days that began 'noo I lay me doon tae sleep,' d'ye mind. But this one is for ye tae say in the mornin', an' it shouldna' dae ye ony harm na matter what ye think o' prayin' in general. Here it is:

"Noo I get me up tae work  
I pray the Lord I may na' shirk  
Gin I should dee afore the richt  
I pray the Lord ma work's a'richt."

"Hoo does that suit ye Jean?" says I, as I opened the gate, for we'd juist got hame.

"It's a bonnie wee prayer," says she, "I'm thinkin' it micht even satisfy Donald Grant."

SANDY FRASER.

Record of Sugar-making Dates.

EDITOR "THE FARMER'S ADVOCATE": I have just read the article on sugar-making, in "The Farmer's Advocate," which is quite complete in detail. I also notice the idea advanced, that the moon, and consequently Easter, is counted as a factor in determining the season of sugaring. I did not suppose the people of Ontario clung to such notions, as the natives of this Province do. A few days ago a correspondent to a city daily told us that the sugar season would not open before April 15 or later. This prediction was made by a close observer, an authority on the subject, the lateness being caused by Easter being so late. He also adds that the great movable feast has not fallen on so late a date since 1878, when it occurred on April 21. I fear he has not referred to the table in the Church of England Prayer-book; for in it he will find that this is the fourth time since then that it has occurred as late as or later than April 21, and should he live till 1943, he will celebrate Easter on April 25, which is the latest possible date. A friend of mine told me the other day that he always got the best run of sap Easter week. Just notice how it works out, as recorded in my diary, which I have kept for over thirty years. We will only notice a few of the most eventful seasons.

In 1886 Easter came on the latest possible date, April 25. Sugaring began April 1, finished April 19, six days before Easter. We planted potatoes April 23, and general field work was going on a week before Easter. It was called the earliest spring in fifty years.

In 1889 Easter was on April 21, sugaring began March 19, a larger quantity of sugar was made before the end of the month, and sugaring finished five days before Easter.

In 1905, Easter April 23, first sap March 22, and the last gathered April 20, three days before Easter Sunday.

Now let us look how it has worked in early-Easter years, which many people contend bring early sap:

In 1883, Easter fell on March 25, and real winter weather prevailed till April 5; first sap April 7, or thirteen days after Easter, the snow was deep. It was hard breaking roads. April 13 and 14 and 15 were very hot; on the 15th it was 73 in the shade; the snow vanished and sap soured, in sheltered locations. Then cool weather came on after which we had the biggest run, which came on April 27, or thirty-three days after Easter. The last run was on May 1, or two days before Ascension.

In 1910 Easter March 27, first sap run March 4; on March 29 sugaring was practically finished. The scorching heat of that day broke all records for March in seventy years.

Some people think that the full moon will give the biggest run of sap, but my records show as many big runs on the dark of the moon as on the new, first quarter, or full moon. The prediction above referred

to may prove correct this year, for there are great variations. It certainly will if the cold of this St. Patrick's Day continues long enough. It is not safe to quote events from memory, for humanity is more or less forgetful, and these old fixed notions seem to stick fast no matter how often nature contradicts them. The dates mentioned in this letter will not correspond with like data of Ontario; as we are much colder and later usually than you are, but they are sufficiently correct for most parts of the maple-sugar belt, to show how useless it is to count on such whims. Shefford Co., Que. P. P. FOWLER.

A Handy Method of Treating Grain for Smut.

EDITOR "THE FARMER'S ADVOCATE" Permit me to offer some suggestions as to the control of grain smuts, which I did not see in your article week before last.

About ten years ago I got a recipe from W. C. Shearer, of Bright, which I have used with more or less modification ever since, and which I find very satisfactory. I have never seen it published, and I therefore take the liberty of giving it to your readers, together with my experience therewith. The method that I refer to is a sprinkling one, and has all the advantages of that system. In addition, by using a larger percentage of formalin and a smaller quantity of water per bushel of grain treated, there is no difficulty in having the grain remain wet.

Mr. Shearer's recipe was as follows: "2 oz. formalin in 1 1/2 gallons water treats 10 bushels." If you will figure this out you will see that the solution is more than twice as strong as that given in your article for either dipping or sprinkling. In practice I take 5 tablespoonfuls of formalin in a 2-gallon sprinkling can, and treat about 15 bushels with it. This is about 2 1/2 oz. formalin to 2 gallons of water, slightly weaker than the solution recommended by Mr. Shearer. One ounce per gallon would be twice as strong as the solution recommended in your article, and maybe, so far as I know, strong enough.

In practice I take about 15 bushels of seed grain (say 7 bags) in a heap on the granary floor (which is tight) and sprinkle on it the 2 gallons of formalin solution already mentioned, shovelling it over during the process. I then shovel it over about twice, so as to get the whole thoroughly mixed, and bag it up at once. It can be sown in an hour's time or in a week's time. The amount of liquid used is so small in proportion to the amount of grain that the latter absorbs it in a few minutes, so that the grain scarcely feels damp, and runs perfectly freely in the drill.

I may say that for some years I followed the practice of covering the heap with bags and then spreading it out to dry, according to your directions. I soon discovered, however, that the drying took place almost immediately, by the absorption of moisture. Moreover, the question of disinfecting the bags was one which required consideration, and the idea occurred to me to put the grain into the bags immediately and disinfect them by the fumes of formaldehyde, escaping from the contained grain. This method would also hold the fumes in contact with the grain for a longer time than would be the case if the pile was spread out and exposed to the air, and I argued that therefore, the germicidal action would be increased. I have, consequently, for some few years past, bagged up the grain immediately after treating, as already described.

I have been somewhat apprehensive as to the possible damage to the germinating power of the grain by having it stored wet in bags for some days, as may be necessary in case a big rain comes on and interrupts seeding operations. My experience, however, with grain bagged up immediately after treatment and not sown for several days, shows no ill effects in this regard. I take the precaution, however, to set the bags singly, so that there is reasonably free circulation of air about them.

I cannot say that the method I follow is as effective as the dipping method. I can say, however, that I have never had more than a trace of smut after treating the grain in this way. I do not think I use enough liquid to wet every particle of surface of all the kernels. I trust somewhat to the action of the formaldehyde gas which, in a certain dilution, does come in contact with every portion of the surface. But as to whether this dilute gas is as effective in killing the spores as the dilute solution in water should be, I am unable to say. That is a question which our scientists may investigate. Results show, however, that the fumigating method is pretty effective, and for convenience it has the other methods outclassed entirely.

The smut epidemic of 1915 has set a good many farmers thinking. In this neighborhood practically no farmers treated their grain until last fall's seeding of wheat. Some interesting experiences were recorded. One man used the dilute solution until all had been absorbed by the wheat, and 7 bushels had increased in bulk to 10 bushels. He sowed the wet grain immediately and got good germination. Drying would have been almost impossible in this case, so it is lucky he could sow at once. Another, by mistake, used a solution of the same quantity (per bushel) as I recommended, but, three times as strong, that is about 3 oz. of formalin to the gallon. In this case only a small percentage of the wheat came up, and the field had to be re-sown.

The last word has not yet been spoken regarding smut prevention. Our scientists should get busy again, investigating the effects of variously concen-

trated solutions of formalin, the relative merits of fumigating, sprinkling and dipping methods, alone or in combination, etc., etc. Meanwhile the record of my experience during the last 10 years may be of some service to the many farmers who are determined not to be caught in 1916 as they were in 1915. The method which I practice, moreover, may be especially acceptable this year, when labor is almost impossible to get, as it takes practically no time—15 bushels can be treated in as many minutes, and in this respect in marked contrast with either of the methods recommended in your article.

While I have seen no ill effects of treating in the above way some days prior to seeding I would recommend that any risk in this direction be minimized by treating at one time not more than one expects to sow in a day, or, possibly, in half a day. Brant Co., Ont. W. C. GOOD.

Preparedness for Spring.

EDITOR "THE FARMER'S ADVOCATE"

Much of the success attained in farming must be attributed to good generalship. No battle, that is considered decisive, can be won without preparedness. Within the month previous to seeding the farmer's campaign for the busy season should be thought out. To know what crops he will grow, what fields will be devoted to them, that the necessary implements are in good repair and the proper help available, will aid immeasurably in keeping up with the work throughout the whole summer.

Therefore, when there is a little slack time, it will be a profitable investment to see that all tools are in first-class working order. Are the harrows sharp, the cultivator points ready to bite, and the roller, the drill and other machinery ready for instant service? Perhaps the hay cutting and the wheat harvest seem a long way in the distance, but you are going to be busy then. Why not now take the opportunity to overhaul the mower, the binder, and that side-delivery rake that you took so much trouble to store away. See that all broken and worn parts are renewed, nuts tightened, and bearings oiled—ready to start at the word go. Then, perhaps, the harness has been neglected. If repairs are advisable do not delay in having them done. Have the leather well oiled and the collars cleaned.

In these days when farm help is scarce and high-priced, it is good business to consider the class of machinery you purchase. Are your implements of the old-fashioned, narrow type—regular time consumers? Would it not be practical to trade them to a dealer for wider and more convenient ones? When you are being pushed, in a few weeks, to get that heavy clay into crop before a three-day's rain stops operations for a week, you will be impressed by the difference. It will spell dollars to you then.

It took a few days, lately, to get rid of several cross fences, making my fields average eighty rods in length, instead of forty. Walking up and down these short fields between the tails of a plow for a dozen years gave me plenty of time to do a little thinking. One of my thinks had to do with an arithmetical calculation that would tell me the amount of time I was simply wasting in turning around a thousand and one times in plowing one field. Allowing on an average of one minute for each turning, I discovered that in plowing a six-acre field six hours were needlessly occupied in this operation. The performance repeated for twelve years meant seventy-two hours or three days of twenty-four hours each. With ten such fields to be plowed at one time or another during the year it amounts to a grand total of thirty days or one lunar month—spent in "hawing about." Add to this all the turnings involved in other tillage and harvesting operations, and the result will be found still more illuminating. Multiply by the day's wages that farmers are likely to pay this season, and I have thrown away enough in my time by this everlasting habit of useless turning to make a substantial payment on a six-cylinder automobile. Here was time that could be utilized for other work on the farm and to more profit. Hence, these cross-fences that have caused me sufficient travel to rival a globe trotter have been removed. This, I consider an important move in farm economics.

As but few farmers are fortunate enough to profitably employ the gas tractor to furnish the necessary power in the fields, the important question of getting the teams hardened and ready for the strenuous days of seeding should be given careful attention. Most farmers don't have to be told how to do this; just a hint by way of emphasis ought to suffice. If, however, the work is to be accomplished with a satisfactory degree of dispatch there will be no economy in a shortage of horses. Generally speaking, the horse market of late has been at a pretty low ebb, especially if one has an animal to sell—one that is not very good or not very bad. But go out and try to buy a really good one, and you will have your eyes opened wide. The ordinary market does not seem to have much effect there. On several occasions recently, I have seen draft teams of the desirable type pass hands at an average price of \$400. The best farmers are almost proverbial in respect to their admiration for good horses. Some will even go so far as to slow up the work all around, rather than be bothered with an inferior animal; and, there are not many who feel they can afford a long price for one that will only be regarded as an extra.

One of my neighbors finding himself in that predicament last spring, found a solution that proved entirely satisfactory. Providing himself with the services of a reliable veterinarian he went on a little

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prospecting trip to the city. Operators of breweries, coal yards, etc., have many fine specimens of draft horses which they use for dray purposes. The trouble, from the city viewpoint, is that the hauling of heavy loads over the paved streets soon produces a foot-soreness that precludes them from further service of this kind. Right here is where the farmer's opportunity comes in. My friend saw the point, and with expert assistance was able to select a team, otherwise sound and young in years, for \$200. Work on

the land soon restored the condition of their feet to normal. Three months after making the purchase he was offered \$350 for the pair.

Another chore, which, if neglected, will take up a great deal of valuable time, and can be done equally well when the frost is in the ground, is cleaning the seed grain. Seed oats or barley, if well selected, need not be changed every few seasons, notwithstanding a popular belief to the contrary, as large, plump seed will continue to give good yields for many years. If

one has the time three different cleanings are not too many in order to secure the "cream" of the grain for seed. The resultant harvest will prove it to be time well spent.

Essex Co., Ont.

AGRICOLA.

The Rockefeller Foundation has appropriated \$1,000,000 to the Department of Animal Pathology, Princeton, N. J., for the study of animal diseases.

## How to Find Out What is Not Known About the Farm.

The idea of trying experiments on their own farms is ridiculed by many farmers, while work conducted by experimental stations in general is subject to a good deal of unjust, adverse criticism, from men who are narrow-minded or short-sighted. Men have been heard to say that money spent by the Government on experimental work is a foolish waste of the people's cash. However, these pessimists are in the minority. Any money properly spent on agricultural experimental work is returning big dividends to the country. Many of our most productive and highest-quality varieties of cereals, roots and grasses have either been imported from other countries in small quantities and tested out by the experimental stations before being given to the public, or they have been produced by crossing different varieties or by plant selection. This work would be almost impossible for the individual farmer, but may be carried on successfully at one farm by specially-trained men, the results of whose work benefit farmers of a whole province. Varieties of crops are grown on the farm to-day that are proving more remunerative than the old varieties. The information gleaned by the experimenter and put into practice by the farmer has meant millions of dollars to rural Canada. The end is not yet. The work will be continued, and it is not too much to expect that now and more profitable crops than are grown at the present, will be introduced to our farmers as time goes on, as a result of work carried on by the experiment stations.

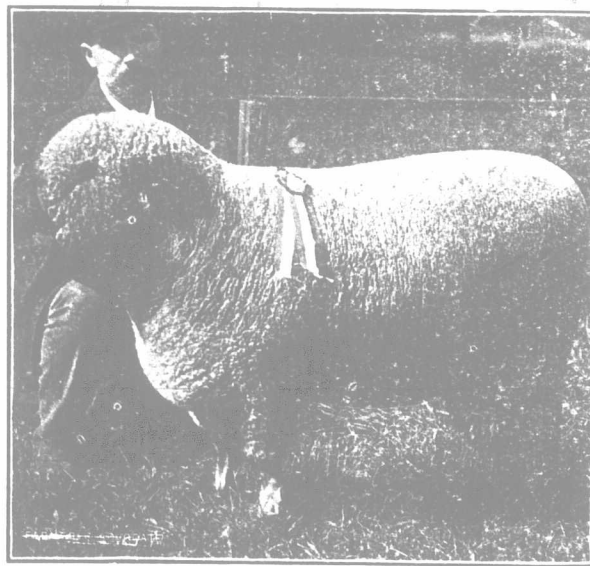
Valuable as these stations are to the country in introducing new varieties, in determining the rate of seeding, which gives best returns, in testing out a combination of mixtures of grass or cereal seeds, in determining the proper time for sowing various crops, and in methods of cultivation, their work is limited by the fact that all soils are not of the same consistency, nor do they contain the same amount of available plant food. Climatic conditions and length of growing season vary greatly throughout the country, consequently, a variety of grain, fertilizer or methods of cultivation that would give satisfactory results in one locality might be an utter failure a few miles distant, or even on the adjoining farm. In order to give authentic information, applicable to a province, the experimental union was started, by which a large number of farmers carried on much the same experimental work on their farms as was carried on at the Central Station. By compiling the information from these experimenters who labor under various soil and climatic conditions, valuable data is gathered. The methods giving best returns can generally be recommended with a fair degree of safety. One variety may give good returns in one place and another variety in another, or there may be two or three varieties which give similar returns. The agriculturist should keep in close touch with experimental work, and endeavor to try out the crop, or variety of crops which is found to give the best average returns throughout the district. Experimental stations are doing valuable work in the country, and should be assisted rather than criticized by the men they aim at helping. Because a recommended variety of crops does not do as well as expected on a particular farm, should not be sufficient cause for condemning the whole work.

Owing to variation in quality and texture of soil or climatic conditions, every farmer should be an experimenter and determine to his own satisfaction the varieties of crops and methods of handling, which do best under prevailing conditions on his farm. Experimental stations do their part in finding out in a general way what is best adapted to the country as a whole, but the farmer has a part to play before the work of a large institution can be most appreciated. There is a scarcity of labor and experimental work requires careful attention, but there are certain experiments that every farmer can conduct with very little extra labor, which will give valuable information. The crop or fertilizer that may give best returns on one field may not do as satisfactorily on another, which is one reason why every farmer should make a study of every part of his farm. With the present scale of wages and high price of nearly every commodity, it is necessary to secure the best the land can produce, and yet handle it in such a way that the soil will not become depleted of its producing propensities. To outline a few practical experiments which may be conducted under field conditions, either on a large or small scale, may not be out of order. Try out the new varieties, new fertilizers, new methods of seeding or cultivation, that may be recommended, on a small scale rather than plunge heavily into a new thing just because it has given someone else good results.

### Fertilizer Experiments.

Fertilizers of various kinds and mixtures have been used with more or less satisfactory results. Because one man had success one year on one field is no reason to believe that the same treatment will do on an adjoining field. It is much better to find out what the soil

requires and supply it with that substance or treatment. A soil seldom becomes depleted of more than one kind of plant food at once. What is suitable for cereals may not give profitable returns on the same soil when sown to roots. Each and every crop requires certain conditions, and the soil of every field has its own peculiarity. The only practical way to determine soil or crop requirements is to carry on experiments on your own farm. One reason given why many soils do not produce satisfactory crops, particularly of clover, is because of a lack of lime, and it is believed that an application of lime would effect a remedy. Tests have proven that many varieties of soil are deficient in lime, and applications of that substance have materially increased crop yields. Men who were once commercial fertilizer enthusiasts have now switched over to applying lime exclusively to the soil. Other men are in doubt as to whether lime will be suitable for their farms or not. The solution is to apply a little in several fields with different crops and note the results. If it proves a benefit, lime may then be applied in larger quantities the following spring, without running any risk. It is advisable to try agricultural lime at the rate of one ton and two tons per acre on a measured area of one-half or one acre in representative parts of a field which is to be sown to grain and seeded down. In this way a double experiment is conducted, as the value of the lime may be noted on both the grain crop and clover. The same could be tried on the corn or root field, and information obtained by observation, or preferably by weighing the product, of a definite area where lime was applied and where it was not would give a clear idea of its value to that particular soil under existing conditions. The result would be convincing as to whether or not it would pay to purchase lime in large quantities. It is known that clover will not do well on an acid soil, and possibly the application of lime would make the soil suitable for returning a large crop of clover.



Lloyd-Jones' Champion Shropshire Ram.

See sale ad. page 579.

There are other substances in the soil which become either depleted or unavailable to the crop, and the only way to determine the extent of the depletion is to use various fertilizers or plant foods in various quantities for the different crops. For instance, a soil may lack phosphate or potash, and yet have sufficient lime. There is a limiting factor to the production of any crop, and it may be that one is plant food. Money spent in applying the other substances would practically be wasted. This year it is almost impossible to secure potash, but phosphates and nitrogen may be secured in different forms. The need of them on any particular soil can only be determined by trying them out. On a plot, say two rods square, phosphoric acid may be applied, on plots adjoining apply lime at different amounts per acre. Basic slag may be applied on one plot, nitrogen in the form of nitrate of soda or sulphate of ammonia on another, and, of course, a check plot should be left. It would not require very much time or labor to conduct this experiment in different parts of a field, and by weighing the ripened crop a fair idea would be ascertained as to the value of the materials used, and the amount required.

Farm-yard manure is the old reliable fertilizer, but it is believed that its use is more or less abused on some farms. It is a question whether or not by applying smaller quantities at a time, and using it more frequently, better returns would be obtained. On some

farms six loads of manure top-dressed on a field for wheat and cultivated in have given equal returns with twelve loads plowed under. Similar results have been obtained with other cereal crops; even with the root crop it is believed that a lighter application would probably give equal results with the large amount. What is desired is the largest returns with the least cost, therefore, valuable information can be gathered on each individual farm by applying manure at different quantities per acre for the different crops. What may apply to one farm may not to another, consequently, every man should try this out for himself rather than accept the results obtained on another farm. Applying manure in the winter for the corn crop gives better results on some farms than the same quantity applied in the spring. On other farms the reverse is the case. There is no way of knowing definitely which is the better method to follow other than by actually trying both ways.

### Seed Experiments.

The varieties of grain most suitable for the province as a whole are determined by the experimental stations, and there are usually two or three of these varieties which give about equal returns. These varieties may be tested out on a small scale, and the seed of the most productive in every way saved to use for the general crop. No one can set the amount of seed to sow on any particular field, except the man who has tried different rates of seeding. The amount will depend on the size of the seed, the fertility of the land, and the method of seeding. Two bushels of one variety may be suitable for one farm, but two bushels and a half of the same variety may be necessary on the farm adjoining. The percentage of hull of oats can only be determined by the analyst, but of two or three varieties practically the same in the thickness of hull, the one that would give the best yield of grain and straw, freest from rust and blight, is the variety to grow.

There are varieties of barley and wheat that are considered to be standard the province over, but with oats it is different, as there are several varieties each having their own champion. These varieties are popular, but considerable variation in yield of grain and quantity of straw is shown in different districts. Before discarding an oat that has proven satisfactory, for a variety that has not been tried on the farm, a test should be made. It is not necessary to confine the experiment to a small plot, provided that a quantity of seed can be secured. Purchase enough seed of the untried oat to sow an acre or two alongside of the variety used, and note if the difference in yield is sufficient to warrant adopting the new variety for the main crop.

Corn is a comparatively new crop in Canada, at least it is only during recent years that it has been grown extensively for fodder purposes. There are several experiments which every farmer might profitably conduct on his own farm. There is considerable controversy as to which is the best variety for silage purposes, how the corn should be grown, and what soil preparations are necessary in order to obtain the greatest yield and desired quality of feed. When the corn is used for silage purposes several varieties might be planted in the same field, under the same soil preparation and given the same cultivation throughout the summer, in order to determine the variety most suited to the farm conditions. It is necessary to examine the rate of growth during the summer and note the proportion of leaves on the stalk, and also the number of ears. The state of maturity at the time of first frost is also important, especially if the crop is for husking or seed purposes. The locality and nature of the soil influence the growth and development of the corn to such an extent that it is only by growing the different varieties side by side that the variety suitable for any particular farm can be ascertained. Some farmers are firmly convinced that sod that is to be planted to corn should be manured during the winter and plowed in the spring. There are others that are confident that fall plowing of sod is preferable. In fields where both methods were followed in one year, a marked difference was noticeable. Anyone who has not tried both ways should plow part of the corn field in the fall and leave the remainder for the spring, to see if it makes any difference to the crop of corn on his soil. Try the experiment for several years. Does hill or drill sown corn make the better silage? Does corn grown in hills produce better silage than that sown in drills? Which produces the largest yield of high-quality feed, thick or thin-sown corn? These questions have not been definitely decided, and every farmer has an opportunity of aiding in solving the problem. Sow an acre with a drill, at the rate of one peck per acre, alongside of that try sowing an acre at the rate of two pecks, another at three pecks, and possibly another at three and a half pecks per acre. When the

corn is ready to cut, a square rod could be measured off and the corn weighed, and the yield per acre estimated. By having an acre sown at each rate of seeding, there will be sufficient corn to keep the product of the different acres separate in the silo, and it will be possible to note if there is any difference in the feeding quality of the silage. Hill and drill-sown corn may be experimented with in a similar manner.

Many different varieties of potatoes have been experimented with, and the type of soil and method of cultivation which gives the most profitable returns has been fairly well decided. Some varieties do better in some localities than in another, and a man growing potatoes for his own use might determine the variety most suited for his farm by planting two or three of the common varieties, either in rows or plots in the regular field. A few tubers would give an idea of the yield and quality of the variety. In a potato district it is wise for all growers to determine the variety that gives best results in the locality, and grow it exclusively. Too many varieties in one district is not profitable to the grower.

Many farmers claim to have difficulty in securing a catch of clover, there may be several reasons for this, as: seed covered too deeply, acid soil, or run-down land. The man working the farm is the only person in a position to find out the cause of clover failing to grow. If it has not already been tried, prepare the soil for seeding, and on part of the field sow the clover seed behind the grain drill. On another part reverse the grass seed spouts and sow before the drill. Sowing before the drill is claimed to give the seed only a light covering of soil. Consequently it grows more satisfactorily than if sown behind the drill where it is covered more deeply. Another method is to sow the grain, harrow the ground, and then sow the clover seed with a hand seeder and follow this with a light stroke of the harrow. In this way the land is in better tilth, and the seed is not covered deeply. Some would lead us to believe that if lime were sown clover would grow luxuriantly. It is well known that clover will not grow properly on acid soil. Lack of lime may be the reason why a particular farm, or field, will not grow clover. By using litmus paper, it is possible to find out whether the soil is acid or not. In order to determine if lime would be beneficial apply agricultural lime at the rate of two tons to the acre, on a definite area in several parts of the farm to be seeded down to clover, and compare results with the clover alongside of that where the land received no lime. If no benefit comes from using lime, the expense of testing will not be great, and the experimenter would have the satisfaction of knowing whether or not lime was required. Perhaps the soil is lacking in bacteria, essential for the profitable growing of clover. Treating the seed before sowing with nitro-culture, which may be secured from the Bacteriological Department, O. A. C., Guelph, at small cost, would probably overcome this difficulty. If the soil is run down, clover does not grow readily, and every effort should be made to secure a crop of clover which may be plowed under to build up the soil. The farm on which clover refuses to grow is certainly in need of some treatment.

Do not condemn alfalfa growing entirely, until home-grown or Ontario-grown seed has been tried on that well-drained field. Other men secure a satisfactory crop on apparently the same kind of soil as yours, by sowing seed from the acclimatized plants. There are two methods of seeding to alfalfa which may be practiced, one is to sow about 20 pounds of the seed with a nurse crop of wheat or barley sown thinly, the other is to summer-fallow the soil in order to clean it of weeds and grass, and then sow the alfalfa seed without a nurse crop on well-prepared soil the first part of July. One method may prove more satisfactory than the other on your farm, but the best method is not known until both have been tried under local conditions.

How about sweet clover? It is a crop coming into prominence on many farms, and is used either for pasture or for plowing under to improve the soil. If there are a few acres on the farm that refuse to grow good crops, sow sweet clover at the rate of 20 pounds per acre, without a nurse crop, and see if it is the crop that suits that particular soil. Try pasturing it, or cut some before it becomes woody and cure it for hay. Perhaps the stock will relish sweet clover hay next winter. Sweet clover will grow on practically any kind of soil. Test its value as a crop on your own farm.

#### Soil Cultivation.

Are you following the old methods of cultivation, or are you trying out some of the newer ideas in order to increase the productiveness of the soil? Probably a slight change in the method of preparing the seed-bed may be what the soil requires, before it can give of its best. A radical change may prove disastrous. By experimenting on a small scale, the risk is not great, but the results may be far-reaching. As soon as the soil is firm enough to put the horses on this spring, give a part of the field a stroke with the harrow to break the surface, which aids drying and conserves soil moisture. Give the whole field the usual cultivation, sow it to the same crop, and note throughout the season and at harvesting time whether harrowing early in the season was beneficial or not. On another field try preparing the soil in the usual manner, but before sowing give an acre or two a little extra cultivation and see if it was time well spent. Farmers who have always been in the habit of leaving all spring crops rolled, might harrow several acres three or four days after rolling. It is claimed that, in a dry season especially, it is detrimental to the

crop to leave the ground rolled in the spring. Does rolling affect your crops that way? When it comes to plowing, there is room for argument as to which is better, shallow or deep plowing. Some soils respond better when given shallow cultivation than when worked deeply. All soils are not the same, and it is only by working at different depths that definite knowledge of the best depth to cultivate can be had.

#### Stock Feeding.

There are various feeding experiments which may be carried on. One question which is prominently before feeders to-day is, which is more profitable, feeding hogs twice or three times daily? Both methods have their advocates who appear to put up reasonable arguments. Every farmer is anxious to know how he can make the most profit from his hogs. Owing to variety of feed, and different methods of feeding, together with all kinds of breeds and crosses being used, the feeder must in the end find out for himself which is the better practice under his particular conditions. Pasture is claimed to be extra good feed for hogs, and to save a considerable amount of grain in growing and finishing pork. In order to find out what value the pasture has, a litter of pigs—of say eight—might be divided into two pens, and the pigs from one pen allowed to graze in a paddock, while those in the other pen are fed only on grain. The same quantity of grain and attention should be given each pen, and the rate of gain noted. It may not be possible to pasture the hogs and various kinds of green feed may be fed in the pen. To ascertain the value of this a similar experiment could be conducted, as previously outlined.

In the dairy herd all cows do not respond equally to the feed they receive. By increasing the amount or kind of concentrates, one cow may return a profit while another would not. The individual cow in every herd should be studied. Feed the usual rations for about three weeks and keep account of the milk yield and condition of the animal. The next three weeks change the ration and note results, always keeping in mind that the milk yield naturally decreases as the lactation period advances. Dairymen have found that it pays to feed some cows a good deal heavier than others. Consequently tests should be made to find out the cows that return a profit for the extra feed, and govern the ration accordingly.

There are numerous experiments that every farmer could conduct and which must be solved on his own farm, with his own stock, under prevailing conditions. The experiment stations have their work in discovering new varieties suitable over large territories, and in studying new methods of handling crops, etc., that may give the farmer an idea that is worth trying on his own farm. Extensive and valuable as the work of the experimental station is, there are still problems that must be solved on all farms: No man should be satisfied to continue in the old method of doing farm work and feeding stock if an easier and more profitable way exists. Conditions change rapidly, climate and soil are not the same to-day as they were ten years ago. No man should condemn new methods until he has tried them on his own farm, and even then what would suit his conditions might not do on the next occasion. Farming is a science, and all farm operations should be closely studied by the individual.

The few experiments outlined cannot be solved definitely by anyone not working on the farm. They are believed to be of a practical nature, and may be conducted under farm conditions with very little extra labor or expense and the information gained should be valuable, provided the work is carefully done and results accurately noted. These methods have all given returns, beyond expectation, on some farms, but that is not saying that they will suit your farm. We would advise trying out the different methods before condemning them. Owing to variations in seasons one year's results should not be taken as final.

Experimental work is a failure unless an accurate account is taken of everything entering into the work. If possible use the tape and scales in determining results. Guess work is very unsatisfactory, and the eye may sometimes deceive. Where a large area is being used in an experiment, it is impossible to weigh the whole crop, but a square rod of the crop in two or three parts of the field may be harvested and weighed, and the yield per acre estimated from that. When a square rod is used, the variation of only one pound would mean one hundred and sixty pounds to an acre. No one can determine what Canada's farms are capable of producing without experimenting, but results from experiments are useless unless they are accurate. Every farm should be in part an experimental farm, and every farmer an experimenter.

#### Practical Alfalfa Experience.

EDITOR "THE FARMER'S ADVOCATE":

My experience in preparing land to get best results from seeding to alfalfa has led me to believe that it pays to take a field of sod, manure it well and plant it to corn, plow the corn stubble in the fall, and disk or cultivate it the following spring till the land is in a high state of cultivation, and then seed down with nurse crop of grain (sown not too thick, or alfalfa will take longer to get a good stand), and sow fifteen pounds of alfalfa seed per acre, which has been treated with nitro-culture. Growers need to be very careful to select seed of the right varieties. I have seeded with strains that would kill out after the first winter. I have also seen fields sown with seed

that had been mixed with sweet clover seed, and as the sweet clover is woody before the alfalfa is ready to cut it makes very poor hay. Ontario variegated is the kind I use, and I get my seed from Haldimand County, Ontario. It is very hardy and seems to get stronger and thicker the longer it stays in the ground. Any one who has visited the experimental plots at Guelph cannot help but see the folly of throwing away money on strains that are not hardy enough for our Canadian climate. There are plots there with only one or two plants living, while other plots are covered with a good, strong growth of alfalfa.

I have had good success by top dressing in the fall, if it is a little weak in places when first seeded. I also find it thrives better on rolling land than in hollows to which the water drains off the field, as the grass gets the start of it and kills it out in the low places.

Cutting and curing are of great importance as it is then that our trouble begins if the season is wet. I believe I learned a lesson last season that will hold good in any season. My first cutting, which went about a load and one-half to the acre, was made on a Monday forenoon. It started to rain at noon and rained all Tuesday, but it did not hurt the alfalfa, as it remained as green as when it was cut. The weather turned fine then and it dried, and it was raked up, piled up, and drawn in, in first-class condition. My second cutting was raked and piled up without getting wet, and if rain had not come on at once it was ready to draw right in. But it got drenched in the piles, and when I turned it out (which was as soon as the weather was fit) it was heating and as green as grass, and when it dried it was black and fit only for cattle. This cutting was spoiled for market. The third cutting was cut and lay one week on the ground, getting drenched as well as the rest, but I let it lay in the swath till it was ready to come in. I then raked it up and drew it in the same day. This cutting was first-class hay, and I find if I rake it up when a little dew is on the ground it does not waste as many leaves as when taking it out of the piles, and it will keep in the mow in excellent condition.

I pasture it late in the fall with no serious results, though not too closely, and I never allow anything on it when the ground is wet and soft.

GORDON MACGREGOR

Northumberland Co., Ont.

#### Co-operative Credit.

EDITOR "THE FARMER'S ADVOCATE":

"If I could put the clock back 20 years and start the Agricultural Organization Movement in Ireland over again, I would begin with agricultural banks of the Raiffeisen type in the poorest districts, believing that not only is this the most elevating form of co-operation, but that its adoption does more in teaching the principles of organized self-help than any other mode of introducing co-operation among agriculturists."—SIR HORACE PLUNKETT.

These words of Sir Horace Plunkett are as applicable to Canadian agriculture as they were to that of Ireland. But we do not need only to accept these words as being proof that what agricultural Canada needs, and needs badly, is co-operative credit. If we trace out the history of co-operation in Europe, where it has reached its highest state of efficiency, we shall see that co-operative credit preceded all other forms of co-operation, that it simply paved the way for all the great strides taken by co-operation among farmers of European countries.

That our present banking system is not capable of working hand in hand with our agricultural endeavors, is paramountly evident. What farmer has not gone to the banks to borrow money but has had to mortgage his farm, pay an interest of 6% or more on his borrowed money, and worse than this, has only had a limited time in which to pay back the sum borrowed? The first two are not so bad; mortgaging one's farm is no crime, and although 6% is a heavy interest to pay, when one considers that he only receives 3% or so on any money he has to bank; but here is where the kick comes into prominence—and hits hard too—the fact that the specified time in which he may have to pay back his borrowed capital is by all means far too short. Money, invested in agriculture, unlike many commercial and industrial investments, cannot be turned over to advantage in a few months. It takes years for the result to be shown in a concrete form, and that concrete form is usually dollars and cents. Suppose the farmer wishes to underdrain his farm, and that it is going to cost him \$500. He has figured it all out previously that by so doing his crop production per acre is going to be doubled, that in two or three years his land will be producing twice as much as it does at present. He hasn't the necessary funds to go ahead with the work, so he goes to a bank and asks for the loan of \$500 for three years. Is he likely to get it? Not very! The result will be that he cannot go ahead with his proposed improvement. Another case—a progressive farmer sees that he requires new farm buildings, that if he had more commodious and convenient stables, his business would be greatly increased and his gains correspondingly. He hasn't the money for the undertaking, and goes to a bank and asks for a thousand dollars for four or five years. Will he get it? Try it yourself sometime and see.

Here is where co-operative credit has come to the assistance of the European farmer, solving his problem and there is no possible reason why it cannot form a strong link in our chain of agricultural necessities. The fault is that we have not been strongly impressed with

the idea, we have not had its advantages and system of working explained to us, and in our ignorance we have been content with a scheme that is taking our surplus money which should be circulated amongst ourselves for the betterment of agriculture, and exploiting it for the benefit of commercial and industrial schemes. A co-operative banking system would keep that surplus money circulating where it was made, where it will do most good.

#### How it Works.

First and foremost, a co-operative bank exists solely for the benefit of its members, who are men of reputed honesty, whose integrity and farming ability will pass a council of their neighbors. Its purpose is not to make money, but to supply money to its members at a lower rate and for a longer time than the ordinary banking system permits. This is made possible by co-operation.

In order that any co-operative association may be successful, its members must be imbued with the true spirit of co-operation, which is—"each working for the benefit of all, and all working for the benefit of each." Organization of a co-operative banking association should be preceded by a meeting of all the farmers in the vicinity, and at this meeting a competent man should fully explain the system of organization, the working principles, and the benefits to be derived from such a system. Then if the farmers really want one, they should elect a committee of 3 or 5 honest, level-headed, business farmers to carry on all necessary arrangements and to conduct the business.

Members are admitted in the following manner—the farmer makes application to this board or committee, and if his honesty and reliability come up to the required standard, he is permitted to become a member, pays a small fee which goes towards defraying expenses, and has all the privileges of membership. This may sound as though the association were run entirely by these men and that they had the supreme power, but they have not. The members elect a council of inspection, whose duty it is to overhaul, quarterly, the business done, and to point out irregularities or sources of danger. With such a committee on the watch the controlling men are armed against undue importunity, and are very likely to conduct themselves suitably to the whole association. Each member has a vote in all the motions of procedure as a body, and thus we see that a man must hold his office on merits and on merits alone. None of the officers are salaried, except the secretary and the manager, who actually spend the greater portion of their time in the interests of the association. All transactions and business procedures are open for inspection by the members at all times.

Since the purpose of the association is to lend money, it must have a reserve capital. How is this capital obtained? By deposits from anyone, members or non-members. In this sense it takes on the form of a savings bank, but is capable of paying a higher rate of interest, because the money deposited is used to the direct advantage of the depositors in that it is lent to them at a lower rate of interest than the bank charges. This is possible, due to the large variation between the interest paid on deposits and that charged on loans by banks in general, and also to the fact that it is not out for the purpose of making money.

Suppose a member desires to borrow a sum of money. He makes a statement to the committee, stating what he intends doing with the money, and if they consider his plea rational and sane, they lend it, and he gives security for the amount borrowed. A society such as this is run on the principle of "unlimited liability," that is every member is liable for all he is worth in case another man fails, causing the association to go into debt. Thus we see that the committee must be doubly vigilant, both in the admission of new members, and the granting of loans. The rate of interest charged on loans is a little higher than that paid on money deposited, and this difference is used to defray expenses, the surplus being put into the reserve fund. The larger this reserve fund, the greater the strength of the association and its effect upon its members and community.

The success of the co-operative banking association depends a great deal on the true-hearted co-operation of its members, and upon the ability of the manager. When the bank gets firmly established, it should have its permanent salaried manager and staff if necessary.

The advantages of this system of co-operative credit are quite evident:

1. It permits of borrowing money for agricultural purposes at a lower rate, and for a longer period of time than is possible with the average bank.
2. Provides a paying investment for surplus money.
3. Brings about a spirit of community friendship and desire to aid one another.
4. Aids greatly in raising the standard of agriculture, and subsequently that of living in that vicinity.
5. Is of an educational nature.

Co-operative credit in Canada has not been given the chances or the trials which it deserves. It is not something new, it has been in operation in the older countries for years; it is concrete in its basic principles, sound in its application, and profitable in results. Why not give it a chance?

O. A. C., Guelph

C. W. JAKES.

A few roots make the spring calves jump right along.

## THE DAIRY.

### How Old Should a Heifer be When She Freshens?

With the prevailing high price of milk and its products, there is a strong temptation to start the heifer working at as early an age as possible. Some dairymen make a practice of breeding the heifers when 15 to 18 months old, while others prefer to allow the young animals to obtain growth before they are bred. It is claimed that heifers bred too young will never develop into the big-framed cows that they would if allowed to obtain their growth before being forced into the producing ranks. A stable was recently visited where the cows appeared undersized for the breed. These cows had been bred to freshen when about twenty-six months old, but it is not known whether or not this was the cause of the cows being undersized. Lack of proper feed and at-

tention during calf-hood will have a tendency to prevent the proper development of the animal, so it would not be just to blame the early breeding for having been the entire cause of the undersized cows. However, there is a danger of checking development by too early breeding. In certain herds the heifers were not bred until they were twenty-four or twenty-six months old, and they turned out to be big, strong-framed cows, while heifers of the same breed in the same herds, freshening at the age the former heifers were bred, never grew to the proper size. Twenty-eight to thirty-two months is believed to be a satisfactory age to have heifers freshen, and then keep them milking nearly a year, if possible, the first lactation period. If heifers are allowed to become too old before they are bred, there is a danger of them not breeding. Some men claim that by breeding the heifers when young and then not breeding so soon the next time that better milkers are produced. That may be possible, but it stands to reason that if a young animal gives birth to offspring and is expected to produce milk before she is fairly well developed, she will not make as good a cow as she would have, had growth been obtained before commencing to produce.

### What Does it Cost to Produce Milk?

As a rule the average farmer keeps as few books or accounts as possible. The loss or profit for the year is shown by the bank book. Of course, large items of expenditure or receipts are usually jotted down, but little pretence is made at keeping a detailed account of all money paid out or received. It is believed that some simple form of bookkeeping should be found on every farm, and an inventory taken at a certain time each year in order to ascertain the exact value of the farm, stock and implements, so as to figure out the profit or loss in a year. If the business man finds it necessary to keep accounts, why is it not necessary for the farmer to do the same? The manufacturer also has a cost system of accounting, and each department must pay its way. If it does not, then an investigation usually follows. The farmer is a manufacturer equal in importance to the city manufacturer, and should have an idea at least of what each department of his plant is returning. Without some system of cost accounting it is not known exactly what branch of work is most valuable. To adopt such a system would necessitate a considerable amount of work, but it would convey to the owner of the farm just what part of his work was most profitable. Every farmer should study his farm, and endeavor to produce what that farm is best suited for.

Dairying is a branch of work engaged in on practically every farm, but comparatively few dairymen can tell exactly what it costs to produce 100 pounds of milk. Figures were given recently showing the cost of raising a heifer to the producing age. Results have also been tabulated showing how boarder cows consume the profits made by high-producing cows, and in many cases, while the farmer received a fair price for the feed consumed by the cow, he worked for nothing and boarded himself. It must be admitted that it is a difficult problem, and entails a considerable amount of work to keep separate accounts for each branch of work on the farm. True, the majority of herds may show a fairly good return, but what profit do they give when all expenses are considered?

In figuring the cost of milk production the total cost of keeping the dairy, less the returns from all products other than milk sold, must be considered.

In some cases it might happen that the value of the offspring and the increased inventory of the stock would cover all cost of maintaining the herd. In that case milk would be produced at very little cost. Therefore, it makes it difficult to compile statistics relative to the cost of milk production. In New York State, A. L. Thompson, Ph. D., who is on the staff of the Cornell University Agricultural Experiment Station, has carried on extensive investigation work during the past two or three years, and the results were published in bulletin 364, issued by that station. The information which was gathered may go to show that if value is given everything that enters into the dairy business no dividends could be paid. The factors entering into the cost were feeds and bedding, labor, cost of hauling milk, cost of buildings, cost of cattle, cost of dairy equipment, and miscellaneous costs. The interest is also computed on the average capital as shown by the inventory at the beginning and end of the year, and is apportioned to various items. Considering these things at market value, it was found that for 174 herds, averaging 80 cows each, the feed and bedding cost averaged \$32.50 per cow, or 69.4 per cent. of the total cost. The labor cost per cow, not including milk hauling, was \$22.45, or 18.9 per cent. of the total cost. Cost of shelter, interest and depreciation in value of cattle, cost of dairy equipment and miscellaneous expenses, amounted to \$7.99 per cow, or the total for keeping a cow for one year in Delaware County, New York State, was \$118.84. The returns from products other than milk sold was \$11.21, or the net cost of producing milk amounted to \$107.63 for the year. This figures out that 100 pounds of milk costs \$2.35, or a little over five cents a quart, and butter-fat cost 51 cents per pound to produce it. If the milk sold for \$1.65 per cwt., the average cow in that county did not pay expenses by \$32.14. This is rather a discouraging outlook for dairymen. In 1913 conditions were a little more favorable, as feed and bedding cost only \$76.13 per cow, and milk was produced at \$2.03 per hundredweight, or 44 cents per pound of butter-fat.

These figures are, no doubt, astounding and may start us thinking about what it actually costs to keep



Five Animals in the Benning Ayrshire Sale.

Reading from left to right these animals are: Glenhurst White Ruth 2nd, 41858; Glenhurst Flossie 2nd, 41855; Glenhurst Mayor, 43480; Glenhurst Queen Floss, 29886; Torr's Cony 3rd, 30597.



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our herds throughout the year. The conditions under which this investigation work was carried on by Mr. Thompson, may give the readers a clearer conception of how these results were arrived at. The farms averaged about 189 acres in size, and the land adjoining streams was fertile and fairly level, but away from the valleys it was steep, rocky and generally poor. The growing season was rather short, not averaging over 109 days per season. The cost of producing roughage was no doubt more expensive than what it is in some localities, and the dairymen were forced to buy large quantities of millfeed. This land, lying close to New York city, is rather expensive, and the milk produced is largely sold in the city.

In estimating the cost, fodder was figured at its farm value, not at its cost of production. The farm value of any commodity that is sold from the farm is its market value less the cost of marketing, while the farm value of a commodity that is bought and hauled to the farm is the market value plus the cost of hauling. Silage was grown on the farm and valued at \$5.00 per ton, pasture was charged to the cow at the actual cost, which was interest amounting to five per cent., and taxes amounting to one-half per cent., charged on the actual value of the land in pasture. Interest was charged not only on the value of the animal but also on the feed on hand. The labor problem included the time spent in doing chores, driving cattle to and from pasture, milking, caring for the milk and dairy equipment, and all miscellaneous work, such as caring for sick animals, hauling and mixing feed, and the like. The time spent in raising and harvesting crops was not included, as the feed was figured at its farm value. Man labor on the farm was charged at 15 cents an hour, women and child labor at ten cents per hour, and horse labor at 12 cents. The cost of hauling the milk was an important item, and the cost depended largely on the distance to haul the milk. The same rates per hour were used as for other work, and the time varied with the distance and condition of roads. Interest at five per cent. was calculated on the average building investment and to this cost was added new buildings, repairs on old buildings, and insurance. The cattle were valued at the actual cost in the district. The cost of equipment was figured in the same manner as the cost of building, and everything needed in an up-to-date dairy was used. The miscellaneous costs included insurance on cattle, veterinary fees, medicines, fly protector, breeding fee, testing fee, registration, ice, grinding of feed, cutting straw, etc. The cows were credited with the value of any milk or butter used in the house, milk fed to other stock, and value of the manure produced. Mr. Thompson's results show that the net returns per cow depend somewhat on the size of the herd, value of the buildings, distance from market, and sources and kinds of feed. With a large number of herds the value of feed used per cow and young stock in the herds varied from \$37 to \$146, with an average of \$82.50. The amount of feed consumed in the year by the average cow was 2,256 pounds of grain, 4,430 pounds of hay and other roughage, 1,656 pounds of silage and grass from 3 acres of pasture land.

Similar investigating work was carried on in Jefferson County, New York State, by Prof. H. A. Hooper, of Cornell University, and F. E. Robertson, Manager of Jefferson County Farm Bureau. Everything entering into the production of milk was considered in very much the same way as in the Delaware County investigation work, but the results were somewhat different, which go to show that local conditions and local markets will influence the cost of production. Jefferson County is claimed to be naturally endowed with superior advantages as a dairy county, the common grasses, cereals and legumes produce large yields. On some farms large quantities of purchased concentrates were fed, but on the average the larger part of the ration was composed of home-grown feed. The county is also well equipped with railways, which give splendid transportation facilities. Messrs. Hooper and Robertson had the co-operation of the dairymen, and accurate records of production and food consumption were recorded. It was believed that the statistics were gathered in such a way as to give them an unusual degree of accuracy. The roughages used in feeding were pasture, mixed hay, corn silage, and some alfalfa hay. The pasture was reckoned at from \$1 to \$1.50 per month, depending on the value of the land, mixed hay at \$12 per ton, and corn silage at \$4 per ton; these feeds were charged to the cows at farm value. The average cost of purchased concentrates was \$30 per ton. The value of each cow was determined and interest charges calculated at five per cent. The calves were valued at from \$2 to \$10, and the manure at \$15 per cow. The yearly records of 834 cows in 53 herds were made the basis of calculating these returns. The average production of milk per cow was 6,621 pounds; the average number of pounds of butter-fat, 241; total cost of feed, \$51.57; fixed costs, \$35.65; interest on investment, plus the cost of hauling milk, \$11.25; value of manure and calf, \$18.23; or a net cost of \$80.24. The amount of money received from the milk was \$100.63 per cow. This makes the cost of producing 100 pounds of milk \$1.21, and for a pound of butter-fat 33 cents, which is considerably lower than the cost of production in the other county.

The results of this investigation work in the two counties in New York State may look discouraging, and the question might well be asked how do the dairymen live if they have a considerable loss per cow each year? If it costs 33 cents or over to produce one pound of butter-fat, and \$1.21 and over to produce 100 pounds of milk, how can a farmer afford

to sell cream at 30 cents or less per pound butter-fat, and milk at \$1.20 per cwt.? With the price received for whole milk the past year or two there is a considerable profit left if the milk is produced at the same cost as it was in Jefferson County. The figures given may appear high, but they are the average taken from a large number of herds. The cost of producing milk and butter-fat may be less or it may be more than it costs on the farms of this country but the figures given may start us thinking and possibly lead us to make an endeavor to estimate what it really does cost to produce milk under prevailing conditions in the locality, and with the present herd. Providing all items of feed are figured at market price and other expenses, including labor, charged at a fair price, the cow is not such a bad investment if she pays her way. When counting everything it is possible to figure out on paper that cows fail to produce sufficient milk or butter-fat to meet cost of feed and overhead expense, but at the same time the farmer is banking money. This is possible, as hay and grain may be sold to cows at a lower figure than farm value, or the rate of wages may be lower than here indicated, and a lower rate of interest charged. On a dairy farm there are other sources of revenue besides the cows which enhance the bank account.

It is believed that the cost of milk production can be materially decreased by keeping better cows. In Jefferson County the results show that the average yield of milk per cow was 6,621 pounds. While this is considerably more milk than the average cow in this country gives, it is by no means a high average yield. By increasing the yield of milk from a cow, the cost of production is reduced, and consequently the profit is greater. Canadian dairymen should endeavor to increase the average yield of milk and butter-fat per cow. If the average milk yield was raised 1,000 pounds per cow, it would result in tens of thousands of dollars yearly to the farmers of this country.

HORTICULTURE.

The Need of Standardized Fruit Packages.

EDITOR "THE FARMER'S ADVOCATE":

The biggest trouble that a fruit grower has is to market his produce. One of his biggest troubles in this line, and one that is most exasperating and which leaves him almost helpless at times, is the unfair advantage which a competitor gets by the use of a different sized package.

At the present time there is a very commendable movement on foot, and which every one should assist who is at all interested in the marketing of fruit. This movement is attempting to standardize fruit packages; not to compel any one to use a certain package for a certain kind of fruit, but, for instance, if he is going to pack his apples in apple boxes he must use the standard box. If he is going to use a lug basket then he must use one of a standard size. As an illustration of the point—Last season the Canadian growers in the West used a prune box 4 inches deep, and the United States growers shipped over to Canada in 3 1/2 inch boxes. No matter how the agents and fruit stores would argue they could not persuade the consumers to buy the larger boxes at a greater price than was charged for the 3 1/2-inch box. A box of prunes was a box of prunes, and they would take the cheaper box every time. Consequently the Canadian growers got no more for their prunes, although they gave considerably greater weight. There was nothing dishonest about the United States package, but it was a very unfair competition.

The marketing concerns finding this out are at it now in earnest, and they wait till they find out, if they can, what size their competitors are going to use, and then, the box-makers report, these concerns approach them to make a package "just a little smaller." It tends to a very extravagant way of buying, that is from hand to mouth. No grower or association can afford to buy a large quantity of any size till they find out if they have to change it to meet the smaller size. If they purchase a 4-inch peach box there is no guarantee that some competitor will not come on their market with a 3 or 3 1/2-inch box.

Another illustration is in the case of "Facing." The practice in the West is to face the package of cherries. The Canadian tin-top basket of the four-basket-crate is larger on top than that from the United States, consequently it will cost a Canadian grower more to face his package and take more cherries than it will his competitor from across the line, and it will also contain more fruit under the facing, yet when the Canadian cherries come on the same market they will not command one cent more than those from the United States. Thus to standardize would put both cherry growers on an equal basis so far as packing charges were concerned. It is a real hardship on all growers who enter a market under an unfair competition of size in packages.

Another advantage of standardization of fruit packages would be that f. o. b. shipments would be greatly helped. Now, when a wholesaler or commission merchant wants fruit he says, "send it on," for the simple reason that he does not know what sort or size of a package it is going to come in. If he were told it would be a four-basket crate for plums and tomatoes that would tell him practically nothing now, but if standardization were in force he would know that the baskets would be of a certain depth, have a

certain size bottom, and a certain size top. Then and not till then can he afford to buy much on the f. o. b. basis. When you write a wholesaler for quotations or submit prices to him he objects chiefly on price. He replies "we can get it so much a case cheaper," but does not say that the size of the case has anything to do with it, for the simple reason that the size of the case has no concern with the consumer, to whom we look for the ultimate decision.

Standardization has many advantages, and those who offer or feel like offering objections do not seem to be able to advance a substantial objection against the movement. It deserves our heartiest support, and we should help it along.

British Columbia. WALTER M. WRIGHT.

Spraying in 1916.

Are men with orchards or fruit plantations of any kind going to ease up one bit in their war upon insect and fungous pests this year? We hope not. The prospects are for a large crop in America, with transportation service abroad seriously affected. If the large crop materializes prices will probably be moderate, labor and material at the same time will likely be at a premium and difficult to obtain. While everything the farmer has to buy will probably be high in price, "on account of the war," the price of fruit will be low, largely "on account of the war." This is the way the situation appears at the present time. However, we may as well look the facts straight in the face, and consider them philosophically. For a long period we have had the good years and the poor years. The seasons when prices were low, and again when they were high. There have been years of great production, and there have been years when the crop was exceedingly small. All these things have occurred in the past; they are likely to occur again. Fruit growers should not require to see large prices looming ahead every year in order to induce them to spray and care for their orchards. Business concerns expect periods of prosperity and depression. They prepare for the exigencies which arise out of each condition of affairs. Fruit growers should go ahead this year with the same energy, the same perseverance and the same determination to conquer insect and fungous pests, as they have done in the past, and even to a greater extent.

If a good crop of apples should be grown in North America this coming season, and if that same crop is properly sprayed and cared for, so it will be clean, and then if only the best quality is placed on the market it may act as an impetus to the consumption of apples that will stand growers in good stead during subsequent years. The price of apples has not been low to the consumer. If consumers all over America could this coming season procure apples of first quality at a moderate price, they would use them in large quantities. They would then see the value of apples as compared with other fruits. Apples would leave a taste in the mouth of the consumer that would not be forgotten by the time the 1917 crop would be on the market.

To some the spraying of 1915 met with discouraging results. Some of the growers who were considered very thorough in their cultural methods did not have clean fruit last year. It must be admitted, however, that the worst infestations of fungus confined themselves to certain districts. In some localities there were sprayed orchards that were tolerably clean, yet in other communities there were orchards, equally well sprayed, that were indeed very unsatisfactory from the viewpoint of freedom from fungus. The Ontario Department of Agriculture, last season, carried on some important experiments in spraying. Orchards at Whitby, Paris, and Wellington were under the supervision and management of the Department. The results of their spraying operations are explained in the accompanying table:

Sprayed Green-ings at Whitby.	Sprayed Spys at Paris.	Sprayed Spys at Wellington.
Lime and Sulphur.	Lime and Sulphur.	Lime and Sulphur.
3 Sprays %	3 Sprays %	3 Sprays %
Ink Spot...58.3	Ink Spot... 6.	Ink Spot... 2.8
Scab..... 1.4	Scab..... 1.2	Scab.....10.8
Clean.....40.3	Clean..... 92.8	Clean.....86.4
4 Sprays	4 Sprays	4 Sprays
Ink Spot...16.2	Ink Spot... 5.5	Ink Spot... .4
Scab..... 0.	Scab..... 2.2	Scab..... 1.1
Clean.....83.8	Clean..... 92.3	Clean.....98.5
5 Sprays.	5 Sprays.	5 Sprays.
Ink Spot... 7.3	Ink Spot... 0.	Ink Spot... .4
Scab..... .3	Scab..... 0.	Scab..... .7
Clean.....92.4	Clean..... 100.	Clean.....98.9

During the fruit harvest a representative of this paper had occasion to visit the orchard at Paris. The fruit was indeed clean, as indicated in the table. It was difficult in any part of the orchard to locate scab. The orchards at Whitby and Wellington do not show quite so clean a sheet for the fifth spraying, yet the results in all these orchards were gratifying where the work was carried at least to the fourth spraying. Another orchard, almost directly across the road from the one at Paris, was also visited. It, too, was clean. Plenty of lime-sulphur will destroy fungus, plenty of arsenate of lead will control the injurious insects and plenty of black leaf 40, used at the proper time, will hold the aphids in check. Use the nozzles freely this year; a neglected orchard is hard to rejuvenate.



Lenhurst, Torr

# Spray Calendar.

Revised Up to Date for "The Farmer's Advocate" by L. Caesar, O. A. C., Guelph.

Plant and Pests.	1st Application.	2nd Application.	3rd Application.	Remarks.
<b>Apple.</b> Scab or black spot, canker, leaf spot, codling moth and other biting insects, scale insects, blister mite and aphids. (Consult bulletins 187, 194 and 219.)	Shortly before the buds burst. Use A1 or B. For San José Scale prune severely, scrape off loose bark and drench the whole tree, paying special attention to outer twigs.	Just before the blossoms open. Use A2 or D, with 2 or 3 lbs. arsenate of lead to each 40 gals. of the liquid.	Immediately after the blossoms have all, or nearly all, fallen, or before the calyces close. Use A3 or D, with 2 lbs. arsenate of lead to each 40 gals. This is the application for codling moth.	For Scab, if the first half of June is wet or foggy and cool, give a 4th application with the same mixture as the 3rd, about 10 days later than it; also if August becomes wet, spray at once with A3 or D to prevent late attacks of scab and sooty fungus. If Aphids are annually troublesome, delay 1st application till buds begin to burst, then add Black Leaf 40 to A1 or B and cover every bud. For Cankers cut out diseased bark, disinfect and cover with white lead paint free from turpentine. For Blight on young trees keep suckers rubbed off trunk and main branches, and cut out promptly any diseased branches or twigs well below the diseased bark. Always disinfect both cuts and tools with corrosive sublimate (1 to 1,000).
<b>Pear.</b> Scab or cracking, blight, codling moth, other biting insects, scale insects, blister mite, psylla and slug. (Consult bulletins 176, 187 and 219.)	Shortly before the buds burst. Use A1 or B. For San José Scale see above under Apple.	Just before the blossoms open. Use A2 or D, with 2 or 3 lbs. arsenate of lead to 40 gals. of liquid.	Just after blossoms have fallen. Use A3 or D, with 2 lbs. arsenate of lead to 40 gals.	Pears subject to Scab should always receive a 4th application 10 days later than 3rd with same mixture. For Blight cut out carefully in winter all blighted branches and twigs, cutting a foot or more below the diseased part. Also remove and burn trees too severely blighted to save. Throughout growing season watch for and remove promptly in the same way all blighted twigs or branches. Disinfect at once tools and all cuts with corrosive sublimate (1 to 1,000). For Psylla delay 1st spraying with A1 or B until leaf buds have burst and add Black Leaf 40 to Codling Moth spray if necessary. Arsenate of lead will kill Slugs (3 lbs to 40 gals.)
<b>Plum and Cherry.</b> Black knot, brown rot, leaf blight or shot-hole fungus, curculio, slug, aphids and cherry fruit-flies. (Consult bulletins 226, 227 and 230.)	Just before the buds burst -Use A1 or B. For San José Scale see above under Apple.	Just after fruit is set. Use A2 or D, with 3 lbs. arsenate of lead to 40 gals.	About two weeks later use A3 or D, with 3 lbs. arsenate of lead to 40 gals.	For Cherry Fruit-flies (the cause of the little white headless maggots in cherries) use 3 lbs. arsenate of lead, 1 gal. molasses and 39 gals. water. Apply to all cherry trees just as Early Richmonds are getting a reddish blush, and again to only Monmorency and late varieties about 10 or 12 days later. For leaf-spot give a 4th application with same mixture as 3rd just after cherries are picked. Cut out and burn all Black Knots in winter and whenever seen in summer. For Slugs see under Pear above. Examine sweet cherries for Aphids after blossoms fall, and, if present, add Black Leaf 40 to 2nd application. Good pruning with resulting increase of sunlight and air circulation help against Brown Rot.
<b>Peach.</b> Leaf-curl, scab or black spot, yellows, little peach, curculio, borer, San Jose scale, shot-hole borer. (Consult bulletin 201.)	Before the buds begin to swell. (All must be done before any sign of bursting of buds.) Use A1 or B. This is usually the only spraying peach trees receive.	Soon after the fruit is set. Use 2 or 3 lbs. arsenate of lead and 1 or 2 lbs. freshly slaked lime to 40 gals. water for curculio. Omit if curculio is not troublesome.	About one month after fruit is set. Use C if troubled by Brown Rot. Good pruning and thinning the fruit help to control this disease.	If Brown Rot is likely to be troublesome use C again about one month before fruit ripens. Destroy mummied fruit in autumn. Remove at once and burn any tree attacked by yellows or little peach, and also all suspected trees. Dig out borers at base of tree with knife in May and again in October. For shot-hole borer cut down and burn before April all dead or dying trees or branches, and leave no brush heaps near orchard.
<b>Grapes.</b> Black rot, powdery mildew, downy mildew, anthracnose, flea-bettle, leaf hopper. (Consult bulletin 202.)	When 3rd leaf is appearing use D.	Just before the blossoms open use D.	Just after fruit sets use D.	Spray again whenever wet weather threatens. It should always be done before, not after rain. At first sign of powdery mildew dust with sulphur or spray with C. For flea-bettles use poison whenever they appear. For leaf-hoppers or "thrips" use Black Leaf 40 or whale oil soap in July to destroy nymphs. Clean cultivation is very important and destruction of all old mummied grapes and prunings.
<b>Currant and Gooseberry.</b> Mildew, leaf-spot, currant worm, aphids, red spider and San Jose scale. (Consult bulletin 222.)	Shortly before buds burst use A1 or B. For San José Scale prune and spray heavily.	Just before blossoms appear, use A2, with 2 lbs. arsenate of lead to 40 gals.	Just after fruit is formed use A2, with 2 lbs. arsenate of lead to each 40 gals.	For worms when fruit is ripening, use hellebore. Look for aphids just as buds burst; if present spray with Black Leaf 40 or kerosene emulsion or whale oil soap, or postpone 1st application till then, and add Black Leaf 40 to A1 or B.
<b>Raspberry and Blackberry.</b> Anthracnose, red rust, crown gall. (Consult bulletin 210.)	Before growth begins use D. Omit if not troubled by anthracnose.	When shoots are 6 or 8 inches high use D. Omit if no anthracnose.	If caterpillars are attacking the leaves use 2 lbs. arsenate of lead to 40 gals. water if no danger of poisoning the fruit; otherwise use 1 oz. hellebore to 1 gal. water.	If anthracnose is very severe, set out new plantation of healthy shoots. If disease begins, cut out old canes as soon as fruit is picked, also badly attacked new ones, and burn. For red rust remove and burn plants at once. No other remedy. For crown gall set out plants in fresh soil, rejecting any plant with a gall on root or crown.
<b>Strawberry.</b> Leaf-spot and white grub. (Consult bulletin 210.)	For leaf spot set out only healthy plants with no sign of disease. First season spray with D before blossoms open and keep plants covered with mixture throughout the season. Second year spray before blossoming with D, and again soon after picking; or mow and burn over after picking. Don't take more than two crops off. Plow down at once after second crop. For white grubs dig out as soon as injury is noticed; do not plant on land broken up from old meadow or pasture for at least three years after breaking. Mowing, burning over and plowing down just after the second crop is a great aid against pests.			
<b>Bean.</b> Anthracnose and bacteriosis. (Consult bulletin 171.)	Get seeds from pods showing no signs of disease. Do not work among the plants if they are wet with rain or dew. Spraying scarcely pays as a rule.			
<b>Cabbage and Turnip.</b> Flea-bettles, caterpillars, root maggots, aphids. (Bulletin 171.)	For flea-bettle on turnip sow after June 21, or dust plants as soon as they appear above ground with Paris green or spray with Bordeaux and a poison and a sticker. Repeat in two days. For caterpillars dust with Paris green until heads begin to form on cabbage and cauliflower, then spray with fresh pyrethrum, 1 ounce to 1 gallon water. For root maggots use medium thick tarred felt-paper discs, putting on as soon as plants are set out, or set out plants after July 1. For aphids use kerosene emulsion as soon as they appear, or 1 lb. common laundry soap dissolved in 4 gallons water. Hit them hard with the spray.			
<b>Potato.</b> Tip burn, early blight, late blight, scab, Colorado beetle, flea-bettle. (Bulletin 171.)	Keep foliage covered with D from time plants are about 5 inches high. Take special precautions to see this is well done if weather is at all damp after about 15th July, as late blight begins about this time. Add a poison to each application when necessary. For scab, soak tubers before cutting for 2 hours in 1 pint of formalin to 30 gallons of water. Spread out on grass to dry. Wash all boxes, bags or other vessels to be used in same liquid. Plant none but perfectly healthy tubers.			
<b>Tomato.</b> Leaf blight, black rot, flea-bettle. (Bulletin 171.)	Spray plants in seed-bed with D. Keep foliage in field covered with D until danger of staining fruit. Add a poison if necessary for flea-bettles.			
<b>Asparagus.</b> Rust, beetles. (Bulletin 171.)	For rust, let no plants, not even wild ones, mature during cutting season. Late in fall, when growth is about over, cut and burn old plants. For beetles let poultry run in the plantation. After cutting season is over spray with arsenate of lead; repeat in two weeks. May add sticker and a little lime.			

Note.—A1=Concentrated lime-sulphur strength 1:030 specific gravity (1:035 for San José scale) (1:030=1 gal. commercial to 9 gals. water, and 1:035=1 gal. commercial to 7 gals. water).  
 A2=Concentrated lime-sulphur strength 1:010 or 1:009 specific gravity=1 gal. commercial to from 30 to 35 gals. water.  
 A3=Concentrated lime-sulphur strength 1:009 or 1:008 specific gravity=1 gal. commercial to from 33 to 40 gals. water.  
 B The old home-boiled lime-sulphur, 20.15.40 formula.  
 C =Self-boiled lime-sulphur.  
 D =Bordeaux mixture, 4.4.40 formula.

Formulae for Insecticides.

I.—POISONS (for biting insects only).

- 1.—Arsenate of Lead (paste).—2 or 3 lbs. to 40 gallons liquid spray; 3 1/2 lbs. for potato beetles. Dry Arsenate of Lead requires only half these strengths.
2.—Paris Green.—(a) 1/4 to 1/2 lb. to 40 gals.; 1 lb. for potato beetles. If used with water alone, add 1 or 2 lbs. fresh lime; (b) 1 lb. mixed with 50 lbs. land plaster, air-slaked lime or some similar substance, for dusting on plants.
N.B.—with Bordeaux, 1- or 2 may be used; with lime-sulphur only 1; the other causes burning.

3.—Poison Bran Mixture for Grasshoppers:

- Bran.....20 lbs.
Paris Green.....1 lb.
Molasses.....1/2 gallon
Water.....about 2 gallons
Lemons.....2 or 3 fruits

Mix thoroughly the bran and Paris green in any large receptacle the night before using. In morning squeeze the juice of the lemons into the water, run pulp and rind through a meat chopper, add this and also molasses to the water, stir well, then pour the liquid upon the poisoned bran, and mix so thoroughly that every part is moist and will fall like sawdust through the fingers. Apply in the morning between 5 and 7 o'clock by scattering so thinly over the infested field, fence corners and roadsides, that the above amount will cover 4 or 5 acres. Sometimes a second application about 3 days later is necessary. Use as soon as the pest is abundant. Do not look for results for 2 or 3 days.

This mixture applied in evening will also kill Cutworms and Army-worms.

- 4.—White Hellebore.—One oz. to 1 gal. water, or dust undiluted over the plants. Hellebore left exposed to air is useless.

II.—CONTACT POISONS (chiefly for sucking insects).

- 1.—Kerosene Emulsion:
Kerosene (Coal Oil).....2 gals.
Rain Water.....1 gal.
Soap.....1/2 lb.

Dissolve the soap in water by slicing and boiling; take from fire, and while hot pour in kerosene and churn vigorously for five minutes. For use dilute with 9 parts of water, so that the above 3 gals. of stock emulsion will make 30 gals. of spray mixture.

- 2.—Whale Oil Soap.—For brown or black aphids, 1 lb. in 4 gals. For green aphids, thrip and leaf-hopper, 1 lb. in 6 gals.

- 3.—Tobacco Water.—Steep 1 lb. refuse tobacco in 1 gal. of water for 1 hour, make up for water that evaporates, or soak 1 lb. in 1 gal. water for 24 hours with occasional stirring.

- 4.—Black Leaf 40. Directions on the cans. A little soap with it helps, but soap cannot be added if used with lime-sulphur.

- 5.—Pyrethrum (or insect powder):
Pyrethrum Powder.....1 oz.
Water.....1 to 2 gals.

Dry Mixture. Mix thoroughly 1 part by weight of pyrethrum with 4 of cheap flour, and keep in air-tight vessel for 24 hours before dusting over plants.

Note: Pyrethrum is useless if left exposed to the air.

- 6.—Lime Sulphur Wash.
(See under fungicides.)

II.—Lime Sulphur Wash.

1.—Home Boiled (for use on dormant wood only):

- Fresh stone lime.....20 lbs.
Sulphur (flour or flowers).....15 lbs.
Water.....40 gals.

Slake 20 lbs. of lime in about 15 gals. or more of boiling water in a kettle or other boiling outfit. While slaking add the 15 lbs. sulphur made into paste by the addition of a little water. Boil vigorously, with stirring, for 1 hour. Dilute to 40 gals. with cold or hot water. Strain and apply at once.

2.—Home made Concentrated Lime Sulphur.— This may be used as a substitute for commercial lime-sulphur, but is only about 2/3 as strong as a rule.

- Sulphur (a fine grade).....100 lbs.
Fresh stone lime, high in percentage of calcium.....50 lbs.
Water.....40 or 50 gals.

Put about 10 gals. water in the boiling outfit, start fire, add sulphur, stir to make paste and break lumps, then add remaining water, and when near boiling put in lime. Stir frequently while slaking until all the sulphur and lime are dissolved. Add water from time to time to keep up to 40 or 50 gal. mark. Boil 1 hour then strain through a screen of 20 meshes to inch into storage barrels. Make enough at once for season's work. Cover well to keep out air, or pour oil of any kind over surface to depth of 1/8 inch for same purpose.

To determine how much to dilute for different applications use an hydrometer with specific gravity readings, and apply the following rule:

Put the hydrometer in the clear liquid when it is cold and the sediment has all been settled for a day or two. Note the number to which it sinks. Suppose this is 1:240. The strength for use before the buds burst should be 1:030 or stronger. To determine how much to dilute a strength of 1:240 to get 1:030, divide the three figures to the right in 1:240 by 30, that is 240 divided by 30=8. This means that each gallon of such a wash must be diluted to 8 gals. with water to give us a strength of 1:030, the proper spring strength. For the second application 1:009 is about the right strength. To get it divide the 240 by 9, which gives 26 2/3 or roughly speaking 27. This means that each gallon of a wash of the strength of 1:240 must be diluted to 26 2/3 or 27 gals. to make the right strength for the second application. For the third application and any later ones 1:008 is about the right strength, and to get this we proceed in the same way and divide 240 by 8=30, so that each gallon must be diluted to 30 with water for this application. If the strength of the concentrated were 1:212 or any other number, you would in the same way divide the three figures to the right by 30, 9 and 8 respectively to get the proper dilutions for each spraying.

Table for Changing Beaume Readings Into Their Equivalent Specific Gravity Readings.

Table with 4 columns: Beaume, Specific Gravity, Beaume, Specific Gravity. Rows range from 18 to 26 on the left and 27 to 35 on the right.

Note.—Commercial lime-sulphur should be tested with the hydrometer and diluted according to the same rules as the home-made concentrated form.

3.—Self Boiled (chiefly for use on peach foliage).

- Fresh stone lime.....8 lbs.
Sulphur (flour or flowers).....8 lbs.
Water.....40 gals.

Best prepared in quantities of 24 lbs. at a time to get sufficient heat. Place 24 lbs. lime in a half barrel, add enough cold water to start it slaking well and to keep the sulphur off the bottom. Dust the 24 lbs. sulphur over the lime, having first worked the sulphur through a screen to break lumps, then add whatever further amount of water is necessary to complete the slaking. Stir well with a hoe to prevent the lime caking on the bottom. As soon as the slaking is over, add enough cold water to cool the whole mass and prevent further combination. Strain into spray tank. Keep well agitated while spraying.

III.—Disinfectants (for pruning tools and for wounds on trees):—

- 1.—Corrosive sublimate, 1 part to 1,000 by weight= 1 tablet to 1 pint of water. Apply with a swab on end of a stick.

Caution.—Corrosive sublimate is a deadly poison to man or beast if taken internally. It will also corrode iron or metal, so use in a glass or wooden vessel and be sure to wash these out very thoroughly when through using them.

- 2.—Lime-sulphur about twice spring strength, or bluestone, 1 lb. dissolved in about 14 gals. water, may be used to disinfect wounds or cankers, but is not satisfactory in case of Pear Blight.

Sticker.

- Resin.....2 lbs.
Sal Soda (crystals).....1 lb.
Water.....1 gal.

Boil together till a clear brown color, which takes from 1 to 1 1/2 hours. Cook in an iron kettle in an open place. Add the above to 40 gallons Bordeaux for use on smooth foliage, like onions, cabbage or asparagus. If used with arsenate of lead or Paris green, add 1 or 2 lbs. of fresh lime to every 40 gallons of spray.

How to Dilute Lime - Sulphur Solution.

When concentrated lime-sulphur whether commercial or home-made, is used for spraying it should be tested with an hydrometer and diluted according to the directions given in our Spray Calendar, so that one may always feel sure that he is using the proper strength of the mixture. Some men, however, find difficulty in following the directions; hence on our request Prof. Caesar has supplied us with the following revised table, which greatly simplifies the matter. With this table the orchardist has merely to test the strength of the concentrated mixture, using for this purpose an hydrometer with either specific gravity or Beaume readings, mark the strength on the barrel for future reference, and when ready to spray look on the first column of the table until he finds the number nearest to the reading indicating the strength of the barrel. Then look across the second column, which tells him exactly how many gallons of water he should add to each gallon of his wash to make the proper strength for the 1st application, which, in the case of apples, is before or as the leaf-buds are bursting. If he has San Jose scale in his orchard he will add the smaller number of gallons, but, if there is no scale, he will use the larger number because the mixture need not be so strong if there is no scale. Then when he wants to put on the 2nd application, which, in the case of apples, should be made just before the blossom-buds open, he will look across the same line to the figures under the heading "Second application," and this will tell him the number of gallons of water to add to each gallon of his wash. Here he has a choice between two strengths. If he wishes to take extra precautions he will use the smaller number.

Table for Dilution of Concentrated Lime-Sulphur.

Table with 4 columns: Reading on Hydrometer, First Application, Second Application, Third Application. Sub-columns for Lime-sulphur and Water in Gallons.

\* The fraction need not be taken into account unless the user wishes to do so.
\*\*The smaller number is for use against San Jose scale, the larger for use where there is no scale.

Formulae for Fungicides.

1.—Bordeaux Mixture.

- Copper Sulphate (Bluestone).....4 lbs.
Unslaked Lime.....4 lbs.
Water.....40 gals.

Dissolve the copper sulphate in a wooden or brass vessel with hot water, pour into a barrel and add cold water to make 20 gals.; slake the lime, preferably with hot water; add cold water to make 20 gals. Stir both barrels well and pour lime into the copper sulphate barrel. (Never mix concentrated milk of lime and copper sulphate solutions.)

A stock solution of each may be made and kept indefinitely if not mixed:—Dissolve 40 lbs. copper sulphate in 40 gals. of water by suspending just below the surface of the water in a coarse crock. Each gallon of the liquid will now contain 1 lb. copper sulphate. Slake any desired quantity of lime and put into a box or barrel in shaded place, or sunk in the ground. Keep covered with small amount of water to exclude the air. Calculate how much is required for 4 lbs. lime if well stirred.

To test Bordeaux mixture, let a drop of ferrocyanide of potassium solution fall into a little of the mixture in a saucer. If this causes it to turn reddish brown, add more lime until no change takes place.

For the third application he will look across to the figures given under "third application," and add the number of gallons indicated there. To illustrate this we shall suppose that the barrel of concentrated reads on a specific gravity hydrometer 1.270, or on a Beaume hydrometer 31. Looking down the first column we find the number 1.270 or 31 just opposite it. Then reading across this line we see that the proper amount of water to add to each gallon for the 1st application is 8 gallons if there is no San Jose scale, or  $6\frac{3}{4}$  gallons if there is scale. For the second application the amount is 29, or, if we wish to make it a little stronger, 26, and for the third application the one immediately after the blossoms have fallen, 33 gallons.

### How to Read the Hydrometer.

There is an element of uncertainty about the strength of lime-sulphur solution, whether it be home-made or commercial. The test or strength of commercial lime-sulphur is usually guaranteed at time of purchase, but not against time or for the next season if any should be left over. Home-made batches of lime-sulphur do not always test the same, even when prepared in the same way, so far as it is possible for humans to do it. This fact explains the necessity of an instrument whereby the strength of any solution may be ascertained. Such an instrument may be procured at a price varying around \$1.00, and it is known as a hydrometer.

The instrument in question is shown in the accompanying illustration. This one is graduated according to the specific gravity scale. Anyone who can read temperatures on a thermometer, should be able to determine the strength of lime-sulphur solution with this instrument.

A long tube sometimes comes with each instrument, and the solution may be put into it to be tested. Such tube, however, is not an absolute necessity. Any vessel that will hold liquid to the depth of twelve inches or more will answer the purpose. When an hydrometer is placed in water it will sink to the line marked 1.000. In commercial lime-sulphur it usually sinks to 1.300. In home-made lime-sulphur it will usually stand somewhere between 1.200 and 1.240. These figures indicate the strength of the solution, and from them it can be determined how much water should be used to dilute the liquid to the proper strengths for the different sprays. The divisions on the scale between the figures represent .005 each, that is, if the hydrometer should stand three small spaces above 1.225, the reading would be 1.230. A film of liquid will rise above the level and cling to the neck of the hydrometer. The reading should be made on the neck as nearly as possible with the level of the liquid in the vessel.

The reading should be taken in the clear liquid when it is cool and the sediment has settled. The following rule may be followed when making dilutions: Take the reading of the wash and divide the three figures to the right by 30, (or 32 for San Jose scale), for the first application; by 9 for the second application; and by 8 for the third, and dilute each gallon of water to the number thus obtained in each case. For instance, to determine how much to dilute a wash, reading 1.240, to get a strength of 1.030 divide the first three figures to the right of the 1 by 30, that is,  $240 \div 30 = 8$ . This means that each gallon of the wash may be diluted with water to make 8 gallons of the strength of 1.030. For San Jose scale divide by 32 instead of 30. That is  $240 \div 32 = 7\frac{1}{2}$ , so that in this case each gallon may be diluted to only  $7\frac{1}{2}$  gallons. For use on apples and pears, just before the blossoms burst, the proper strength is about 1.009. To procure this strength from a wash testing 1.240, divide 240 by 9, which will give 26 $\frac{2}{3}$ . This means that each gallon of such a wash for this application may be diluted 26 $\frac{2}{3}$  or 27 gallons. Similarly, 1.008 is usually satisfactory for the application just after the blossoms have fallen and subsequent sprays. To arrive at the proper dilution, again divide the three figures to the right, namely 240 by 8, which gives 30. Thus indicating that for this application each gallon may be diluted to 30.

A table in another column indicates how much water to use when the solution is of a certain strength. It is necessary, however, to know the strength definitely before the recommendations of that table may be applied.

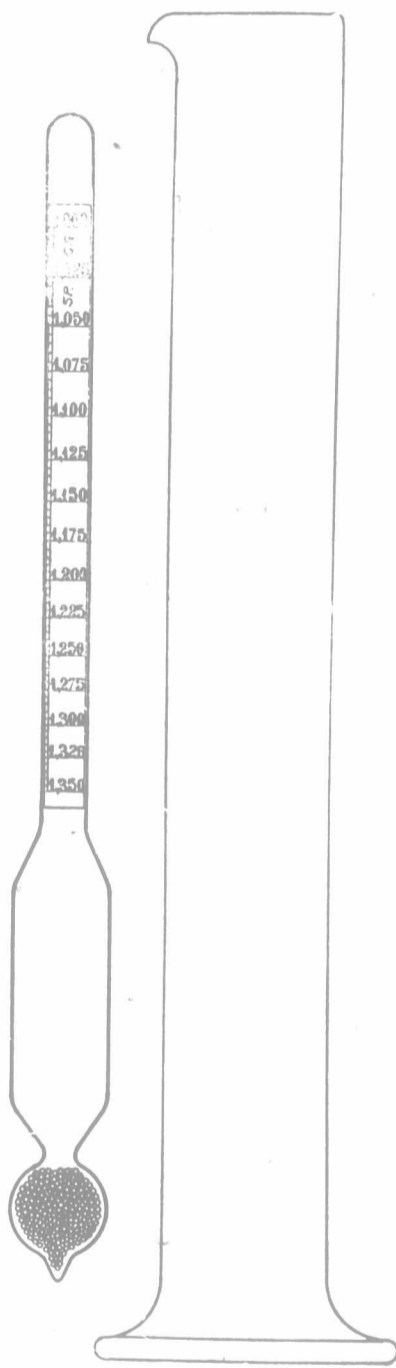
When using the hydrometer wash it off after each test. If it is found difficult to clean at any time rub it with a little vinegar on a cloth and then wash it with water.

## POULTRY.

### Strong Versus Weak Birds.

Some very interesting work has been done by C. A. Rogers, under the direction of James E. Rice, B. S. A., who is in charge of the poultry work at Cornell University Experiment Station, in investigating the value of strong and weak birds. White Leghorns and Banded Plymouth Rocks were used. In regard to the feed consumption per hen, the strong pullets consumed considerably more feed than did the weaker birds, except in the case of bone and green feed. Naturally, the stronger birds produced eggs at a lower cost than did the weaker birds, especially with the pullets. The total cost of the feed for each dozen eggs laid was ten cents with the strong pullets,

as compared to twelve cents with the weaker ones. The cost of total feed, minus the value of gain in weight, per dozen eggs, was nine cents for the stronger birds, and eleven cents for the weaker. But when it came to the number of pounds of feed consumed for each dozen eggs laid, the weaker birds required about two pounds more than the strong ones. The weak birds laid 107 eggs as compared with 140 eggs from the strong birds, but when it came to a pen of yearling hens the order was reversed and the weak hens laid 160 eggs, as to 99, but the stronger hens laid the largest percentage of fertile eggs; the eggs hatched much better, and the mortality of chicks was five per cent. lower. With the pullets there was a higher percentage of fertile eggs, higher percentage hatch, heavier chicks, but the mortality was also greater than with the stronger hens. The financial return is what most people are interested in, and the strong birds have the decided advantage, producing more eggs, gaining more in weight, costing less for feed, and do not suffer the loss from birds dying. These results would convince the poultryman that in order to increase the returns a selection of fowls for strong vitality should be made. One selection is not enough, it should be continued year after year, and not only should selection be made for heavy production, but also for strength and constitution as the strongest birds are usually the most productive.



The Hydrometer.

### Mate Up the Strongest Birds.

Poultry-raising is considered only a side-line on most farms, but there is no reason why a side-line should not be made as profitable as possible. There are good, better and best birds in every flock, but eggs are saved promiscuously from the entire flock for hatching purposes. The bird with a poor constitution that has never been noted for laying heavily when eggs are a high price, is permitted to propagate its kind as well as the strong, robust bird which has been a producer all winter. Naturally the poultryman prefers his best birds, but if like tends to produce like it is impossible to improve the flock unless a selection is made at breeding time. On the average farm possibly one hundred and fifty eggs are required for hatching purposes during the season. This number could easily be supplied by ten or a dozen birds in the time required. Instead of buying two or three cockerels to put with the entire flock, purchase one good male bird to mate with a pen of the choicest

females, and use the eggs from these birds to produce the next year's flock. The remainder of the flock could be used for producing eggs for market purposes. Raising a flock from selected birds every year will materially improve the birds' appearance and increase their value. Selection is of paramount importance in working toward profitable poultry breeding. Yearling hens mated with a cockerel will usually give a higher percentage of fertile eggs than will pullets which have been laying heavily all winter. An endeavor should be made to have all chicks hatched by the middle of May. Pullets hatched during the latter part of April or the first of May should be developed sufficiently to commence laying in the early fall.

It is rather a difficult matter to select the most productive hen by her appearance. Very often it is not the most showy bird that is the heaviest producer. By trap-nesting is the only accurate way of picking out the bird that lays the most eggs, when eggs are high in price. Where trap nests are not used a square-built, strong-framed bird, showing good constitution, that is first to leave the roost in the morning and last to go to roost at night with a full crop, is the hen that usually pays her way. By paying close attention for a few days it is possible to pick out fairly accurately the hens for the mating pen. With the white-lobed and yellow-shanked breeds it is usually believed that the brighter the color the better the bird. However, it is claimed by some poultrymen that these birds are not always the best layers. The color of the lobes, or shanks, is decreased with the increased number of eggs laid, owing to the yolk of the egg absorbing the pigment matter. If this is the case the bird with poorly-colored ear-lobes and shanks in the spring would be counted the best layer. Endeavor to pick out the best birds and mate them, rather than save eggs from the entire flock for hatching purposes.

## FARM BULLETIN.

### Motor Car Notes.

It is estimated that by the end of 1916 there will be 3,000,000 motor cars in use in the United States.

By a recent count there are about 200 different makes of automobile and other car tires in use on this continent but more than half of them are supplied by five companies.

With the rapid advances in the price of gasoline, car owners and manufacturers are devising ways and means of eliminating waste and getting a greater mileage out of a gallon.

Official figures show a shipment of 21,502 car loads of automobile during February in the United States, nearly 100 per cent. increase over February, 1915.

Gasoline sold lately in English seaport towns for 60 cents per gallon and in Paris, France, for \$1.

Detroit claims to lead the continent in their make of automobiles, turning out 700,000 in 1915 or 67 per cent of the cars made in the United States.

Toledo, Ohio, has 35 automobile factories, employing 75,000 workmen, who expect to turn out 150,000 cars this year.

The fastest time ever made by a man who lived to tell the story was in Florida in 1911 by Robert Burman whose car covered 141.73 miles per hour, the record mile being in 24.40 seconds.

The Office of Good Roads, Washington, estimates that a man with one motor truck would carry more stuff from farm to town and transport it faster than two teams and two men but then the roads must be improved.

Because of interference with funerals and dangers to valuable monuments and plots from stampedes of frightened horses autos have been barred from Forest Hill cemetery, Boston, Mass.

France is making elaborate experiments in the use of motor power in agriculture to replace the tremendous drain of men, horses, oxen and mules from the farms by the war.

### Prolonging the Life of the Harness.

It is doubtful whether there is anything about the farm that depreciates in value so rapidly as does harness that is not properly looked after. In very few stables is there a room built where harness may be kept away from dirt and the stable dampness when not in use. The usual place for the harness is on pegs behind the horses, and from a point of convenience this is a good place for it, but when the harness is considered, stable conditions are found to shorten its period of usefulness. However, the stable will continue to be the home of most of the harness in the country, and an endeavor should be made to prolong its life if possible.

Harness is subject to all kinds of weather conditions, and the leather soon becomes hard. Dirt lodges in the cracks, where in combination with the elements, the work of disintegration commences. At least once and if possible twice during the year all harness should be taken apart and thoroughly washed and oiled. Not only will this treatment cause the harness to last longer, but the appearance will be greatly improved.

A warm day should be selected for this work, as it is impossible for leather to properly take the oil if the atmosphere is cold. Every part of the harness should be thoroughly scrubbed to remove the dirt. Luke-warm water, soap, a scrubbing brush, and a strong arm to use it, make up the necessary equip-

birds to produce... market purposes... every year will ma... and increase... importance in... Yearling... give a higher... which have... should be... middle of... part of April... sufficiently

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Harness.

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ment for cleaning the harness. Clean out the keepers and any dirt around the buckles. When the dirt is removed hang the parts in a warm place to dry. Harness oil or prepared paste should be applied to the leather. Neets-foot oil is frequently used for oiling harness, and is found to be very satisfactory if allowed to soak well into the leather. Lamp-black may be added to give the black appearance, but it is not essential. The mistake is frequently made of not rubbing the oil well in. Simply "daubing" it on is not enough. There are also several prepared pastes which prove satisfactory if properly used.

When cleaning and oiling the harness, all parts should be examined, and weak or worn parts repaired. A harness is no stronger than its weakest part, and a new strap, a few stitches or a new snap or buckle put on now before the season's busy work commences may save delay or possibly an accident later on. There should be a harness cleaning and repairing day on every farm before work on the land monopolizes the time.

The Last Word in Lobbying.

BY PETER MCARTHUR.

Honestly, I had no intention of having anything to say about Mackenzie & Mann this week, but this enterprising firm and its representative intruded so much on my attention that I feel compelled to attempt a little appreciation of their competence and ubiquity. They are everywhere, and everywhere they are busy. Of course their lobbyists never appear to be busy. Dear me no! They are so idle that anyone who wants to loaf in a few hours pleasantly just naturally hunts them up and spends it with them. Still, that is perhaps their way of being busy. But to our tale. One night recently I had to make a wild rush to catch the 11 o'clock train from Toronto to Ottawa. When I got on board, I was considerably out of breath, and instead of going to bed at once decided to finish a cigar in the smoking compartment at the end of the sleeping-car. There were three men ahead of me, and although I had to disturb them in reaching a vacant corner, they went on with their conversation just as if I were part of the furniture. One of them had a peculiarly genial voice, and a laugh that sounded like the flow of champagne at a harmony banquet. It was the most spontaneous, gurgling laugh that I have ever heard off the stage. At every remark made by his companions, who appeared to be prominent French Canadians, possibly members of Parliament, the pleasant gentleman turned loose his melodious laugh. His geniality was so infectious that I thawed out enough myself to stretch my neck and get a look at him in a mirror that was opposite. It did not take me long to recognize him as one of the chief parliamentary agents of Mackenzie & Mann. Some years ago I had met him accidentally in an outer office, and just to keep his hand in at geniality he had been friendly, and just to keep my hand in I had interviewed him and had published the interview. I caught his eye in the looking glass, and it had that "Where-have-I-seen-you-before?" expression, but he evidently could not locate me. But his friends were as full of talk as he was of appreciation, so the conversation went on merrily. I could not help hearing scraps of it, and it became apparent that some very successful tactics had been shown in the fight with the Hydro people before he "Telegraphed to Billy, and then he and Sir William came right down to Ottawa." The prospects of victory were so good that the genial laugh gurgled like "a hidden brook in June."

Then there was some earnest talk about the possibility of Federal prohibition, and one of the French Canadians was both authoritative and legal in demonstrating that the Government would never interfere with the manufacture of liquor for export. The man who laughed was earnestly attentive, as if he were looking for real light and leading on the subject. Just then I remembered that a few years ago there was some kind of a lawsuit arising out of the fact that Sir William Mackenzie had something to do with the reorganization of some breweries or distilleries, or something of that sort. The conversation seemed to indicate that the parliamentary agent (polite for lobbyist) was deeply interested, so I inferred the prohibition legislation was also receiving his attention. But at last the gurgling laugh lulled me to drowsiness and I went to bed.

When I went out to the dressing room in the morning I was not unduly surprised to find Mr. Zebulun Lash, chief of the Mackenzie & Mann legal department performing his ablutions. He was evidently on his way to Ottawa as well as the "man who laughed." He expressed a few guarded opinions about the weather and the depth of the snow in the fields, but did not show any of the glad hand traits of his humbler co-worker. His opinions are too high-priced to be lavished on a casual stranger who shows a disposition to talk while washing up and putting on his collar and tie. He did not seem inclined to talk before breakfast, so I left him in peace and stepped out to get a breath of fresh air. I noticed at once that the car behind the one in which I was travelling was the official car of the C. N. R. Evidently "there was a hen on," and even the men higher up were on their way to the capital. Because of these things I was not surprised when I saw Sir William Mackenzie lurching at a club later in the day. And wherever

I went I was sure to see some one of the group bustling about as if they were quite at home in Ottawa.

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Of course, that was their right, and I would not have given the matter a second thought had it not been for an incident that occurred on the train to Montreal when I was leaving Ottawa. I found myself sitting face to face with a weather-beaten young man who was full of talk. And when he explained a little I did not wonder. For months he had been one of a party of white men living among the Eskimos of Hudson's Bay. He had just travelled south by snowshoes to Cochrane, and was on his way home to visit his relatives. Presently the fact came out that he was an employee of the C. N. R. mining department, and for four years had been with a prospecting party that was trying to locate mines and convenient water power in the far North. It seemed that I could not go anywhere without meeting with someone who was working for Mackenzie & Mann. I had foolishly supposed that they confined their mining operations to Ottawa, but I found that they are scouring the barren rocks in the waste places as carefully as the rocks of Parliament Hill. And that was not all. The prospectors were also securing moving picture films of the Eskimos for some Mackenzie & Mann moving picture enterprise. While I was reflecting how illuminating it would be to the people of Canada to have moving pictures of the manifold activities of this firm, if they could only be secured, my chance acquaintance began showing me photographic negatives he had with him. While showing pictures of dogs and a pet fox, he volunteered the information that they even had a pet monkey with them.

"A monkey," I exclaimed. "What on earth did you have that for?" "To amuse the Eskimos so that we could get them to pose for the movies."

Then I threw up my hands in despair. I thought I knew something about complete lobbying organizations, but here was something that beat the best work of the Standard Oil lobby or the lobby of the Union Pacific Railway. Mackenzie & Mann have things so complete that they not only have financiers, corporation lawyers and bon vivants to make monkeys of the people in Ottawa, but they even employ a monkey to lobby for them among the simple-minded Eskimos. Can you beat it? The only comment I can offer is that of the shoe-string peddler who took the elevator



Sunbeam of Edgeley.

From May 1, 1914, to April 30, 1915, this cow gave 18,744 lbs. of milk and 926 lbs. of butter-fat. Owned by James Bagg & Sons, Edgeley. See Gossip.

to the top story of the Standard Oil building on lower Broadway. When he entered an office a man threw him out and kicked him down one flight of stairs. Another man was waiting for him and kicked him down the next flight. So it went all the way down, and the man on the ground floor kicked him through the front door and tumbled him between the car tracks. The peddler picked himself up, gazed at the building in rapt admiration and exclaimed:

"Mein Gott! Vot a system."

An Old Fake Revived.

An American concern calling itself the "Co." advertises in a Canadian daily newspaper of good standing a wonderful patented machine for producing butter at four cents per pound. When people are worrying over the advancing cost of the necessities of life, it is not to be wondered that sharpers devise schemes that will appeal to the housewife as money-savers. The special bait about this one is the "200 per cent. to men and women agents," but judging by the record of similar devices exposed at different times through "The Farmer's Advocate," it is more likely to be 200 per cent. of loss than profit. The advertisement itself is cunningly but clumsily worded. It claims that the machine "makes two pounds" (of something) "out of one pound of butter and one pint of milk; sweeter than creamery butter." With honest butter at about 30 cents per pound and milk at three or four cents per pint, it is difficult to see how a compound could be produced at "four cents" per pound. Should the proposition of "the only household money-making article in the world" fall into the hands of any readers of this paper, they will be quite safe in firing it into the waste basket.

The Patriot's Boast.

BY ANGUS MCKYE.

I give of my relatives far and wide, by mountain, stream, and sea; Not one I hold; I yield them all, with a lavish heart and free; My brother who worked in the Squeezil works, another who dug the drains, And thawed the frost from the frozen pipes, and plugged the leaky mains, Another who plowed the fertile glebe, and gathered the golden sheaf, Another who slew the fatted calf, and furnished the town with beef, My uncle who lived in Saskatchewan, three cousins who played in the band, With a glowing heart, I have given them all to fight for the Motherland. Not once did they ask, as I urged them forth,—"Why don't you go along?" They know I'm needed here at home, to sing my little song, And advertise with my eloquence, the bone of the sacred cause; For some serve best with bayonets, and others with their jaws. I must stay and weigh the groceries, and measure the yards of cloth, And see to my deals in real estate, and churn my loyal froth. But I've sacrificed my relations, with a "trooly loyal" hand. I've lavished them all, at the sacred call of the dear old Motherland.

Spring in the Niagara District.

With the coming of spring in the Niagara Peninsula, there is a general awakening to the fact that the trials, tribulations, worries, pleasures, profits, etc., peculiar to a busy season in the fruit business are about to recur. The growers from Hamilton east to St. Catherine's and Niagara-on-the-Lake, have, in years gone by, been more prepared at the last of March for the advent of spring than they are this year. During the latter part of last week, when a representative of this paper journeyed through the district from Hamilton to Vineland, there was still considerable pruning to be done. In some localities very thorough work had been done last year and the demands were not so great on the pruners during the winter of 1915-16. In the case of grapes and peaches, especially the former, it is almost absolutely necessary, however, that they be pruned each year, and that it be completed before the season opens up when the dormant-wood spray is applied. Small fruits and berries are generally supreme throughout the district but there are some good apple orchards and they are generally in very good shape. The campaigns which have been carried on for better pruning and more thorough spraying have brought good results. The growers of the Niagara District, however, are generally awake to all such requirements, and many of the orchards seen by the writer should produce good, clean fruit, if well sprayed, without any further pruning this spring. It is not customary to prune pears extensively unless it be to cut out blight. Cherries, too, can get along without a great deal of pruning.

As an instance of the lateness of the season, it might be said that on March 23, 1915, they were scraping their roads in some parts of the District. This year on that date cutters were still gliding easily over the snow-covered roads.

Labor.

It will require some hard work on the part of the growers in the Niagara district this year to handle their crops. Many of the laborers and sons of the growers, as well as the growers themselves, are in khaki, either in Canada or in France. Help will be exceedingly scarce this spring, but the growers feel that they can some way or other get along until it is time to harvest, when a great many of the pickers come from the cities. The pickers include in their number a great many women and children, but they are accustomed to the work, having done it for several seasons. Unless the scarcity of men in the city causes them to be drafted into different forms of city employment, they should be available again this year when picking begins. That dearth of farm hands which will be felt seriously throughout Canada this summer, will, after all has been considered be felt seriously in the Niagara District as well.

Prospects.

All the different kinds of fruit in the Niagara Peninsula, that show at this season of the year whether or not they will produce fruit in 1916, promise a bountiful harvest. Peaches, plums, pears, cherries and apples all are full of buds. There has been no cold weather, such as would likely injure either the trees or the buds. About ten below zero was the coldest reported, which is not severe enough to cause any apprehension. The most encouraging fact of all to a visitor of the district, is that all are unanimous in declaring that if nothing intervenes, and unseasonable frosts do not take place the crop will be large. Berries and grapes cannot be judged at the present time. In the case of cane berries and grapes, the wood has yet to be produced upon which the fruit will grow this season. Only unseasonable frosts, or extremely inclement weather will forestall a good crop this year.

### Organization.

For a number of months there has been a movement on foot in that district which extends from the city of Hamilton eastward almost to Jordan, to organize the producers and dealers into one body, or come to some understanding that will permit of more efficient marketing. From Jordan to Niagara-on-the-Lake their system of marketing, owing to their location and to transportation facilities, is somewhat different from those which obtain in the area which lies farther west. There are in the first mentioned district several factions which must, or are, being taken into consideration. In the first place there are a few successful co-operative associations which do not care to imperil their future by entering into any obligations which may restrict their field, or hinder them in their work. In the second place, there are some successful growers tied up with some unsuccessful associations. Again, there are the independent growers, some who do not desire to belong to any organization, and some who do but cannot. Fourthly, there are the dealers who have handled a great quantity of the Niagara production. All of these factors or factions have their connections in the different markets of the country. It is felt that these connections should be maintained in order that the crop may be distributed. The term amalgamation has been applied to this movement which is now on foot to weld all these different factors into one large organization. If such can be accomplished it should be a wonderful improvement over present methods of selling, and even if it could not be perfected inside of five years those who are interested in such should not be discouraged. "More haste less speed" might apply in this case very well; less speed particularly when the new-born organization begins to operate.

### A Letter from Rainy River.

EDITOR "THE FARMER'S ADVOCATE":

May I just say a word on the letters of W. C. Good and W. L. Martin. They should, if they do not, voice the sentiments of every thinking man in Canada, and most especially of the farmers. No farmer can afford, in the twentieth century, to be tied to any political party. It is very fine for lawyers, lumber company managers, and retired parasites, who sit in ease and luxury by the sweat of another man's brow, to come around at election time and say to the farmer: "You are the backbone of the country," and a good

strong backbone he must have, too, or it would have been broken long ago by the loads they keep piling upon him. The Conservatives tell us the Liberals are "crooked"; the Liberals say the Conservatives are "crooked," and candidly I believe both of them are, and I firmly believe that so long as party politics exist, just so long will grafters and legalized robbery go on at the expense of the public. In our district we took, I think, a step in the right direction last summer when we organized an independent association. Every constituency in the Province of Ontario, yes, in the Dominion of Canada should organize. They may not all be able to put men in the field at the first general election, but if they organized and began at once to educate, study and debate on every political question of vital importance, and above all to educate the youth of the country, the time is not far distant when politics will be revolutionized. W. L. Martin is entirely right when he says we have not enough farmers in parliament. But why are they not there? Simply because our elections in the past have been so utterly corrupt, and no farmer can afford to buy his way into power, so he sits quietly back and watches his wealthy city cousin go to parliament year after year, give the railroad companies a few million dollars, incorporate and protect manufacturers, sell to themselves and their chosen friends, Canada's resourceful forests for merely nothing, and then quietly tell the farmer the country is at war and we must economize. Let us shake off the shackles and break away from such methods, choose an independent man now, and begin to educate the community to the needs of the people, and when election time comes put an honest, industrious farmer in the field and stick by him, see that he is elected honestly and uprightly, that he is the servant of the people instead of their master, and political corruption will be a thing of the past.

Then will come direct legislation; and a man will be permitted to vote on a platform or any plank in a platform without voting for the man and vice versa. Manitoba is making rapid strides in solving the problems of political economy. Experience for her has been a hard teacher, but it looks as if she is to be the leader

of the provinces with woman suffrage, direct legislation, and total prohibition in one single session of parliament. Let us not be slow in following this good example.

This little Northern District, which is somewhat forgotten by older Ontario, is progressing favorably, and very much alive on all questions of interest. The valley has undertaken to recruit a full battalion of soldiers, which is going to leave the farmers without help, and a number of farms untenanted.

Our Potato Growers' Co-operative Association is still to the fore, and increasing its membership every year. The Association handles the bulk of produce of the valley on a commission basis. Every farmer knows just exactly what his produce sells for direct to the consumers. In this way the middleman is eliminated, and the farmer gets the benefit. In connection with the Association the past year, a number of farmers clubbed together and built a cheese factory which has been a decided success. We had only twenty-eight patrons last year, but expect a number more this year. In spite of the fact that the factory was not completed until June those twenty-eight farmers received over \$3,000. The cheese was all No. 1 export, and found a ready market. This may not seem a very great achievement to our old Ontario reader, who is not acquainted with the difficulties in our way, of bush land, bad roads, land held for speculation, and untenanted, and small, cleared farms, but to us it is an achievement which five years ago we would have considered an utter impossibility.

Improvements are going on the same as before the war. Last summer being very dry a great deal of land was cleared up and made ready for this year's crop. Three beautiful, modern bank barns were erected last summer in a radius of three miles, ranging in size from 50 feet by 80 feet to 50 feet by 100 feet, which are a credit to the district and bespeak prosperity.

In closing I wish "The Farmer's Advocate" every success, and may it continue the good work of educating the Ontario farmer along the right lines, and giving him a broader view of vital questions than he has heretofore had.

A RAINY RIVER FARMER.

Rainy River District, Ont.

## Toronto, Montreal, Buffalo and Other Leading Markets.

### Toronto.

Receipts at the Union Stock Yards, West Toronto, Monday, March 27, were 125 cars, 2,311 cattle, 1,061 hogs, 30 sheep, 162 calves, 117 horses. Choice, heavy steers, \$8.25 to \$8.65; choice butchers', \$8 to \$8.25; good, \$7.75 to \$8; medium, \$7.40 to \$7.70; common, \$7 to \$7.25; cows, \$4.75 to \$7.25; bulls, \$5.25 to \$7.25; milkers and springers, \$60 to \$100; feeders \$7 to \$7.50; stockers, \$6 to \$6.50, and \$6.75; calves, sheep and lambs steady; hogs, \$10.90 to \$11, weighed off cars.

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

	City	Union	Total
Cars	58	506	564
Cattle	869	5,323	6,192
Hogs	1,440	11,579	13,019
Sheep	51	206	257
Calves	115	904	1,019
Horses	42	2,217	2,259

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

	City	Union	Total
Cars	29	302	331
Cattle	351	3,683	4,034
Hogs	564	9,384	9,948
Sheep	208	325	533
Calves	48	692	740
Horses	75	81	156

The combined receipts at the two markets for the past week show an increase of 233 cars, 2,158 cattle, 3,071 hogs, 279 calves, and 2,103 horses; and, a decrease of 276 sheep, compared with the corresponding week of 1915.

Receipts of live stock for the past week have been fair in some classes, while in others they have been far from equal to the demand. Trade was good in every class, with prices firm for all well-finished stuff, but for common half fat, unfinished animals it was slow in comparison with good to choice quality.

Butchers' Cattle.—Although on Monday there were about 2,400 cattle on sale there was an active trade, while

the good to choice, well-finished cattle lasted, but they were quickly bought up at firm prices compared with our last report. Common and medium quality cattle were slow sale, as the percentage of the run of this class was large, but values even for them held about steady, and for each succeeding day during the week this has been repeated. For one choice steer 23 months old \$8.75 was paid, and for about three or four loads in lots of five, eight and ten animals, \$8.50 per cwt. was paid. The bulk of good cattle sold from \$7.80 to \$8.15.

Stockers and Feeders.—The demand for good feeders, ranging from 850 to 1,000 lbs. is steadily growing larger, while the receipts of these classes of feeders have not been equal to the demand. This has led up to many of the half-finished steers, that had been brought on the market as butchers', being taken as feeders at prices ranging from \$7 to \$7.50 per cwt., and then there was not enough to supply the demand, as dealers report having orders on hand that they could not fill.

Milkers and Springers.—Trade for these was more active, and prices stronger at the close than at the beginning of the week. Values reached up to \$100, \$110 and \$115 for extra good and choice, fresh milkers and forward springers. We heard of orders for several car loads that were not filled at the close of the week. The common and medium milkers and springers, on the other hand, are comparatively plentiful with prices no more than steady.

Veal Calves.—There was a moderate supply of common and medium, with few good, and scarcely any of the choice class being brought forward. About two-thirds of the offerings are of the Holstein breed, which accounts for many of the inferior quality. Values for the inferior and common, as well as the medium, were easier, while the few good and choice were very firm, as, seemingly, prices for these have reached their limit.

Sheep and Lambs.—Scarcely enough have been offered day by day to make

a market, and values have remained firm for sheep, and one lot, of 13 yearling lambs sold for \$13.85, which constitutes a new record; being 15 cents higher than was ever paid for this class on the Toronto market.

Hogs.—A fairly liberal supply came on the market, which enabled the packers to reduce values about 25 cents per cwt. from the close of the previous week, but on Thursday again advanced to \$10.90.

Butchers' Cattle.—Choice heavy steers at \$8.25 to \$8.50; choice butchers' cattle at \$8 to \$8.25; good at \$7.75 to \$8; medium at \$7.40 to \$7.65; common at \$6.55 to \$7; choice cows, \$6.75 to \$7; good cows, \$6.25 to \$6.50; medium cows, \$5.50 to \$5.85; common cows, \$5 to \$5.50; canners and cutters, \$4 to \$4.50; light bulls, \$5.50 to \$6; heavy bulls, \$7 to \$7.30.

Stockers and Feeders.—Choice feeders, 850 to 950 lbs., each, dehorned, \$7 to \$7.40; steers, 750 to 800 lbs., \$6.50 to \$7; and light stockers, 500 to 700 lbs., each, \$6 to \$6.25.

Milkers and Springers.—Choice milkers and springers at \$90 to \$115; good cows at \$70 to \$80; common cows at \$45 to \$65.

Veal Calves.—Choice, \$11 to \$11.75; good, \$9.50 to \$10; common, \$5.50 to \$6.50; heavy, fat, \$7 to \$8.50.

Sheep and Lambs.—Light sheep at \$8.50 to \$10; heavy sheep at \$7.50 to \$8; cull sheep, \$5.50 to \$6.25; lambs, \$11.50 to \$13.50; cull lambs, \$8.50 to \$9.50.

Hogs.—Selects, fed and watered, \$10.50; \$10.15 f.o.b., and \$10.90 weighed off cars at the packing houses; 50c. per cwt. is being deducted for heavy, fat, and light hogs; \$2.50 off for sows, and \$1 for stags from prices paid for selects; half of one per cent. off all hogs, for inspection.

### Country Produce.

Butter.—Prices remained about stationary on the wholesales during the past week. Creamery pound squares, fresh made, 35c. to 36c.; creamery cut squares, 33c. to 35c.; creamery solids, 32c. to 34c.; separator dairy, 28c. to 30c.

Eggs.—New-laid eggs again declined

on the wholesales, as heavy shipments are being received. They now sell at 26c. to 27c. per dozen.

Cheese.—New, large, 19c.; twins, 19½c. per lb.

Honey.—Extracted, 13c. to 13½c. per lb.; combs, per dozen sections, \$2.40 to \$3.00.

Beans.—Prime, \$4.25 to \$4.50; hand-picked, \$4.50 to \$4.75 per bushel.

Potatoes.—Ontarios, per bag, car lot, \$1.65 and \$1.70; New Brunswick, per bag, car lot, \$1.80 and \$1.85.

Poultry.—Live weight: chickens, 15c. to 18c. per lb.; ducks, 18c. per lb.; geese, 12c. per lb.; turkeys, young, 22c. per lb.; turkeys, old, 20c. per lb.; fowl, heavy, 18c. per lb.; fowl, light, 16c.

### Hides and Skins.

City hides, flat, 18c.; country hides, cured, 16c. to 17c.; country hides, part cured, 15c. to 16c.; country hides, green, 14c. to 15c.; calf skins, per lb., 18c.; kip skins, per lb., 16c.; sheep skins, city, \$2 to \$3; sheep skins, country, \$1.50 to \$2.25; lamb skins and pelts, \$1.20 to \$1.25; horse hair, per lb., 37c. to 40c.; horse hides, No. 1, \$4 to \$5; No. 2, \$3 to \$4. Wool, washed, 40c. to 44c.; wool, rejections, 33c. to 35c.; wool, unwashed, 28c. to 32c.

### Breadstuffs.

Wheat.—Ontario, No. 2 winter, per car lot, \$1 to \$1.02; No. 1 commercial, 96c. to 98c.; No. 2 commercial, 94c. to 96c.; No. 3 commercial, 91c. to 92c.; feed wheat, 85c. to 88c.; Manitoba No. 1 northern, \$1.08¼, Fort William; No. 2 northern, \$1.05¼, Fort William; No. 3 northern, \$1.03¼, Fort William.

Oats.—Ontario, No. 3 white, 42c. to 43c., according to freights outside; commercial oats, 41c. to 42c.; No. 2 Canada Western, 42¼c.; No. 3 Canada Western, 40¼c.; extra No. 1 feed, 40¼c.; No. 1 feed, 39¼c., in store, Fort William.

Barley.—Malting, 62c. to 64c.; feed barley, 59c. to 62c., according to freight outside.

Rye.—No. 1 commercial, 86c. to 8

# THE ROYAL BANK OF CANADA

Capital Authorized - - - \$ 25,000,000  
 Capital Paid up - - - 11,500,000  
 Reserve Funds - - - 13,000,000  
 Total Assets - - - 150,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province of the Dominion of Canada

Accounts of Farmers  
 Invited  
 Sale Notes Collected

Savings Department at all Branches

according to freight outside; rejected, 83c. to 85c., according to sample.

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

Buckwheat.—Nominal, car lots, 68c. to 69c., according to freights outside.

American Corn.—No. 3 yellow, 78c., track, Toronto.

Canadian Corn.—Feed, 68c., to 70c., track, Toronto.

Flour—Ontario—Winter, \$4.05 to \$4.20, according to sample, track, Toronto; bulk, seaboard, \$4.15 to \$4.20, prompt shipment. Manitoba flour—First patents, \$6.50; second patents, \$6, in jute; strong bakers', \$5.80, in jute; in cotton, 10c. more.

### Hay and Millfeed.

Hay.—Baled, car lots, track, Toronto, No. 1, \$17 to \$18; No. 2, \$14 to \$15. Straw.—Baled, car lots, \$6.50 to \$7, Toronto.

Bran.—\$24 in bags, Montreal freight; shorts, \$26, Montreal freight; middlings, \$27, Montreal freight; good feed flour, per bag, \$1.66 to \$1.70, Montreal freight.

### Wholesale Fruits and Vegetables.

Old carrots again advanced on the wholesales during the week, and now sell at \$1.10 to \$1.25 per bag; old cabbage is quite firm in price, the bulk now selling at \$2 per bbl., the new Florida cabbage bringing \$2 per hamper (about half a barrel.) Potatoes have kept about stationary in price, although there is a firmer feeling being reported. Florida tomatoes are coming in freely, and are generally of choice quality, selling at \$2.25 to \$3 for large sizes, and \$3 to \$3.25 for small, per six-basket crate. Home-grown mushrooms of splendid quality are on sale in pound boxes at 60c. and 65c. each. Some No. 1 Spy apples, which arrived lately, are selling as high as \$7 per bbl. Hot-house rhubarb has been rather scarce, and now sells at 90c. to \$1.15 per dozen bunches. Florida strawberries also have advanced to 60c. per box, as there has not been nearly enough to supply the demand.

Apples.—Spys, \$4 to \$7 per bbl.; Greenings and Baldwins, \$3 to \$5 per bbl.; Russets, \$3 to \$4.50 per bbl.; Kings, \$3.50 to \$5 per bbl.; imported, \$2.75 and \$3 per box; Ontarios, \$1.50 to \$2 per box.

### Montreal.

The cattle markets continued very strong locally. Supplies of all kinds were light, and demand continued in moderate volume. Choice steers sold as high as 8 1/2c. per lb.; fine being 7 1/2c. to 8c., and ordinary grades of steers and heifers sold from 6 1/2c. to 7c. per lb. Butchers' cows ranged from 5 to 7 1/2c. per lb.; bulls sold from 5 1/2c. to 7 1/2c. Canning stock continued in very strong demand, and cows sold at 3c. to 3 1/2c. per lb., and bulls at 4c. to 5c. per lb. Supplies of sheep and lambs were exceptionally light and prices correspondingly high. Sheep sold at 7 1/2c. to 8 1/2c. per lb., while lambs were taken at 11 1/2c. to 12c. per lb. Demand for calves was good, and the market ranged generally from 8c. to 9c. per lb. Hogs were firm at the recent advance, and selected lots sold at 11 1/2c. to 11 3/4c. per lb., weighed off cars.

Horses.—Demand for horses was not very

satisfactory to dealers. Prices, however, continued firm. Heavy draft horses weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft horses weighing 1,400 to 1,500 lbs., \$150 to \$200 each; small horses, \$100 to \$125 each, and culls \$50 to \$75 each. Fine saddle and carriage horses are steady at \$200 to \$250 each.

Dressed Hogs.—Demand for dressed hogs was active, and supplies were none too plentiful. The market was quite firm in sympathy with the market for live hogs, and quotations ranged from 15 1/2c. to 15 3/4c. per lb. for abattoir-dressed, fresh-killed stock.

Poultry.—The market for poultry was very strong, although demand was not specially active. Choice turkeys were quoted at 27c. to 28c., and ordinary stock down to 25c. and 24c. Chickens were 22c. to 24c., and fowl 18c. to 19c. Ducks were 18c. to 20c., and geese 17c. to 18c.

Potatoes.—The market for potatoes held very steady for a long time now, but was slightly easier last week at \$1.70 per bag for green mountains and Quebec varieties, per bag of 90 lbs., ex-track, and 1.85 to \$1.90 for smaller lots, ex-store.

Maple Syrup and Honey.—Dealers are beginning to watch the prospects for the new crop of maple syrup. Quotations were steady at 95 cents for 8-lb. tins, \$1.10 for 10-lb. tins, and \$1.40 for 13-lb. tins, with 13c. per lb. for maple sugar. Market for honey was steady at 15c. to 16c. for white clover comb, 12 1/2c. to 13c. for white extracted, 12c. to 13c. for brown clover comb, and 10 1/2c. to 11 1/2c. for extracted. Buckwheat honey sold at 9 to 11c.

Eggs.—Receipts from the country increased as the spring advances and the weather grows milder, and the country roads better. As a consequence, prices were slightly lower, being 28c. to 29c. per dozen for fresh laid. Some held eggs were still available at around 25c. for selects, and 22c. for No. 1 candled.

Butter.—It is thought that supplies of butter will prove little more than sufficient to carry the trade through and as a consequence the price was firm. Choicest was quoted at 33c. to 34c.; fine at 32c. to 32 1/2c., and seconds at 31 1/2c. to 32c., dairies being 25c. to 27c.

Cheese.—The market for cheese was almost featureless, and prices were unchanged at 18 1/2c. to 19c. for finest Westerns, and 1/2c. less for finest Easterns. Fine cheese was quoted at 17 1/2c. to 18c., and undergrades 1/2c. less.

Grain.—Wheat has shown no very definite trend one way or the other, but oats were firm and higher. No. 2 Canadian Western were quoted at 52c. to 52 1/2c.; No. 3 Canadian Western at 50c. to 50 1/2c.; extra No. 1 feed 50 to 50 1/2c.; No. 1 feed, 49c. to 49 1/2c., and No. 2 feed at 48c. to 48 1/2c. Ontario and Quebec No. 2 white is up to 48c. and 48 1/2c.; No. 3 is 47c. to 47 1/2c., and No. 4 is 46c. to 46 1/2c., per bushel ex-store.

Flour.—Demand for flour was dull, and prices were steady at \$6.60 per barrel for Manitoba spring wheat first patents, in bags, and \$6.10 for seconds, with \$5.90 for strong bakers. Ontario winter wheat flour was 20c. lower at \$6.10 per barrel for patents, in wood, and \$5.50 to \$5.60 for straight rollers, the latter being \$2.60 per bag.

Hay.—The market was dull and steady. No. 1 hay continued to sell at \$21 per ton car loads, ex-track; extra good No. 2, \$20.50, and No. 2 \$20, while No. 3 was \$18.50, ex-track.

Hides.—The market for hides was quite active, and the tone firm but steady. Calf skins were 21c. per lb. for No. 1, and 19c. for No. 2. Beef hides were 21c., 20c. and 19c. per lb. for No's. 1, 2 and 3, respectively. Sheep skins were \$2.45 each, and horse hides \$2.50 to \$3.50 each. Rough tallow was 1 1/2c. to 2 1/2c. per lb., while rendered was 7c. to 7 1/2c. per lb.

### Buffalo.

Cattle.—With receipts considerably more liberal than the preceding week, trade was generally somewhat weaker last week, but even at a decline figuring in some cases from a dime to fifteen cents under the week before, prices ranged high. Most female and bull stuff sold steady, but on steers the trade looked somewhat lower. There were between thirty-five and forty cars of

shipping order steers, and these ranged up to \$9.65. Cattle are reaching the highest top notches for March within the history of the trade. A good kind of shipping steers sold here the past week from \$8.80 to \$9.10. The lowest steers for shipping demand went east at \$8.50. Not a great many weeks ago, New York was getting steers at \$7.50 to \$7.75 that were showing a pretty decent kill, but the rapid advance has placed steers at such a high level that the east can use nothing under the \$8.50 notch. Light and handy steers sold up to \$8.80 to \$9, but they were a desirable kind. Steers and heifers mixed are bringing around \$7.75 to \$8, with some in-between kinds as low as \$7.50 to \$7.60, but they are only in feeder flesh. Heavy heifers sold the past week up to \$8.10 to \$8.40, the high price taking quite a few. Fancy heavy, fat cows are ranging up to \$7 to \$7.25, and even higher for the fancy kinds. Stockers and feeders are coming in small numbers, best feeders being quoted up to \$7.25 to \$7.50. Best bulls sold the past week up to \$7.75, with a Canadian springer topping the dairy trade at \$125. Feeling is for a strong cattle market now right along until the spring, as receipts are running moderately, and there are no more cattle coming to market than are needed. Receipts for the week totaled 4,625 head, as against 3,750 head for the previous week, and 2,100 head for the corresponding week last year. Quotations:

Shipping Steers.—Choice to prime natives, \$9.15 to \$9.65; fair to good, \$8.50 to \$8.85; plain, \$8.15 to \$8.35; very coarse and common, \$7.65 to \$7.90; best Canadians, \$8.50 to \$8.75; fair to good, \$8 to \$8.25; common and plain, \$7.50 to \$7.85.

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

Cows and Heifers.—Prime weighty heifers, \$7.50 to \$8.15; best handy butcher heifers, \$7.25 to \$7.75; common to good, \$6 to \$7; best heavy, fat cows, \$6.50 to \$7; good butchering cows, \$6 to \$6.50; medium to fair, \$5 to \$5.75; cutters, \$4.25 to \$4.75; canners, \$3.25 to \$4.00.

Bulls.—Best heavy, \$7 to \$7.50; good butchering, \$6.50 to \$6.75.

Milchers and Springers.—Good to best, in small lots, \$75 to \$90; in car loads, \$60 to \$70.

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

Hogs.—Last week started with prices ruling in favor of the buying side, Monday's top being \$10.10, bulk \$9.90 to \$10, and pigs generally \$8.75. After Monday the receipts were light, and the next four days prices were on the jump, Friday's range on better weight grades being from \$10.25 to \$10.35, with one deck reaching \$10.40, and the bulk of the pigs moved at \$9.25. Roughs the fore part of the week sold at \$9 and \$9.10, and during the high time or Friday they brought up around \$9.25 and \$9.35. Receipts last week figured approximately 24,300 head, being against 21,263 head for the week previous, and 23,175 head for the same week a year ago.

Sheep and Lambs.—Prices held to a high level last week, a new record being made for sheep. Monday top lambs sold from \$11.75 to \$12; Tuesday nothing brought above \$11.75; Wednesday's top dropped to \$11.70, with some selling down to \$11.50, Thursday one load reached \$11.75, and Friday the general run of sales on most desirable lambs were made from \$11.75 to \$11.85. Cull lambs the entire week sold from \$11 down. Yearlings brought up around \$10.50, few reaching \$10.75 on Monday, top wether sheep scored \$9.50, being the highest price for sheep ever known and the ewe range was from \$8.75 down. Receipts last week were 17,300 head, as against 21,529 head for the week before, and 14,000 head for the same week a year ago.

Calves.—Prices last week struck the lowest level this year. Monday top veals sold at \$11.50; Tuesday best ones went at \$11 and \$11.25; Wednesday and Thursday none brought above \$10.50, and Friday, under an improved demand, choice lots landed generally at \$11, with

a few \$11.25. Cull lambs were very unsatisfactory sale all week, selling from \$8.50 down. Receipts last week were 2,675 head, as compared with 2,740 head for the week previous, and 2,265 head for the corresponding week a year ago.

### Chicago.

Cattle.—Beeves, \$7.75 to \$10.05; stockers and feeders, \$6 to \$8.25; cows and heifers, \$4.10 to \$9; calves, \$8 to \$10.50.

Hogs.—Light, \$9.35 to \$10; mixed, \$9.55 to \$9.90; heavy, \$9.45 to \$9.90; rough, \$9.45 to \$9.60; pigs, \$7.50 to \$8.60.

Sheep.—Native, \$8.50 to \$9.25. Lambs.—Native, \$9.75 to \$11.70.

### Gossip.

Attention is directed to the advertisement of Chas. E. Rogers, Ingersoll, Ont., in this issue. He is offering for sale his Jersey stock bull De La Roche Duke (Imp.)

On April 13, J. B. Cowieson & Sons, Queensville, well known through these columns, will hold his second annual sale of pure-bred stock, Jersey cattle, Berkshire and Tamworth swine, 40 head of Shropshire sheep and lambs, and some horses, including a Thoroughbred stallion will be offered. See the advertisement in this issue, and write Messrs. Cowieson for particulars.

W. A. Bryant, Strathroy, Ont., has sold his farm, and on April 4 will disperse his herd of Holsteins and flock of Oxford Down sheep. Francy King Ormsby, 14030, is the herd bull. His dam gave 605 lbs. milk and 29.10 lbs. butter in 7 days, and her sister made 33 lbs. butter in 7 days. The young stuff on sale will be from this sire. There are 20 Oxford ewes, and 2 rams in the offering. See the advertisement in this issue.

### Sale Dates Claimed.

April 4—W. A. Bryant, Strathroy, Ont.; Holsteins and Oxford Down sheep.

April 7—J. Lloyd-Jones, Burford, Ont.; Shropshires, Southdowns, Welsh ponies, Berkshires and cattle.

April 12—Edmund Baker & Sons, Winchester, Ont.; Holsteins.

April 13—A. & G. Forbes, West Montrose, Ont.; dual-purpose Shorthorns.

April 13—J. B. Cowieson & Sons, Queensville, Ont.; pure-bred stock.

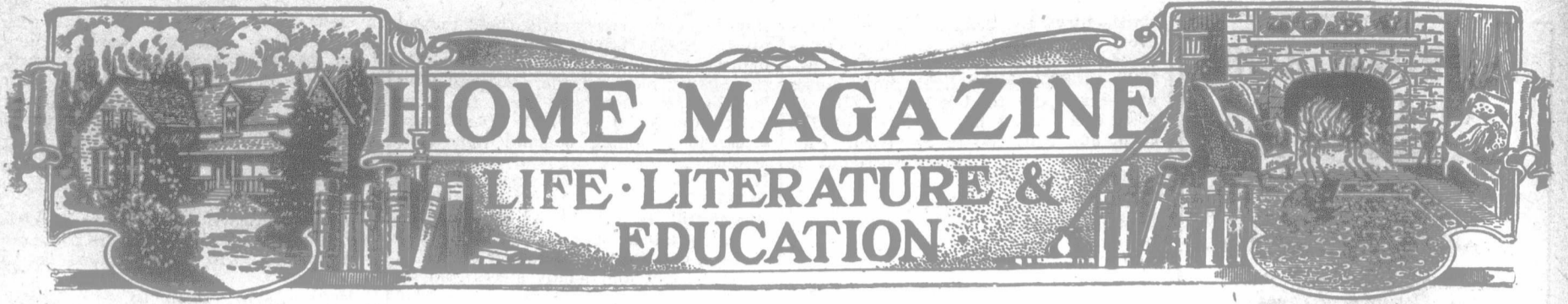
April 19—James Benning, Williamstown, Ont.; Ayrshires.

### A Record Cow.

On another page in this issue appears an illustration of the great Jersey cow Sunbeam of Edgeley. This cow freshened Apr. 29, 1914, started her test May 1 after a severe attack of milk fever, milked her heaviest in June and finished her test April 30, 1915 with a record of 18,744 lbs. milk and 926 lbs. fat. Her previous record at five years of age was 14,449 lbs of milk and 727 lbs. fat. She was 7 years old at the commencement of her recent test and has a full sister and two daughters in the R. O. P. One a three-year-old with a record of 10,850 lbs. milk and 598 lbs fat to her credit. Sired by Brampton King Edward 69190 she was bred and is owned by James Bagg & Sons, Edgeley, Ont.

### A Big Sale.

Readers will be interested in the extensive sale to be held by J. Lloyd-Jones, Burford, Ontario, on Friday, April 7. Mr. Lloyd-Jones is dispersing his flock of pure-bred Shropshire and Southdown sheep. This flock was established 20 years ago, and has produced many prize-winning and champion sheep of both sexes. A few good Welsh ponies will be offered, some choice Berkshire pigs, and a few good cows and steers. The offer will include 25 Shropshire breeding ewes, many of which have choice lambs at foot; 30 shearling ewes; 5 rams and 10 Southdown ewes. Two horses and 20 head of cattle will be sold, and the farm, consisting of 160 acres, will also be offered. Look up the advertisement in this issue and plan to attend this big sale.



General Sir Percy Lake.  
Commander-in-Chief in Mesopotamia.

### Spring Song.

Make me over, mother April,  
When the sap begins to stir!  
When thy flowery hand delivers  
All the mountain-prisoned rivers,  
And thy great heart beats and quivers  
To revive the days that were,  
Make me over, mother April,  
When the sap begins to stir!

Take my dust and all my dreaming,  
Count my heart-beats one by one,  
Send them where the winters perish;  
Then some golden noon recherish  
And restore them in the sun,  
Flower and scent and dust and dreaming,  
With their heart-beats every one!

Set me in the urge and tide-drift  
Of the streaming hosts a-wing!  
Breasts of scarlet, throat of yellow,  
Raucous challenge, woosings mellow—  
Every migrant is my fellow,  
Making northward with the spring.  
Loose me in the urge and tide-drift  
Of the streaming hosts a-wing!

Let me hear the far, low summons,  
When the silver winds return:  
Rills that run and streams that stammer  
Goldenwing with his loud hammer,  
Icy brooks that brawl and clamor,  
Where the Indian willows burn;  
Let me harken to the calling,  
When the silver winds return.

Let me taste the old immortal  
Indolence of life once more;  
Not recalling nor foreseeing,  
Let the great slow joys of being  
Well my heart through as of yore!  
Let me taste the old immortal  
Indolence of life once more!

Give me the old drink for rapture,  
The delirium to drain,  
All my fellows drank in plenty  
At the Three Score Inns and Twenty  
From the mountains to the main!  
Give me the old drink for rapture,  
The delirium to drain!

Only make me over, April,  
When the sap begins to stir!  
Make me man or make me woman  
Make me out or ap or human,  
Cup of flower or cone of fire,  
Make me anything but never  
When the sap begins to stir!

RUSS CARMAN.

### The Women of Europe and the War.

BY EDITH LANG.

In the early staggering days of the war, it is interesting to note that the governments of Europe turned to two organized bodies of women to lead their Sisters. These were the Suffragists and the Trade Unionists, both of whom were not only well organized, and so able to undertake effective work immediately, but were organized and trained to fight for the freedom, political, and industrial, of the weaker sex, and so the appeal of the allies' cause—the fighting for the right of the small nations to their separate political and industrial existence came to them with irresistible force.

In Belgium, for instance, it was Madame Brigode, who, presiding at a National Suffrage Convention at the moment when Germany's ultimatum came, saw the necessity of the centralization of feminine energy, and, in all the rush and almost overpowering anxiety of everyone to aid the wounded already pouring in from the frontiers, it was she who organized and started, within eight days, the "Belgian Patriotic Union," which is still the clearing house of all the women's work. Well might she say in her Christmas Message, "war has once more proved woman's inherent capacity for constructive work."

And in England, too, the trained leaders of women spoke out at once and, as early as August 5th, Mrs. Fawcett's clarion call went out "Let us show ourselves worthy of citizenship, whether our claim to it be recognized or not." The response to this call has been as wonderful as it has been varied, but before dealing with it, let us recall the work of the women of the neutral countries, who have been also busily engaged, not only in healing the physical wounds of the combatants, but in helping their own destitute at home who were out of work and in distress, because of the dislocation of trade and the effect on world markets which this war entails. For "no nation can live to itself" and the solidarity of the whole world's interest in maintaining peace in the future has never been better demonstrated than it is to-day.

To the people of Holland will belong eternal honour for the services which they have rendered to the French and Belgian Refugees, pouring in thousands over their borders. Other nations have done this, too, or subscribed huge sums to help, but in proportion to their population and their resources, the Dutch have performed Herculean feats. Sluis, a village of 1500 inhabitants had an influx of 8,000 refugees in a night. Hauswert, with its usual 1,200 folk, received 17,000 unbidden guests to its hospitable heart, and so on. No wonder that coal sheds, potato huts, barges, even market places converted into houses by stretching sailcloth across the trees, had to be used for shelters, while babes were born in the streets and children and full grown men besides were trampled to death in the crowd.

On the night after the bombardment of Antwerp, an English girl was traveling from London to Goch on the Holland-German frontier with a party of Austrian and German women who had been stranded helpless and alone in England on the outbreak of war. These women had been befriended by the International Suffrage Alliance who then organized mutual repatriation parties. The English women in Germany were collected by the Suffragists of Berlin, brought to Goch and there exchanged for the parties of Austrian and German women. One such trip started from England the day after the bombardment of Antwerp, and the English girl in charge, Miss Walshe, saw the refugees literally "pouring" into Flushing,

some 80,000 refugees into a town of 20,000 inhabitants. She saw helpless almost hopeless women and children starving for want of food. She was asked for a cup of milk by a poor woman about 50 years old, who was accompanied by her old father of 82 years, and her daughter of 25 years who had that moment given birth to a babe, for whom she was seeking a drink of milk. She peeped into an old potato hut, without a window and half full of potatoes and there she discovered a young woman alone and untended with her new-born baby. No wonder her heart was touched. She sped back to London and told her pitiful story in the office of the International Suffrage Alliance. Miss Chrystal Mac-Millan heard it, and with her usual resourcefulness and energy, set to work at once, and within twelve hours was leaving England once more for Holland, carrying with her \$1,000.00 worth of food, the exportation of which had involved interviewing government officials to get permission to take food out of England and necessitated special arrangements with railway and steamship authorities. The Dutch people took charge of the distribution of the food, but Miss Mac-Millan wrote of all she saw in the English papers and within a fortnight had collected \$10,000.00 worth of food, and \$6,000.00 in cash.

Another work undertaken by the International Suffrage Alliance, of special interest to Canadians was the tracing of refugees, prisoners and other missing relatives. Women travelled through the invaded parts of Belgium and France tracing and collecting the many school-girls whose parents had left them there, all unconscious of an impending war. One lady succeeded in finding three Canadian girls near Brussels. They had fled from a burning village by Antwerp and had been befriended by some kindly nuns, until at the end of 10 months they too were reduced to destitution. These girls had not heard from nor been able to communicate with their parents who had sorrowfully given them up for dead, until the joyful cable arrived telling them that their children were safe again in England.

This work of hunting for lost people, with its own joys and its infinite pathos has been the especial work of both the Swiss and French women. In France the organization to handle this work is the National Council of Women, and at their headquarters, Paris, they have a card index of over 400,000 enquires and are tracing an average of 60 people a day. Imagine the skill, the organizing ability and the enthusiasm of the women carrying on depots, investigations and correspondence on such a colossal scale, and in France the women are handling it alone, as they are doing in very department of life outside of the military one and its branches. It is impossible to tell of the many activities of the French women—a few examples of their heroism must tell their own tale. For instance: among the nurses, perhaps M<sup>lle</sup>. Fouriaux stands out—She was running a hospital at Rheims. It was full of severely wounded men, when on September 2, 1914, the approach of the German army necessitated their removal. M<sup>lle</sup>. Fouriaux got them to a hospital train at Epernay, and then worn out by her labours, she set out at 9 p. m. to walk to Rheims which she reached at 3 a. m., just as the enemy was entering the beautiful old city. But she stuck to her post and was afterwards thanked by the German officials for her great devotion in nursing German and French alike.

Or, again, in civil life, one reads of young girls of 22 years of age, secretaries to the Mayors of the communes, staying to carry out the work of the state while the Mayors and Aldermen have gone to fight or have fled to protect their own daughters. At Bouffeghereux on the

Aisne, it was a young teacher who met the Germans on the entry of the town and, preventing panic and encouraging the inhabitants by her heroism, treated their demands with firmness and calm. On the return of the French troops also, she superintended the supplies of food and the identification and burial of the dead, etc.

But interesting and spectacular as has been the war work of the upper and middle class French women, perhaps the most surprising and at the same time the most useful work has been done by the peasant women in agriculture. The French Board of Agriculture report for the past year begins "Grâce à nos femmes (thanks to our women...) the harvest is splendid and the vintage the best in years." It needs imagination to realize what this means. Picture Ontario, for instance, deprived of all its men; large tracts of it actually in the hands of the enemy; imagine the southern part of it scored by trenches to within a few miles of Toronto, with barbed wire entanglements growing amid the grain and machine gun emplacements nestling in every coppice, then think of every farm as robbed of its horses and cattle, and all the trains, lake and canal boats busy in the service of the army. It is under conditions such as these that the widowed wives and bereaved mothers of France have produced and gathered a harvest which will feed their Nation for another year. And not only have the peasant women of France done this, but those also of Russia, Germany and Austria.

In speaking of European women and the war, it is wise and fair to tell also of the valiant deeds of the "enemy" women. Those of Germany appreciated the work of the English Suffragists in seeking to repatriate German women and have worked hard to return the compliment. They have raised big funds for the succour "of innocent aliens" in Berlin, have sent money to relieve distress in Belgium and Poland, where conditions are now so bad that it is reported that no baby under three years has been able to survive. Further, they have carried on workshops and other forms of relief for their own women made destitute through the war and have been indefatigable in making Red Cross supplies, while at least forty of their nurses have received the Iron Cross for distinguished courage on the field of battle, and one has been appointed the first woman army doctor in Germany.

Fewer accounts reach here of the doings of Austrian women, but they too are busy with Red Cross work and on more than one occasion, when all the male telegraph clerks had fled under heavy bombardment, young girls are reported to have remained and taken over control of both telegraph and telephone systems. Many women are doing Canteen work for troops going to or returning from the front, and one woman at least has been decorated for actual service in the field, whether she had accompanied her officer husband. Russian women seem to have a predilection for actual fighting. It does not appeal to our British sense as a right and fit thing, socially, to do, but it at least dispels the fallacy that women cannot fight. For women in Russia and in Serbia too have fought in large numbers. It does not seem to be allowed officially, but it must be "winked at" because one hears of 17 girls in one regiment, while husbands and wives and brothers and sisters seem to be fighting side by side in nearly all. The women who disguise themselves and enlist are naturally the very intrepid ones and the Russian papers delight to tell of their deeds of daring. They make excellent reconnaissance "men" and scouts. One of their Princesses is in the air corps and another woman aviator has been decorated for the accurate plans of the enemy's position which she brought back to her commander, thus enabling him





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o train his guns with such accuracy that he day was won for the Russians. But not only as fighters do the Russian women lead the world. It was the foresight of the Russian military authorities in appreciating the possible value of women army doctors which led to the opening of the universities there to woman medical students and to-day these woman doctors are employed side by side with the men, and upon equal terms to the great satisfaction of all concerned. It must not be forgotten that, besides these more unusual activities of the Russian women, they have also tilled and harvested the crops, are acting as cab-drivers, postal authorities, civil servants etc., etc., besides giving every spare moment and every cent not actually necessary for existence for Red Cross work. One old peasant woman actually gave in her few pennies that she had put by in the summer to buy oil for her lamp in winter. She could not sew well, so she thought it better for her country that she should give the money and sit in darkness during the long winter evenings. And what are the women in the old country doing? It is difficult to know where to begin and what to tell of the wonderful and ingenious ways in which they have risen to the call of their country's need. Within a few days of the declaration of war, the Actresses' Franchise League called a meeting in one of London's biggest theatres to formulate plans of action and the women's emergency corps was formed, the idea of which was the enrollment of women willing to give a portion or the whole of their time to war work. Ten thousand women in London alone registered within ten days, most of them volunteering to do anything or to go anywhere at any time that they should be needed. These women were mostly experts in different lines—Doctors, nurses, chauffeurs, veterinary surgeons, dentists, gardeners, dieticians, remount workers, even aeroplaneists, and many another profession, besides a perfect army of stenographers, messengers and women willing to train for some necessary occupation. This corps has a vast amount of work to its credit. It took over the feeding of the Belgian Refugees in the early days before it was organized by the government, who accepted their offer to do anything at any time literally and sent a frantic telegram asking them to feed 300 starving refugees arriving in London that evening.

Continued on page 578.

### Hope's Quiet Hour.

#### Through Failure to Christ.

St. Peter started boldly to walk on the water, and failed. Finding himself sinking, he cried "Lord, save me!" and immediately Jesus stretched forth His hand and caught him. It was the same way afterwards. When the Apostle was confident in his own strength he went down before temptation. Then—in the moment of his terrible failure—he was caught by that wonderful look which revealed to him the heart of the Master of men.

"Oh, long and dark the stairs I trod  
With stumbling feet to find my GOD:  
Gaining a foothold bit by bit,  
Then slipping back and losing it;  
Never progressing, striving still,  
With weakening grasp and fainting will,  
Bleeding to climb to GOD; while He  
Serenely smiled, unnoting me.  
Then came a certain time when I  
Loosened my hold and fell thereby.  
Down to the lowest step my fall,  
As if I had not climbed at all.  
And while I lay despairing there,  
I heard a footfall on the stair,  
In the same path where I, dismayed,  
Faltered and fell and lay afraid.  
And lo! when hope had ceased to be,  
My GOD came down the stairs to me."

The only defeat worthy of the name is despair. We may be beaten again and again; but each fall should open our eyes to unsuspected weaknesses, and we should set ourselves—with God's help—to strengthen our weak points until they become our strong points. Each "failure" is a challenge to us, rousing us by its sharpness from the easy carelessness of fancied security. When any disease

or danger becomes a menace to mankind the fighting spirit is roused, and the disease itself—by dragging down many victims—invites its own doom.

A young medical student fails to pass an examination. The failure stings him into effort and he makes sure that he will "pass" next time. So he learns far more than the man who passes all his examinations easily. Perhaps the most valuable lesson he has learned is that men may press through failure and achieve victory.

A woman doctor in India had spent a long day in caring for sick women and children. She thought her day's work was done when a man of low caste, who was dying of cholera, was laid at her feet. All night she fought the deadly disease, doing everything in her power to save the poor sufferer from death. She was beaten at last for he died at dawn. Then all the people in the village turned against her. Because she had touched that outcast man she must never touch their women and children again. By an act of Christian kindness she seemed to have shut the door leading to usefulness. But real kindness is never wasted. Six months later the family of the dead man came to her brother, the missionary, for instruction in the Christian faith. They said they had come because they had seen for themselves what love could do. In a short time many hundreds of people in that district were baptized, and soon

success, refusing to submit to defeat. His first play was withdrawn after the fifth performance, but his biographer says, "whining not being to his taste, he averted his eyes and set himself resolutely to work upon 'Sordello.'" That long poem proved unintelligible to the public, and its chilling reception "might have disheartened a poet of less vigorous will than Browning; he merely marched breast forward, and let 'Sordello' lie inert, until a new generation of readers had arisen."

Who can estimate the loss to the world if Robert Browning had submitted to discouragement and given up writing poetry? Who but God knows what the world will lose if you grow discouraged and fail to serve your generation with whole-hearted and glad enthusiasm.

More than fifty years ago a story was written and was rejected by the publishers. For half a century it was lying in a battered old trunk—apparently a dead failure. Then it came out and won for its author fame and money.

No man can judge his own life or the life of any other person. We are easily misled by other appearances, but it is always the inside that counts. The Laodicean church thought itself very prosperous and healthy, saying: "I am rich, and increased with goods, and have need of nothing." Yet its spiritual condition—the inner reality—was very different. It was "wretched, and miserable, and poor, and blind and naked."



The Suez Canal. Underwood & Underwood.

workers were sent out from the village to carry the Gospel to other places. The apparent failure had led to a great and lasting success. Why should we ever submit to despair or discouragement? The road that looks so dark may suddenly be flooded with light. The sun may seem to go down, leaving us desolate and lonely, but God loves to prepare glad surprises for His children, and the sun is not destroyed when it passes out of our sight. Refuse to be dismayed or unhappy, and the day will again dawn, and you will find your life enriched and your soul strengthened by the experiences of the night of sadness.

The name of Robert Browning is a great and honoured name in the world today. He not only climbed to the heights of fame, but he had a clear vision of God himself and had the power to arouse in others a new vision of the Unseen. But he fought his way to

On the other hand, the church in Smyrna seemed to be poor and oppressed, yet her Master sent her this cheering message: "Thou art rich. . . . fear none of those things which thou shalt suffer. . . . be thou faithful unto death, and I will give thee a crown of life."

When we seem to be prosperous and comfortable let us humbly obey our Lord's counsel to Laodicea, and come to Him for gold that will stand the fiery test of trial and temptation, and for the white raiment of holiness, without which our self-satisfied outward respectability is worth nothing.

Would you not rather endure trouble, feeling that Christ had called you to follow Him through Gethsemane to Calvary, than stand with those who crucified Him? Would you not rather share the sorrow and the glory of Belgium, than have to face the Judge of the world and account to Him for riches wrung

from defenceless women and children whom you had tortured and robbed?

It is possible to follow the Great Victor, who was a glorious Conqueror when stripped of everything earth could give. It is possible to be strong in spirit when weak in body, to be rich in character—the only wealth that is lasting—when outwardly enduring poverty, to have a glorious vision of God when physical sight is taken away.

The Rev. George Matheson was a victor when blindness came upon him, threatening to block his hopes of serving the world. He did not weakly indulge self-pity, nor seek for the pity of others. His beautiful hymn, beginning: "O Love that wilt not let me go," is not a lament but a song of hope and courage. He yields up his "flickering torch," not to walk in the darkness but in the sunshine-blaze of the Light of the world. He opens his heart to the joy that is seeking him through pain, he does not fly from the Cross that lifts him nearer to God, and, if he lays life's glory in the dust, it is to find that endless life blossoms from the willing sacrifice.

When the Life of Christ is strong in a soul, defeat and failure are accepted and used as material for the making of victory. General Gordon was a victor in life's battle when he chose death rather than dishonour. Bishop Ingram pictures "the calm figure in the white uniform standing quite undismayed at the top of the steps in the Palace," awaiting the rush of the enemy.

The mother of one of our soldiers said: "It is good to die so; I would not have my son shelter himself behind other mother's sons." It is possible to fail again and again and yet to be anything but a failure, as long as we do not lose courage and hope, but get up after every fall determined to try again, we are on the road which leads to victory. If failure brings us to Christ for pardon and power, we may some day see that even our sins have been among the "all things" that have worked together for our good. The publicans and sinners came to Christ when the respectable religious people stayed away. Their failures taught them their need of a Savior. St. Peter was on the road to victory when failure brought him to his knees and wrung from him bitter tears; whereas he was on the road to defeat when confidence in his own loyalty to his Master was unshaken. A traveller in Switzerland tried to stand erect on a mountain peak, but the guide dragged him down. "Here you are only safe on your knees!" he exclaimed. So it is in life. When we have climbed to some pinnacle of success we are only safe on our knees, humbly looking up to God instead of proudly looking down on other people.

If failure or trouble brings us nearer to God we shall one day thank Him for them, "What hast thou felt to-day?  
The pinions of the Angel-guide  
That standeth at thy side  
In rapturous ardours beat,  
Glowing from head to feet,  
In ecstasy divine?  
'Nay',  
This only have I felt, Christ's hand in mine."

DORA FARNCOMB.

#### For the Needy.

I have again to thank one of our readers for her gift of \$2.00 for the needy. The money went out on its mission of good cheer to two sick people—who asked me to thank the giver for her kindness. HOPE.

### The Windrow

A society of rescue, called the *Orphelinat des Armees*, has been formed in France for the care of the 300,000 orphaned children left in the country as a result of the war.

It is a significant fact, says "The Times," London, that the greatest cartoonist of the war is a neutral, Mr. Louis Raemaekers, a Dutchman. So powerful has been the effect of his cartoons in Holland, and in Europe, that the Germans have accused him of violating, with his pencil, the neutrality of Holland. They will be evidence to future generations of how the German conduct of the war struck those who were not their enemies.

#### The Coming Revolution.

The modern war regimen tends to

destroy plutocracy and substitute an economic democracy; it also tends to convert all classes of the community to the advantages of collective over individual enterprise. The disadvantages of chaotic individualism have been demonstrated in this war by a thousand striking instances that should fill the Socialist text-books of the coming years. The England, therefore, that emerges from this war will be a leaner and more experienced and more democratic England, with its habits of acquiescence and chaotic "freedom" broken, and its imagination touched to activity. Something analogous will have happened to all the European communities. Through the silences enforced by the necessities of war it is apparent that no European people is altogether satisfied with the Governments that have made and failed to triumph in this conflict. It is not too much to expect that the end of the war will prepare the way for a very grave and extensive series of attempts to reconstruct these Governments upon the lines and suggestions of these experiences—in other words, it will prepare the coming of a period of revolution. This may not follow immediately upon the war. Pacification will be the first aim of the European mind, and at the end of the war the dominant idea will be the desperate resolve to establish some sort of Peace Alliance that shall prevent a recurrence of this war. It will be as the concentration upon this end relaxes, in the nineteen-twenties, let us say, and as the international interest becomes fatigued and less urgent, that the revolutionary forces that are now gathering will come into play. And they may not come into play as insurrectionary forces. England in 1832 showed that there can be revolution without insurrection, just as Norway and Sweden have shown there can be separation without war. The revolutions of the twentieth century may be brought about by the conviction of reasonable men. Towards what forms will the revolutionary forces of the twentieth century drive? Here it is that a man's desires and persuasions and fears most blind and confine him.

The world is sick of dynasts, but also it is sick of party politicians; the dream of strong men dictators is the dream of despair. Democracy has still to work out some method of discussing its affairs more satisfactory than the venal newspaper; it has to determine upon some way of choosing its rulers, some electoral method, that is proof against the manipulation of the party organization. With every step away from individualism towards social organization the need for these solutions becomes more urgent. But this is an intellectual task, and the popularization of constructive ideas is a process much more subtle and less capable than the development of revolutionary forces. That there will be a vast revolutionary effort towards Republicanism and a higher level of social and economic organization as the outcome of this war is almost a certain thing; but what that effort will achieve, how far it may not be tricked, misled, divided against itself and defeated, lies among the dramatic secrets of the future.—H. G. Wells, in Daily Chronicle, London.

**Fashions Dept.**

**How to Order Patterns.**

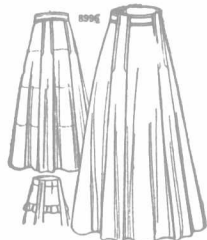
Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price ten cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, twenty cents must be sent. Address Fashion Department,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

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

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



8993 (With Basting Line and Added Seam Allowance) Girl's Dress, 8 to 12 years.



8996 Four-Piece Skirt, 26 to 36 waist.



8991 (With Basting Line and Added Seam Allowance) Short Coat for Misses and Small Women, 16 and 18 years.

8915 (With Basting Line and Added Seam Allowance) Yoke Skirt for Misses and Small Women, 16 and 18 years.



8995 (With Basting Line and Added Seam Allowance) One-Piece Dress for Misses and Small Women, 16 and 18 years.



8970 (With Basting Line and Added Seam Allowance) Belted Coat for Misses and Small Women, 16 and 18 years.

8915 (With Basting Line and Added Seam Allowance) Two-Piece Skirt with Yoke for Misses and Small Women, 16 and 18 years.



8968 Girl's Dress, 8 to 12 years.



8980 Boy's Suit, 4 to 8 years.



8973 (With Basting Line and Added Seam Allowance) Double-Breasted Blouse, 34 to 42 bust.

8948 (With Basting Line and Added Seam Allowance) Skirt with Panel Front, 24 to 34 waist.



8981 Flounce Skirt for Misses and Small Women, 16 and 18 years.

# Our Serial Story

## The Road of Living Men.

BY WILL LEVINGTON COMFORT.

Author of "Down Among Men," "Fate Knocks at the Door," "Red Fleece," "Routledge Rides Alone," "Midstream," "The Child and the Country," etc.

Serial Rights Secured.

### V.

That night from the terraces I watched her liner swing around the point, into East Lamma Channel, then put out into the roadstead beyond the islands. I may have slept an hour. Even in the cold straight seeing which comes with the morning, there was an invincible property in Mary Romany's kiss. I have been with men when their hearts were tested, when the icy dews of death were falling, when men became bodies. None of these things moved me as that mystery of the music-room. Death—how cheap and common compared to the eternal youth of that bestowal. There is one kiss which anoints a boy with manhood.

A cup of tea at nine (my mind far on the passage to Shanghai), when from the piazza, I heard the voice that had uttered the "rivers of Babylon" the night before. The owner of that quiet and compelling voice was Chinese. There he stood, laughingly giving the day's orders to his servant. There was a finish upon him which I had never seen upon another man of any country. I called through the lattice, inquiring if he would join me. Yes, he would be pleased to.

"Standing by the window of the music-room last night," I said, "your talk with the church-man interested me; not his recitative, but your answer." I added that I had never been able to read those stanzas without a quickened pulse.

In the next half-hour I found that he was acquainted with others of the eternal scriptures—Chinese, Hindu, Persian, and the Greek philosophies, as well as the Hebrew Bible. Be assured, his gathering of knowledge was in no way obtrusive. He was not spent from these natures. His mind seemed infinite with leisure and poise. . . . Yuan Kang Su was thirty years old. He had passed seven years with his mother; twenty years in school; a year in London; a year in Japan; and this last, in the Chinese cities. He was going shortly to Shanghai and up the river to his home for a final respite—before receiving his really important assignment, probably to America. Something told me presently that it would be hard to resist going up the river with Yuan Kang Su.

We passed the first of many days together. He knew affairs over in Luzon far better than I, an American. His information that day was the first breath I received of the Boxer uprising, on in full blast five weeks later. Yuan told me of Japan—Japan as a fighting nation. A queer sound was this to a foreigner in that day. He spoke English, as he wore European clothing, with taste and perfection of detail. It was so with his French. I faltered over the German; Yuan did not.

Gradually, it appeared what those years of school in China, from eight to twenty-eight, meant; indeed, what it meant to belong to the elect of the *litterati* of the Chinese. His culture is hardly in the conception of the western world. Something of all matters he had learned—from the deeps to the skies; and struggled, as all thinking men have done in all times, to establish connection between his soul and Beyond. The Chinese nobility do not study in competitive spirit. In classes of three and four, one's own genius of individuality is stimulated. Yuan smiled tenderly as he told me of the mild-natured old professors who had beamed upon him for so many years over their shell-rimmed glasses.

"To be vicerey, they would tell you," he said, "one needs only a little extra power of concentration."

I never tired of Yuan's finely-tempered mind. No one knows so well as I, the giant thoughts that lay coiled there, nor the

zeal which was his, to leave the mark of his life, pure upon his country. He wanted nothing for himself. This is not a rash saying, but a realization. You will understand. Perhaps you will understand how much it means. We of the western world are not quick to discern a patriot. Among us, a fellow-countryman must die to show us what means this giving of self.

Out of the studious quiet of the academy and the flowery stillness of his hills in Yung tung (Province of the Cloudy East), Yuan had set forth to study the world, the fruits of which had been learned from books, and to bring back to Mother China the best of the modern hour.

His detachment from China was taking place, and with pain. A man must needs be detached in order to see. Already his memories amounted to a passion. They were like still, dead centuries—the old years of study. It was night when he told me these things, and we were in the Shansi's gardens on the sloping brow of Victoria peak. So intensely did Yuan speak that the darkness about me filled with pictures and scents and sounds—ravines which held the tinkle of water; hills which breathed a perfume of yellow lilies; the mother-place in the heart of the great house; the old men who had girded his mind and soul; the revered and aged father who had energized all.

Between men who are to be real friends there must first of all be broken down a racial incompatibility. It is very clear to most, that the East and West cannot be one in spirit. Yet a day was enough for us, and I am writing now far from the first flush of friendship. We were men together.

Yuan was not tall, and looked rather

are purely a romantic principle. In the first place, you are not American, not English, not Oriental,—you are something of all, but altogether of none. You are a lover without a country. I am a patriot without a love-lady—"

"Restless"? I repeated.

"Restless for great deeds."

And then he seemed to divine my question, for he went on:

"No, I shall never know the one great woman, as you do. If I finish my work early, I might go home and take a wife. But our women do not know the world. China has a man's way of being afraid of women's morality. Men feel a morbid responsibility about saving woman from herself. Our women are flowers of the lattice—or rich nursery earth. They are man's idea of women. A man cannot be enamoured of his own idea. Oh, they are lovely enough. One goes to their world, as to an orchard for refreshment. But I—I would want my woman to come to me from across the seas and plains and mountains—with their tests upon her, and her triumphs. I would want her to turn to me, not because she must—but because she has seen the world and I am best to her of it all."

Always I saw pictures when Yuan forgot his brain and talked from his sumptuous inner life.

"We Chinese—are so dammably self-conscious about a woman's sinning," he resumed mildly, and added in a way so naive that I would have looked for humor in another: "You know, to be really great, a woman must be given a chance to do her own sinning."

He was deeply interested in my mother and father; in the queer far-off incident of Mary Romany's mother embracing me—and what came to me from it. . . .



Coaling a Steamer, Port Said, at the Entrance of the Suez Canal. Photo Underwood & Underwood.

muscular when dressed. I speak of this because we bathed in the surf, before the chateau of the Russian embassy, a day or two later, and I was struck by the superb figure of the man. His flesh was of an inanimate white; each dry black hair of his head seemed lacquered, and his deep brown eyes had the peculiarity of appearing behind a faint veil of mist. They made me think of black tea steaming in crystal. His mouth and teeth were perfect in charm and boyishness. Yuan wore no queue, and laughed when I asked about this. It was long afterward that I learned of the exemption of certain departments of the secret service. Many thought him Japanese. . . . There was much beside the world's religions and philosophies in that bald brow of his.

A week later, we were sailing northward together, and I had told Yuan the great thing. There would be little trouble, he said, in ascertaining the nature of Romany's venture up the Yang tse. That could be learned in Shanghai. What my Oriental companion had done for me cannot be appraised. His brilliance, but more, the clear quality of friendship (which asked nothing, and whose only eagerness was to give), filled the hard days with fineness and strength.

"It's a strange experience for me—this proximity to romance," he said, when we were within a day of Woosung. "I feel it, and it makes me restless. You

This was Yuan's first thought: that man cannot fully ignite one another, mind and spirit—that man and woman must meet in mid-stream and go on together against the stream—that they must bring their different lives to bear in one strength—a union of force and divination, completing between them each thought and action and never coming to the end of each other.

"We do not give our women life, and so we do not get life from them—just the play and prattle of children. It would seem to me to make a God of a man—to be loved by a great finished woman. . . . No, it is not personal this talk—just the atmosphere of you. Romance is not for me. My mistress is the terrible old woman whose arteries run brown with earth—and color the sea, as now."

Our ship had reached the Woosung roadstead, and the water was fouled with the Yang tse.

Much had he made me forget, that the sight of the big river-mouth brought back. I looked up the brown shore, among the shipping in the broad gateway and beyond. The thought that came first and sharply (though Mary Romany was the plane and substance of every idea) was that I should learn the meaning of Santell up that yellow river—Santell, who had said so authoritatively, "Come on, Mary."

To be continued.

## News of the Week

Ontario is to "go dry" until the end of the war, without a referendum. When the soldiers return a referendum may be taken.

A State Department Mandate, issued in China on March 22, announced that the Monarchy has been abandoned and a Republic will be resumed.

The Socialists in Germany are said to be asking for an early peace.

A movement is under way in Germany to give women the franchise.

Admiral Von Tirpitz resigned as Minister of Marine for Germany, and has been succeeded by Admiral Von Capelle.

On March 21st a fleet of 65 allied aeroplanes, in retaliation for the harrying of the Kentish coast by Zeppelins, flew over the German base at Zebrugge and dropped bombs causing much destruction.

Dutch shipping is almost at a standstill as the result of the destruction of the liners Tubantia and Palembang by German submarines. A far-reaching investigation is being made.

After over a month of terrific fighting, hostilities about Verdun have settled into ordinary trench warfare, and all the world knows that the Germans have failed in this great attempt. Germany is at present, indeed, on the defensive at all fronts. The Russians have broken through on the lines between Riga and Dvinsk; in the Far East the army of Count Nicholas has been divided into three parts of which one is approaching Bagdad and another Trebizond and Russia has complete control of the Black Sea. On the Northwest frontier of Egypt the rising of Bedouins fomented by the Turks, has been put down by General Peyton, and conditions along the whole Egyptian frontier are regarded as favorable for the Allies; in Persia Ispahan has been occupied by the Russians, and in East Africa the German troops have been utterly routed by British forces under command of General Smuts. As a result of events at Erzerum and Verdun, and the reckless procedure of German submarines, the sympathies of Roumania, Holland and the Scandinavian countries have swung about against the Teutonic powers. There will be fighting yet, heavy and stubborn, but the Allies have good cause for the optimism that is every day making itself more strongly felt.

On March 25th a force of light cruisers and destroyers, under Commodore Tyrwhitt, convoyed several sea-planes close to the German coast, and an attack was made on Schleswig-Holstein. Three of the sea-planes did not come back, but the British destroyers sunk two German armed patrol vessels. Subsequently a naval engagement was reported to have taken place off the coast of Denmark, but at time of going to press details have not arrived.

On March 27th a very important conference of the Allies began in Paris. Russia and Japan are represented, and among those in attendance are Lord Kitchener, Sir Edward Grey, General Joffre, General Cadorna, Gen. Sir Douglas Haig, and the Premiers of Great Britain, Italy, Belgium and Serbia.

## The Dollar Chain

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

Contributions from March 17 to March 24: F. J. Usher, Cobourg, Ont., \$1; Leo. Chard, Lambton Mills, Ont., \$1; J. Hayes King, Sussex, N. B., \$1; "A Stranger," \$1; "Knights of Honor" Bible Class, Cook's Church, Caradoc, \$5; "Acturia," Lucknow, Ont., \$1; Jas. E. Ashford, Ancaster, Ont., \$3.50; "Toronto," \$2; Jas. Cloakey, Belgrave, Ont., \$5; Mrs. A. G. Palmer, Florence, Ont., \$2; Sadie and James Cameron, Lucknow, Ont., \$2.

Amount previously acknowledged.....\$2,146.85  
Total to March 24.....\$2,171.35

IF YOU CAN'T GO TO THE FRONT, GIVE.

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



Line and Added Belted Coat for women, 16 and 18

Line and Added Two-Piece Skirt for women, 16 and 18 years.

Press, 18 years.

Suit, 18 years.

Skirt, Small 18



## Stop stooping - Lighten your housework

Here is the modern way to bake. This is the modern range that takes the weariness out of baking. It is the wonderful LIGHTER DAY Range that burns coal or wood and has a high oven.

Think of an oven you can attend without stooping; an oven with a clear glass door at a height where you can always see through without bending over; the thermometer up where you can see it; all these things at handy standing height;—and that in a range that burns coal or wood. Is it worth while now to keep on using the old style range? Do you wonder that women have taken the Lighter Day into their hearts, thankful for the relief from continual tiresome stooping on baking days?

No range you ever saw was anything like this one. It is entirely new. At every point it is planned to save work, save burned fingers, save annoyance and add to the enjoyment of woman's most interesting work—baking.

It has six pot holes like other ranges, but two of them are inside, where dishes may be

cooked without the odors escaping into the house. Look at the illustration and see the warming closet placed just above the oven. That is to save reaching over steaming hot dishes. The dishes may be lifted from the oven to the warming closet above with the least trouble. And this new warming closet is almost like a second oven, because it is directly heated by the fire. There is a high shelf as well—useful for many purposes.

The back of the range and the side of the oven are of beautiful white porcelain enamel, the easiest of all substances to keep clean. How simple to keep your range bright and free from rust!

See the deep storage closet under the oven for keeping pots and pans. Isn't this a handy and tidy way to keep these useful articles?

But the wonder of all these conveniences is that they can be used without stooping.

What a help they must prove on a busy day! And the Lighter Day stands up off the floor, giving a clear sweeping space for the broom. This is not only sanitary, but it is the modern idea in all pieces of furniture. The Lighter Day has the fine appearance that conforms to all the latest kitchen appliances.

Can any woman afford to tire herself day after day, week after week, for years attending to an old-style range? Here is the Lighter Day Range to make a world of difference in her day's work. Think of the many, many times she must get up and down to the oven, and then think of doing away with that tiring drudgery. Wouldn't it be a wonderful saving of strength to have one of these modern Lighter Day Ranges in the kitchen?

# LIGHTER DAY HIGH OVEN RANGE

Burns Coal or Wood

GUARANTEED BY CLARE BROS. & CO., Limited

To show every wonderful labor-saving feature of the Lighter Day Range we had photos taken of a housewife actually using the range. These pictures were printed in a booklet, and it is next best to seeing the range to have a copy of the booklet. You may have a copy if you send us the coupon. And if you know of other women who would like to lighten their housework, and will send us their names, we will send them copies of the booklet, too. Certainly the act of tearing out the coupon and mailing it promptly will show you a way to

lessen the weariness of your housework, and will prove well worth the slight trouble you may take.

**GUARANTEE** In the fifty years we have been making ranges, we have never expected any woman to keep one that did not give perfect satisfaction. We guarantee the Lighter Day High Oven Range unconditionally.

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Preston, Ontario

Send me your FREE booklet showing photos of how I may lighten my housework.

# The Beaver Circle

## The Senior Beavers.

[For all Beavers from Senior Third to Junior High School Form inclusive.]

### The English Language.

We'll begin with a box, and the plural is boxes,  
 But the plural of ox should be oxen, not oxes.  
 Then one fowl is goose, but two are called geese,  
 Yet the plural of moose should never be meese;  
 You may find a lone mouse, or a whole nest of mice,  
 But the plural of house is houses, not hices;  
 If the plural of man is always called men,  
 Why shouldn't the plural of pan be called pen?  
 The cow in the plural may be cows or kine,  
 But a cow if repeated is never called kine,  
 And the plural of vow is vows, not vine;  
 And if I speak of a foot and you show me your feet,  
 And I give you a boot, would a pair be called beet?  
 If the singular's this and the plural is these,  
 Should the plural of kiss be nicknamed keese?  
 Then one may be that and three would be those,  
 Yet hat in the plural would never be hose  
 And the plural of cat is cats, not cose.  
 We speak of brother, and also of brethren,  
 But though we say mother, we never say methern:  
 Then masculine pronouns are he, his and him,  
 But imagine the feminine, she, shis and shim.  
 So the English, I think, you all will agree,  
 Is the most wonderful language you ever did see.

—PENNY PICTORIAL.

### Funnigrams.

The young son of the family, who had been out to luncheon at a little friend's house, was asked by his mother on his return whether he had been a good boy. He hesitated for a moment, then answered "Yes." "You don't seem to be very sure about the matter," said his mother. "What did you do?" "Oh, I just spilled my cup in my lap," he replied. "Did you apologise to Mrs. Brown?" "Yes," he nodded. "Tell mother what you said when you apologised." "Oh," came the quick response, "I said, 'Excuse me, but that's what always happens to tough meat.'"

A little colored girl, a newcomer in Sunday School, gave her name to the teacher as 'Fertilizer Johnson.' Later the teacher asked the child's mother if that was right. 'Yes, ma'am, dat's her name,' said the fond parent. 'You see she was named for me and her father. Her father's name am Ferdinand and my name is Liza. So we named her Fertilizer.'—Boston 'Transcript'

### Alex. Smith's "Gypsy Story."

When the gypsy camp was in our town last summer they had a lot of horses for trading, and the men would go every day to trade horses with them. We came out to the tent of the gypsies and they had two tents and a camp-stove and camp chairs, table and other things.

The women of the camp sold lace and other things that they said they made. My mother got some lace from one and she told us her husband was dead and she had a sick boy. Mother gave her some fruit and things for him in dishes and she never thought she would see them again, but they brought them back and put them on the porch.

When we were coming home we met an old man and a boy who had a dog. The old man was blind and the boy was leading him home. He is a nice old man with long white whiskers. He makes baskets and the boy takes him round to sell them.

The dog goes too and it would not be well for anyone to bother him for the dog would bite, but the people are kind to him and the boy and give them things to help them.

There is a little girl four years old who comes and stays at our place, that we think is the best little girl we ever saw. She will stay with my mother alone,

and last summer when her mother was sick she and her little baby sister stayed a month. She would be so quiet that we would wonder what she was doing and would look and she would be playing with her doll or an old book.

ALEX. A. SMITH.  
 Sombra, Ont.  
 (Class Jr. III., age 11.)

### The Visit to the Gypsy Camp.

BY JOHN MCINTYRE.

My sister Alice and I went to visit at our Grandfather's during last summer holidays. He lived on a farm, a number of miles from town. We enjoyed ourselves very much having great fun with Grandpa and Sport, their large collie dog, who soon became great friends with us. He seemed to feel that he had to be a protector to little Alice, and in our wanderings round the farm allowed no other beast to venture near.

One evening a man came to the door and asked grandpa for some hay. Grandpa found out from him that he was one of a number of gypsies who were camping near the stream that crossed one corner of the farm. Next morning a gypsy woman came and asked for bread and butter with a number of other things. She had a red handkerchief tied around her head instead of a hat.

As neither Alice nor I had ever seen a gypsy camp, we begged grandpa to take us to see it, so he promised to take us that afternoon. As soon as dinner was over we started. Sport of course followed, keeping at the side of Alice. After a short walk we came to the place where the gypsies were camping. There were three wagons drawn up close to each other with a tent on each, also a tent on the ground. They had a number of horses tethered to trees not far from the camp, each with a bundle of hay beside it, also there were four or five dogs. They used the tent on the ground for living in, while the wagons seemed to be fitted up for sleeping. On a tripod in front of the tent a large iron pot was hung in which something was being cooked, we supposed their supper, the fire being under the pot on the ground with three or four large stones around it to keep it from spreading.

The gypsy men asked grandpa to see their horses. I followed and heard the gypsy men trying to trade or sell horses and nobody noticed that Alice strayed a little away. Sport went with her. Soon one of the gypsy dogs came pretty close to Alice. Sport sprang at him and in an instant there was a dog fight. The gypsies thought their dog would beat and would not call him off. But Sport was too much for him and beat the gypsy dog. Then he walked back to Alice as much as to say, "See there, I saved you". Soon after we left for home after having an enjoyable afternoon.

JOHN C. MCINTYRE.  
 Chesley, R. R. No. 3.

Jr. IV. Class, age 10.

### Our Junior Beavers.

[For all Beavers up to Junior Third class inclusive.]

### Peekaboo Stories.

#### The Pond Jelly.

BY JUJU.

One day very early in spring, the fairy Peepapeep, (who, you will remember, had been given by the Moonray fairy the power to hear the talking of the flowers, trees, waters, birds and animals), went out for a walk. The sunshine was very warm, and it gave her great joy to see everywhere the plants springing up through the brown earth, some coming through with a sharp little popping sound, quite audible to her sharp little ears, while others crept through very quietly as though a tiny bit afraid of the big world into which they were entering. Some came up like sharp rows of spears, others with heads bent meekly down, while others looked like tiny dots growing bigger even as one watched. Some were whitish, some pink, and some the brightest emerald green. And now if you want to see such things as Peepapeep saw that morning just go out into the woods, or into your mother's garden any fine "growing" day, and use your eyes.

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- David Copperfield by Dickens.
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- Waverley, by Scott.
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- Last of the Barons, by Lytton.
- Three Musketeers, by Dumas.
- Vanity Fair by Thackeray.
- Cranford, by Gaskell.
- The Woman in White, by Collins.
- The Pathfinder, by Cooper.
- Never Too Late to Mend, by Reade.
- The Scarlet Letter, by Hawthorne.
- Poems, by Longfellow.
- Poems, by Tennyson.
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For some years we have been laying emphasis on the great skimming records of the Standard Cream Separator at Government Dairy Schools, and on the farm. We have printed many of these records. We intend to keep on printing them, because they prove the superiority of the Standard beyond any question.

In Nova Scotia, for example, the Standard Cream Separator has achieved great fame for close skimming. A letter on our files from H. D. Burke, of Prince Albert, N. S., dated October 2nd, 1915, shows what a Standard has done for him. He says:—

"I am very pleased to say that the Standard Cream Separator, size 4, that I have been using since the 1st of September, is giving me perfect satisfaction. We have used two other kinds of separators, and can truly say that we can make a pound more butter a week with the Standard than with either of the others. We will be pleased to correspond with intending separator-buyers."

Another man, this time from Sprucedale, Ontario, writes: "We are well pleased with the Standard Cream Separator. We made more butter off four cows last year with the separator than we did in 1912 off six cows without the separator. The four cows were the same ones milked in 1912 and 1913. (Signed) Thos. J. Smith."

American dairymen have also learned about the close skimming records of the Standard Cream Separator, and we are sending larger numbers of this Canadian-made machine across the line every year. Last year we shipped 47 per cent. more separators to the United States than the previous year. This is merely mentioned to show you that the Standard Cream separator can successfully compete with foreign machines right in their own field.

Besides being the closest of skimmers the Standard Cream Separator is of the most modern construction, has the most thorough self-oiling system, and it does not drip oil on to the floor or over the machine.

## Standard

It has interchangeable capacity—years ahead of other separators in this respect. The capacity of a Standard machine can be increased at any time by merely changing the size of the bowl. You do not have to buy an entirely new machine if you should happen to increase the size of your herd any time.

Compared with other machines, the Standard gives you the utmost dollar for dollar value. You cannot find a machine constructed of better materials, or more accurately built, or more up-to-date. You cannot find one that will make more money for you. In fact, the Standard owes its success to its superiority as a cream getter and money-earner. If it is MORE cream profits you want, the Standard will get them for you. We guarantee it.



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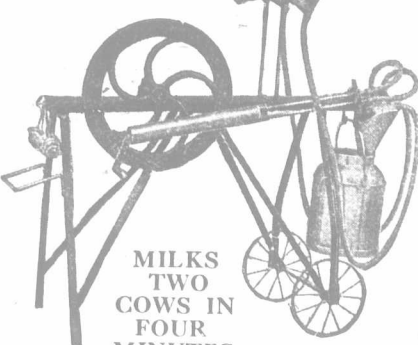
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Above all things Peepapeep was interested in the "fiddle-heads" sprouting up about the edge of the pools of water in a swamp. Brownish and curled up quite tightly they were, and yet as she looked she saw them slowly uncoiling. "In a few weeks," she thought "these will all be great ferns. I wonder if I'll be afraid to go in such a forest then—But no," she added quickly, for she remembered that the red squirrels had told her that none of the animals of the forest would harm Peepapeep.

Upon a very tiny island in one of the pools, was a very pretty pinkish fiddle-head. Peepapeep crept nearer and nearer, until she was quite at the edge and could see the reflection of herself and of the pink fiddlehead in the water.

She leaned forward thinking how very pretty it was, then—"Kerchunk!" said a very hoarse voice close beside her.

Peepapeep gave such a jump that she very nearly fell into the water.

"Bless me, Froggie! Is it only you?" she said. "What a start you gave me!"

"Yes? I've got a cold, Kerchunk! Kerchunk!" said the frog.

"Then why don't you creep into your muddy bank?" asked Peepapeep.

"Oh I left that three weeks ago," said the frog. "Anyhow, every day I come to see how my family-to-be is getting along."

"Your family to be?"

"Yes, there they are," replied the frog, gazing solemnly down into the water.

Peepapeep looked again right where the frog was looking, and saw—a lump of clear jelly with black specks all through it.

"My wife put those eggs there," said the frog. "Every black speck means an egg."

"Why—what an awfully big family you'll have when they all hatch out!"

"Yes," said the frog cheerfully, "but something happens to a good many of them, Kerchunk!"

"Do they turn into frogs all of a sudden?" asked Peepapeep.

"Bless you, no!" replied the frog.

"How very little you know, for a fairy! But you're young yet. First they turn into pollywogs, that wriggle all through the water and come often to the surface to poke their noses out. Then four little legs grow, and people call them tadpoles. Then the tail is absorbed—No, it doesn't drop off; it is absorbed. Do you know what that means?"

"I can find out," replied Peepapeep. "Dear me, how much you have to find out!" said the frog.

"Well, I'm not like you," explained Peepapeep, "I always did think you looked like an owl—wise as an owl. But I'm learning."

"Oh yes, you'll be very wise yet, but you'll never learn to sing like me.—Kerchunk! Kerchunk! Kerchunk! Kerchunk!"

"Sing!" exclaimed Peepapeep. "Do you call that singing?—Why I thought you were sneezing."

But the frog would not answer. He was listening to a sharp "Chir-rrr!" across the pool.

"That's my wife," he said, and jumping into the water he swam off.

Peepapeep watched him, then she took a last look at the mass of jelly.

"Good-bye, eggs," she said. "Maybe I'll come back when you've all turned into pollywogs and tadpoles."

### Junior Beavers' Letter Box.

Dear Puck and Beavers:—This is my first letter to your charming Circle. I like reading the Beaver letters very much. My father, has taken the Farmer's Advocate for a number of years, and likes it fine. I have a pet cat, and also a calf named Buster. I have a little sister six years old named Doris. We have good times playing together. I go to school and am in the Junior Second Class. Our grandma has a Cabinet Victrola. She lets me run it as I am very fond of music. Hoping this letter dose not get caught in the w. p. basket I will close.

MAX BOAG (age 9).  
Ravenshoe, Ont.

Dear Puck and Beavers.—I have written to your Circle before. I enjoy reading the letters of the Beavers. I like reading the riddles and getting Daddy to guess them. We have 45 soldiers here; there only were to be twenty here, but there are forty. I have a little kitty named Buff. She looks for me. She comes out every night and is always at the door.

TRYPHENA FLEMING.  
Thedford, Ont.

Dear Puck and Beavers.—As I saw my first letter in print I thought I would write again. I am in the Sr. Second at school. I enjoy reading many books, my favorites are "The Bessie Books", "The Mildred Books" and "Brownie." I had a trip to Toronto last fall, and visited all the parks. Riverdale was

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G. S. LAY  
Richard's Landing Ontario

MARCH 30, 1916

the best. As my letter is getting long I will close with a riddle:

Black within, and red without; Four corners round about. Ans.—a chimney. JEAN GILCHRIST. Shanty Bay, Ont. Age 9 years.

The Ingle Nook.

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

Some More Garden Gossip.

Dear Ingle Nook Friends,—Yesterday my seeds arrived,—yes, my seeds, for though living in the city I am to have a very real flower-garden this year. As it is to be chiefly for the purpose of cut flowers I was careful to choose kinds that bloom much and long, paying little attention to color effects otherwise, hence my collection threatens to be kaleidoscopic; it consists of nasturtiums, asters, cornflowers, larkspurs, petunias, verbenas, anemones, phlox drummondii, and gypsophila, with a moonflower for a spice of novelty on summer evenings. Do you know gypsophila?—"baby's breath," a mist of flowers, the last touch of airy daintiness to the bouquet of solid species that needs relieving.

Of course, it's hard to know where to stop when ordering seeds from a catalogue. One wants to be wildly extravagant. My pencil ached to add to the list sweet peas and pansies, poppies to no end, sweet alyssum and cosmos, with a few bushels of bulbs and roots of perennials. But when both land-space and time are limited "beggars must not be choosers."

Isn't a seed catalogue the most interesting book in the world at this time of year? And when the seeds come what an element of mystery about them! I fingered all the packages lovingly this morning, looking at the ludicrously colored and much exaggerated pictures on the outside, reading the directions for cultivation with an interest equal to that with which one follows a most fascinating story. And why not? There's an element of uncertainty and adventure about the story, but not less about the seeds. You never know how they will come out. You form your ideals and see wonderful visions, but you never can tell in the least whether your garden will be the dream-thing you have seen, or whether it will end according to the fate which some disillusioned "poet" has recorded in an effusion which he calls—with all the disillusionment of mathematics,—"Spring Arithmetic."

Spring Arithmetic.

It was the busy hour of 4, When from a city hardware store Emerged a gentleman who bore 1 hoe, 1 spade 1 wheelbarrow.

From thence our hero promptly went into a seed establishment And for these things his money spent: 1 peck of bulbs, 1 job lot of shrubs, 1 quart of assorted seeds.

He has a garden under way And if he's fairly lucky, say, He'll have about the last of May 1 squash vine, 1 eggplant, 1 radish.

—WASHINGTON HERALD.

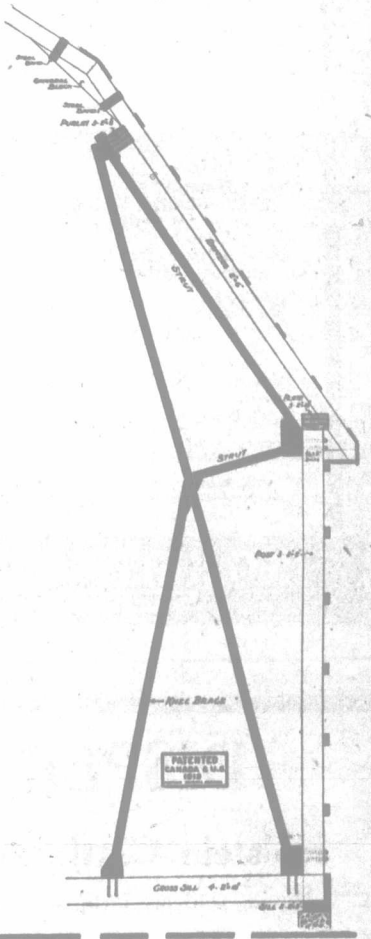
However, it's the very element of uncertainty in the story, and in the seeds, that constitutes a great deal of the fascination. One can't get away from mystery on this mundane sphere, and one wouldn't want to; if one knew and saw all there is, life would pall. At the same time, I do think that the poor gardener who succeeded in having at the end of his planting "1 squash vine, 1 eggplant, 1 radish," was afflicted with too much faith. He left "works" out of account, or maybe he should have added to his kit "1 watering-can." Nonsense aside, there is no reason

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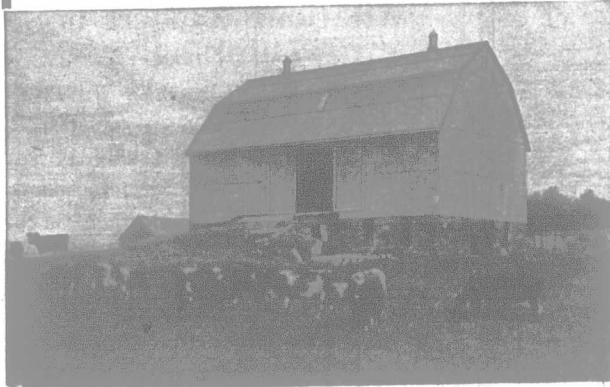
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why anyone who has a little energy, a little time, a few seeds, a love for the beautiful, and an ounce of commonsense, should not have a fairly successful garden, both for flowers and vegetables. One bed of each will bring pleasure enough to make even those worth while, if one has not time for more.

One of the loveliest flower-gardens I know belongs to a woman in this city. A few years ago she bought a place with a very considerable backyard, then filled with weeds and burdocks growing as high as the fence. "When I saw the burdocks growing like that," she said, "I knew the land was good."

Most women would have gasped in despair, and looked about for another place.

Undaunted, she set to work with a sharp axe; and with her own hands cut down the thicket, then it was necessary to have the roots torn out and the whole place worked up. I did not see the intermediate stages, but when the garden burst upon me last summer it was a patch of emerald grass, with a wide border of luxuriant flowers and foliage all about it, and another running like a broad, irregular river of color down the center. Scarcely a vestige of the ugly, close-board fence was to be seen, so thickly was it covered with vines and tall plants. Here a climbing rose clung aspiringly; there ran a tangle of wild cucumber. Sunflowers eight feet tall, turning their heads with the sun, were flanked with hollyhocks, yellow, and pink, and crimson-black. In one spot flamed a fire of tiger-lilies, the orange-red offset, smoke-like, by the blue of tall larkspurs. Nasturtiums and sweet peas clambered up a stretch of poultry-netting; four o'clocks grew three feet high in a stretch of rich ground; shaggy asters, sturdy zinnias, ethereal cosmos, scarlet salvia, phlox drummondii varicolored as "Joseph's coat," cornflowers in masses, "snow-on-the-mountain" and white candytuft as "mediators"—all were there, not one so choice as to be impossible in price, yet all united in a

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<p><b>GOVT. STANDARD Bus.</b></p> <p>No. 1 Red Clover Almost Extra No. 1 for Purity.....\$17.00</p> <p>No. 1 Red Clover..... 16.15</p> <p>No. 2 " "..... 15.25</p> <p>No. 1 Alsike.....\$12.50 and 13.00</p> <p>No. 2 " "..... 11.00</p> <p>No. 1 Timothy (Almost Extra No. 1 for purity)..... 6.00</p> <p>No. 1 Timothy..... 8.66</p> <p>No. 2 Timothy..... 8.28</p> <p>Slightly hulled, but Extra No. 1 for purity..... 5.66</p> <p>No. 2 Timothy..... 8.28</p> <p>Sweet Clover (white blossom) per bushel..... 12.00</p> <p><b>ALFALFA Per bus.</b></p> <p>Ontario Variegated No. 1.....\$25.00</p> <p>No. 3..... 22.00</p> <p>No. 2 for purity..... 18.00</p> <p>Montana (Northern grown) No. 1..... 18.00</p> <p>Lyman's Grimm No. 1..... lb. .75</p> <p>Alberta Grimm No. 1..... lb. .75</p> <p>North Western Grimm No. 2 lb. .65</p> <p>Allow 30c. for each cotton bag required—Clover and Timothy</p>	<p><b>SEED CORN. Bags Free.</b></p> <p>1914 and 1915 growth (70 lbs.) on cob. Per bus.</p> <p>Wisconsin No. 7.....\$1.80</p> <p>Golden Glow..... 1.75</p> <p>Bailey..... 1.75</p> <p>Le-ming..... 1.75</p> <p>White Cap..... 1.75</p> <p>Longfellow..... 1.90</p> <p>N. Dakota..... 1.90</p> <p>Comptons..... 1.90</p> <p><b>Per bus.</b></p> <p>O. A. C. No. 72 Oats..... \$ .85</p> <p>O. A. C. No. 3 Oats..... 2.00</p> <p><b>Grain Sacks Free per bus.</b></p> <p>O. A. C. No. 72 Oats, Registered.....\$ 1.40</p> <p>O. A. C. No. 72 Oats, unregistered..... .85c. and 1.00</p> <p>O. A. C. No. 3 Oats..... 2.00</p> <p>O. A. C. No. 21 Barley, Registered..... 1.40</p> <p>O. A. C. No. 21 Barley, unregistered..... 1.00</p> <p>Marquis Spring Wheat..... 1.65</p> <p>Golden Vine Peas.....2.40 and 2.75</p> <p>Spring Rye..... 1.70</p> <p>Rape Dwarf Essex.....per lb. .10</p>
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**GEO. KEITH & SONS SEEDS 124 KING ST. E. TORONTO**

## DISPERSION SALE

OF

### Holstein Cattle and Oxford Down Sheep

Having sold my farm, my entire herd and flock will be sold on

**Tuesday, April 4th, 1916**

Twenty-two Holsteins, 20 Oxford Down ewes, 2 Oxford Down rams, also horses, pigs and machinery.

Francy King Ormsby No. 14030 heads our herd. His dam gave 605 lbs. milk, 29.10 lbs. butter seven days; her sister, Jennie B. Ormsby, gave 530 lbs. milk, 33 lbs. butter seven days. The young stuff in sale are from this sire.

The milk cows have given from 50 lbs. milk as two-year-olds up to 80 lbs. as four-year-olds.

This herd has won many prizes in Western Ontario, and individuals from this herd have won at Guelph Dairy Test.

Terms—Cash or six months on approved security at 3% per annum. Catalogues on application.

Trains will be met at Strathroy till noon on day of sale.

**T. Merritt Moore,**  
Auctioneer

**W. A. BRYANT,**  
Strathroy, Ont.

Farm is 6 miles southwest of Strathroy, 8 miles north of Appin. Strathroy, G. T. R.; Appin, C. P. R.

## Important Sale Announcement

**J. B. COWIESON & SONS, OF QUEENSVILLE, ONT.,** will hold their second annual sale of registered stock at their **Queensville Jersey Farm, One half Mile East of Queensville Station** on the Metropolitan Electric Road running up Yonge St. from Toronto, on

**THURSDAY, APRIL 13th, 1916**

On that date we will sell absolutely without reserve, 14 head of Jerseys from our noted show herd; 21 head of Berkshire and Tamworth swine; 40 head of Shropshire sheep and Lambs, all registered; 3 Roadster horses; 1 team of general-purpose horses, and 1 registered Thoroughbred stallion 4 years old. Everything offered will be strictly high class, and in the best of condition.

Terms—6 months, or 5% per annum off for cash.

For further particulars write:

**J. B. COWIESON & SONS, Queensville, Ontario**

dear, old-fashioned, lovable jumble of sheer beauty. Nor must one forget the "wigwam" at one end of the plot, flung together of odds and ends of poles, yet absolutely covered with morning-glories, a mass of rich purple, royally greeting the East each sunrise. What sun-worshippers sun-flowers are! One wonders if they were the emblem of the Parsees.

An artist friend came with me into the garden. She quite went into ecstasies over the tiger-lily and blue larkspur combination, and straightway wanted to paint someone in a blue dress, standing there among them.

Of more practical turn, I besought the Lady of the Garden to tell me how she made things grow so well. "Why," she said, "I just attend to them a little. In the fall I gather up leaves everywhere and pile them into heaps to make a compost. All the dishwater and soapsuds go on the garden all summer long. It isn't hard at all."

"How you must love it!" we exclaimed.

"Oh yes," she said, "and all the neighbors love it too; they like to look over the fence."

"No, I'm not going to quote 'A garden is a lonesome spot, God wot'—but I'm thinking it 'all the same.'"

Perhaps you haven't time to try so many varieties in your garden. If you have only time for one, let it be the nasturtium. Put a bed of them in the back-yard and give them plenty of water. They will gladden your heart every time you go out of the kitchen door, and keep your home supplied with cut flowers all summer long—provided you do not let them run to seed.

I think, this morning, that I should like to nod a friendly good-morning to all flower-lovers. Can't we call a friendly "Hello!" over the distances?—and let us not forget to send one to the Lady of the Garden.

JUNIA.

### What our Readers are Thinking.

#### Should Children be Paid?

Dear Junia,—Last time I called I was so well received I make bold to call again.

I have seen no discussion on "Paying the children in money for help on the farm or at home," and, as I am very fond of children, I am also interested in the subject. I believe the child needs some pay for his work, but some praise, wisely given, and having the task set in a pleasant way, are great factors in it. A "Please" and a "Thank You" count a great deal, and lay the foundation for the child's politeness in the future.

When the child has learned how to help in caring for the stock, I believe he should be given an animal to take care of and have for his very own, and also be taught to dispose of it wisely. A young animal, lamb, calf, colt or little pig, is interesting, and besides has to be trained. This, as a rule, brings with it a fondness for the animals and the work with and for them.

I speak from the point of view of the farm, and firmly believe that no man can be a success unless he has learned the art of farming and loves it.

Giving the child the idea that he will be paid for his work, starts him all too soon on the hunt of the "dollar." "Money is the root of all evil," is an old and truthful saying, shown clearly on the farm, for if a man or boy will not give both work and money to improve, it will not yield as is expected.

Now, turning to the girls' side: little girls always wish to do what their mothers do, and if encouraged will help when older. They are usually pleased to have their little friends in to play or have a tea party and will help to have things nice for their company, and usually are delighted to help prepare for their mother's company also. One task many girls dislike is keeping their rooms tidy and clean, but I believe if they have the fixing, decorating and so forth to do they will take a greater interest in the work.

As for the small chores, to help mother or father while they remain "the woman" and "the man" in the child's idea is sufficient.

Children should have some pocket money and be taught to spend as well as to save.

It seems to me life is a great school, beginning at birth and lasting till death, and, as, in the ordinary school, some are great successes, while others are failures. However, I believe everyone is good for something if he could only find it.

I have said more than I intended and pretty nearly wandered away from the subject, but, you know, ideas grow like weeds, and pop up in just as unexpected places.

CANADIAN GIRL.

#### "Why I Love The Farm."

Dear Junia and Nookers,—I have for years been a silent but interested reader of "The Farmer's Advocate". This good paper has come to this home for forty years, and listen Nookers, every copy has been saved. Can't you imagine the huge stack that has accumulated?

I think we readers are highly privileged to have the pleasure of listening to Dora Farncomb, Junia, Lankshire Lassie, and many others whose contributions are, I am sure, real sources of inspiration and encouragement.

I noticed among the subjects set for discussion "Why I want to leave the farm." I am not discontented and do not wish to leave, so may I give some of my reasons?

Like the majority of the Nookers I live on a farm, and I think it is the most beautiful life the world offers. Some may consider that is a strong statement, and that it came from one who has "stood by and looked on." Not so; I have seen and felt the heavy end of the farm work, but never have I felt it was drudgery. A girl has to be willing to attempt to do almost anything when sickness overtakes the "man of the house," and hired help is unobtainable.

I know what it is to get up at five o'clock or earlier, tend the stock, milk the cows, and harness the team for the field, and then follow them all day over the soft soil till one's feet ache, and then come home in the evening when one's shadow reaches like some huge giant across the field, and one hears the peep of the frogs in the marshes, and the good-night song of the little birds. I know what it is to sit all day on the mower in the scorching sun, and to pitch all the harvest on the wagon from the first to the last sheaf.

To be sure, the work is heavy and sometimes not easy to accomplish, but there is always something to offset it, a canter after the cattle, the pleasure of the responsibility of being allowed to harness and drive the colt, and then there is the affections of the animals, which would make one feel repaid for one's work, from the helpless little orphan lambs that some times are thrust on our mercy, and require days and nights of devoted attention, to the winny of the horses and the rub of their soft noses on one's cheek and hands. Besides there is the real pleasure of the work itself, knowing that one is doing it to the very best of one's ability.

I must be unpardonably stupid, but I never could understand when I heard boys and girls planning and counting the days till they could leave their farm homes and go to the city where life was a "dream." In some cases I know of the dream turned out to be a nightmare, and they were very glad to return.

They raise the plea of the country being "slow." I know we do not live as "fast" as the city, but, in our community at least, there seems to be no lack of social affairs. We have our Sunday School, Prayer Meeting, Christian Endeavor, Lodge and Women's Institute. If you are actively interested in each of these you will not be liable to spend many lonesome evenings. In the winter time we can have lovely sleigh drives when the roads are good, and there are always one or two concerts and pie-basket socials to get up for money-making purposes, which provide endless fun in meeting for practicing dialogues at each other's homes. In fact, I think we are too busy, and do not spend enough time at home.

We can keep informed on the topics of the day through the leading magazines and papers. We can read the best books as well as our city friends. Of course, we have not access to so many good libraries as they have, but I notice that the Women's Institutes are rapidly



POULTRY AND EGGS

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

ARE YOU INTERESTED?—Eggs from winners at Panama Pacific Exposition, Madison Square Garden, Guelph, Ottawa, Bahamas, Spanish, Partridge Rocks, Partridge Wyandottes, White Leghorns, Barred Rocks (Ontario Agricultural College strain), Indian Runners, Pekin ducks. War price s. John Annesser, Tilbury, Ont.

A FEW nice Golden- and Silver-laced Wyandotte cockerels for sale. Winners at Mitchell and Golerch Winter Shows; prices right. Peter Dale, Box 12, Seaford, Ont.

A FEW choice White Wyandotte cockerels at \$2.50 each. Order early, they won't last long at that price. W. B. Powell, Galt, Ont.

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

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

BARRED ROCKS, Buff Orpingtons and White Wyandottes. True bred-to-lay strains, the result of years' selection. Eggs, one dollar per fifteen. Send for Circular. "Ingleside Farm," Rural 1, Ancaster, Ont.

BUY EGGS—For hatching from the money making kind of Barred Rocks, White Wyandottes and Buff Leghorns. Our selected breeding pens are from America's best laying strains and will produce strong healthy chicks of superior quality and pullets that will be early and persistent layers. Your order will have the benefit of our fifteen years' experience in poultry breeding. Eggs \$1.25 fifteen, \$6.50 hundred. Safe delivery and satisfaction guaranteed. Catalogue free. Charles Watson, Londesboro, Ont.

CLARKS Orpingtons, buff and white, exhibition and laying strains. Hatching eggs, exhibition \$3 per 15, others \$1 and \$2 per 15, 9 chicks guaranteed; \$6 per 100. A few good cockerels at \$2 and \$3 each. Catalogue free. J. W. Clark, Cedar Row Farm, Cainsville, Ont.

EGG Producers—pure bred Silver Campines, Silver-laced Wyandottes, Indian Runner Ducks (dawn-white). Eggs \$1.25 a setting. Dr. McArthur, Niagara-on-the-lake.

EGGS from Single Comb White Leghorns, (Barron strain), and Single Comb Rhode Island Reds, heavy laying strains. \$1.50 per fifteen, \$6.00 per hundred. Satisfaction guaranteed. Ernest Charlton, R.R. 1, London.

EGGS from imported Single Comb Brown Leghorns, persistent winter layers, 110 eggs daily from 100 hens; mated with choice vigorous cockerels. Price \$1.00 per 13, \$2.00 per 40, \$4.50 per 100. W. C. Shearer, Bright, Ont.

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

FOR SALE—White Chinese and Toulouse geese and ganders, African gander, pair Muscovy and two Pekin drakes. Cayuga ducks and drakes. Best quality, cheap to make room. E. S. Baker, "Springfield Farm," Guelph, Ont.

O. A. C. bred-to-lay Barred Rocks, \$1.50 per setting of 15. F. G. Murdoch, "Aldie," Guelph. Rose Comb Rhode Island Reds, 240 egg-strain, Martins or Guilds, 220 egg-strain, White Wyandottes, Single Comb White Leghorns, fifteen eggs, \$1.25. Special pen reds, eggs \$3. Wesley Shanklin, Ilderton, Ont.

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

ROSE-COMB Brown Leghorn cockerels for sale, from our prize-winning strain. Won 3 silver cups, 11 firsts at three shows this season. Single Comb White Leghorn cockerels and eggs from our famous "Owen's" strain. Black Orpington's eggs from two pens, not shown this season, but just as good. All eggs \$2 and \$2.50. English & Gallaway, Ingersoll, Ont.

TRAP-NESTED White Leghorns. Certified egg record with every bird. Eggs, chicks, for sale. Welland View Poultry Farm, Welland, Ont.

WHITE Wyandottes—Hatching eggs from grand pen of bred-to-lay strains, especially fed for E. Akerman, Bainsville, Ont.

WHITE Leghorns, first at Guelph and Ottawa. Mating list free. W. T. Ferguson, Smith's Falls, Ontario.

White Wyandottes I have a very choice lot bred from high class stock. The kind that produces both eggs and meat. Eggs one dollar per setting. Herbert German, Box 141, St. George, Ont.

Free to stockmen and poultrymen our 80 page illustrated booklet on feeding; how to construct house which will accommodate 100 hens; gives dimensions, and measurements of every piece of lumber required. Deals with common diseases of stock and poultry, and their remedies. Tells how to cure roup in four days. Contains full information about Royal Purple Stock and Poultry foods and remedies.

THE W. A. JENKINS MFG. CO. London, Canada.

overcoming that deficiency, and placing all the best literature at the disposal of the rural districts.

Well, I do believe I have betrayed the fact that I am a chatterbox. I almost forget to stop and am afraid I have made a bad beginning by writing such a long letter. Please forgive me for trespassing Junia, and I will close by saying there is no place like home, when that home is on a farm, and that farm on Prince Edward Island. P. E. I. COUNTRY LASS.

Seasonable Cookery.

Eggs on Toast.—Toast as many slices of bread as desired. Butter well and moisten the crust in hot, salted water. Put a nicely poached egg on each, with a dot of butter and dash of pepper, or paprika on each egg.

A Veal Dish.—Cut 2 lbs. veal into pieces suitable for serving, season with pepper and salt, then dip into beaten egg, then into breadcrumbs. Brown in a little pork fat in a frying pan, then leave, covered, on the back of the stove for ten minutes. Next cover with milk and bake in the oven very slowly for one hour in a covered pan. The veal should be as tender as chicken.

Maple Custard.—Beat 4 eggs, then add 4 cups milk, a dash of salt, and 1/2 cup maple syrup. Put into wet custard cups and set in a pan of hot water to bake. The water should not boil after baking has begun.

Maple Hard Sauce.—Beat together 1 tablespoon soft butter and 3 tablespoons powdered maple sugar. When creamy add 1 teaspoon thick, sweet cream and beat hard for 5 minutes. Chill and serve with rice or other pudding.

Pineapple Salad.—Place slices of pineapple on lettuce leaves and put a spoonful of French salad dressing on each slice.

Lenten Eggs.—Cut some boiled cabbage or Brussels sprouts fine, and season with butter, pepper and salt. Have some pastry-shells ready. Put a layer of the cabbage in each, then a nicely-poached egg. Pour about a spoonful of white sauce on each, then sprinkle a little grated cheese over, and put in the oven until the cheese is browned slightly. Serve very hot.

California Jam.—Divide and seed as many oranges as needed. Slice thin, the pulp and skin together. Add to each pound of oranges one lemon, sliced thin, and one quart cold water. Let all stand 24 hours, then cook until tender, with the same amount of sugar.

Orange Marmalade.—Three thick-skinned oranges, 3 thin-skinned lemons. Reject the thick slice of rind at the end of each fruit. Shred the rest and measure it. To each measure of fruit allow 3 measures of water. Put in a kettle and let soak 24 hours. Now bring to a boil and boil hard 10 minutes. Set aside for another 24 hours and measure the mixture again. To every measure allow one measure of cane sugar and one extra on the whole. Cook until it jellies, then put into jelly glasses and cover with melted paraffin. Some make extra glasses to use at Christmas as gifts for their friends.

Apricot or Peach Pudding.—Take 4 to 6 halves of canned apricots or peaches, with a little of the syrup, 1/4 cup cornstarch, 1/4 cup cold milk, 1 1/4 cups scalding milk, 1 teaspoon butter, 2 yolks eggs, 1/4 teaspoon salt, 1/4 cup sugar. For meringue: 2 whites of eggs, 4 tablespoons sugar, 1/4 teaspoon vanilla extract. Put the fruit and syrup in a pudding dish. Make a thick boiled custard of the other ingredients, cooking the starch 10 or 15 minutes in the hot milk before adding the yolks of eggs with the sugar. Turn the custard over the fruit. Beat the whites of the eggs dry; gradually beat in half the sugar, then fold in the other half and the extract. Spread the meringue over and let stand in a moderate oven about 10 minutes. Serve hot or cold.

The Scrap Bag.

Carpet Economy. When buying stair carpet, get a foot more than is needed. Each time it is cleaned draw it down two inches. By constantly shifting it in this way it will wear much longer.

Sewing on Hooks and Eyes.

Sew the eyes on the left front the desired distance apart, with the loops out far enough to make hooking easy, then baste the right front carefully over the left, lapping as much as may be desired; turn the waist just as it is wrong side out, put a hook in every eye and sew in position. This hint is given by a dressmaker.

To Keep Shoes Pliable.

Apply vaseline frequently with a soft cloth. Leave for a time, then wipe off and brush with old velvet.

To Remove a Dent.

To remove a dent in furniture fill the dent many times a day with hot water dropped from a medicine-dropper. The water will cause the wood to swell and fill it up. Finally rub with a little furniture polish.

Coloring Old Ribbons.

A new and successful way of altering the color of an old or faded silk or piece of ribbon is called the dry method. Put sufficient gasoline to cover well the goods in a bowl or other vessel large enough to hold it, then add ordinary oil paint, such as comes in the little tubes for artists, until the proper color is attained. Test the shade with a bit of the material to be colored, and, when the right amount of paint has been added, plunge in the goods, rinsing them rapidly up and down so as to insure an even color. Wring dry, sprinkle with water, and press while damp. By this means it is often possible to secure trimmings for peculiar shades of cloth that are hard to match. Old trimmings and passmenteries can easily be made as good as new, and of exactly the tone desired. It should never be forgotten that gasoline must never be brought near fire or lights. To do so means the risk of an explosion.

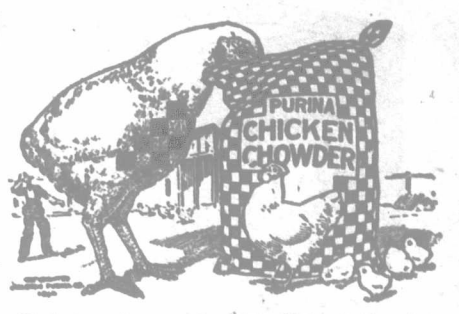
Things to Eat.

Potato Pancake.—In a hot well-buttered frying-pan grate enough boiled potato, (preferably hot), to cover the bottom of the dish to the depth of half an inch. Dredge very lightly with salt, then pour over a batter made of 1 cup flour sifted with 2 level teaspoons of baking powder and 1/4 teaspoon salt, 2 well-beaten eggs and nearly a cup of milk. Use enough of the batter to cover the potato. When the pancake is full of bubbles and browned beneath turn it very carefully and brown the other side. Serve very hot with plenty of butter.

Good Beef Stew.—Take the remnants of a roast of beef, or meat from the middle of the hind leg or the flank from a large sirloin roast. Cut the meat in small pieces, 2 or 3 inches square, dredge lightly with flour, salt and pepper, and let brown in a little hot bacon or salt pork fat. Pour on just enough boiling water to cover the whole; heat quickly to the boil, then let simmer very slowly until tender,—all forenoon will not be too long. After the meat has cooked about an hour add to it 6 parboiled onions and a sliced carrot. Half an hour before serving add some sliced potatoes, and more seasoning, if necessary. Remember that a stew should never boil. It will be spoiled by tough meat if it does. It should cook at a very gentle simmer from start to finish.

Steamed Cottage Pudding.—Cream together 1/4 cup butter and 1/2 cup sugar. Beat in 1 egg (well-beaten) and 1/2 cup milk, then 1 1/2 cups flour with which 2 1/2 level teaspoons baking powder have been sifted. Beat quickly, turn into a buttered mould, cover closely and steam about 1 1/4 hours. Serve hot with highly flavored lemon or other fruit sauce.

Fish Souffle.—Mix together 2 tablespoons butter and 2 tablespoons flour and cook in 1 1/4 cups milk to make a sauce. Add 1/2 cup sifted breadcrumbs, also a teaspoon of onion juice, 1 tablespoon chopped parsley and 1 teaspoon celery salt. (This may be omitted). Next add the yolks of 3 eggs, beaten, and 2 cups flaked fish. Last of all fold in the whites of the eggs, beaten dry. Put in a buttered dish and bake until firm in the center. The souffle should not boil; if the oven is very hot set the dish on folds of paper in a dish of hot water. Serve hot with cream, tomato or drawn butter sauce.



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

D. A. Graham, Wyoming, Ont.

EGGS WANTED

Highest price paid for new-laid eggs and dairy butter.

J. D. Arsenault, 142 Sanguinet St., Montreal

WANT AND FOR SALE.

Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock. TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

ALBERTA improved and unimproved farms, 180 acres up, low prices and very easy terms, also colonization tracts. Write for list and for full information. G. D. Carter & Company, Edmonton, Alberta.

DAIRYMAN wanted to take charge of a bottling plant, wages \$30 per month and board. We also need a milker and farm hand and a married couple (wife to cook and keep house); only 18 miles from Toronto. Apply Erindale Farms, Ltd., Erindale, Ont.

WANTED—Single man, experienced, temperate dairy farming. Begin immediately, give age, reference, wages expected. A. O. Halst, Fenwick, Ont.

WANTED—A reliable experienced married man for general farm work. Neatly employment and good wages to right man. W. Graham, Dutton.

WANTED—A man for journalistic work. Must have a practical knowledge of farming in Ontario, and be able to write well. Preference will be given to one who has had experience in the breeding of dairy cattle. Apply at once, stating salary expected to R. B. Faith, editor of the Ottawa Valley Journal, Ottawa, Ont.

WANTED—A furnished farm to work on shares, or would consider a job by the year, by an experienced man. 325 Erasassa Rd., Guelph, Ont.

160 ACRES one mile south of city of Galt, dairy or grain farm, stone house, two bank barns, latest improvements. Archie McPherson, R.R. 5, Galt.

PATENTS AND LEGAL

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Designs Churches, Homes and Schools. Reasonable charges—no extras.

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Registered O.A.C. No. 72 Oats. These men before leaving my barn, and every bag sealed with C. S. G. A. seal. They germinate 98%, the best is none too good to sow. Price \$1 per bushel, sacks included.

W. B. Ferguson, Strathroy, Ont. CIVIL SERVICE—Prepare for positions in railway mail service, post office, customs, government offices. Full course for all grades of examination. Canadian Correspondence College, Limited, Dept. E. E. Toronto, Canada.

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

Fish Cakes.—Add to rice or finely mashed potatoes an equal bulk of flaked cooked fish. Season with salt, pepper, and 1 or 2 tablespoons butter for each pint; also add enough cream to moisten. Mix well, shape into flat cakes; dip these in flour and let cook in hot bacon fat until brown on one side, then turn and brown the other side.

Swiss Steak.—Take 1 1/2 lbs. round steak cut 1 1/2 inches thick. Pound until the fibre is thoroughly broken up, then knead into it a large tablespoonful of flour. Season with salt and pepper. Into a pan put a large tablespoonful of butter, and when it is very hot brown the steak on both sides. When well browned pour boiling water over, and let it just simmer, covered closely, for 3 hours. A bay leaf may be added if liked.



There probably isn't a kitchen in the land that's quite so clean as McCormick's new model bakery. Everything about the "house"—ingredients, pans, ovens, employees—are so scrupulously clean that, as the saying is, one could almost eat off the floor.

No wonder then that McCormick's Jersey Cream Sodas taste so good; they're good because they're pure and cleanly made; their dainty, wholesome flavor, follows as a result of the precautions taken to ensure spotless cleanliness in everything we do. 55

# McCormick's Sodas

JERSEY CREAM

So good that butter seems unnecessary.

THE McCORMICK MANUFACTURING CO., LIMITED

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

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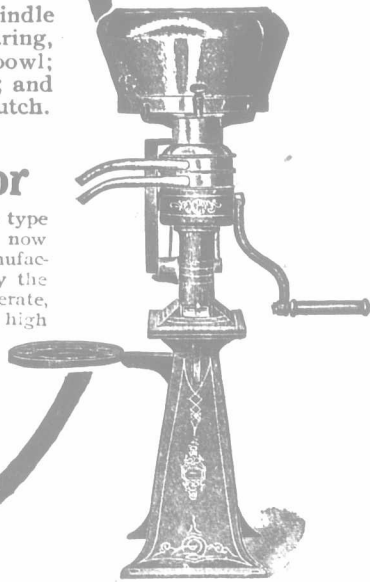
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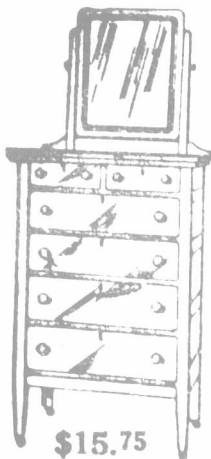
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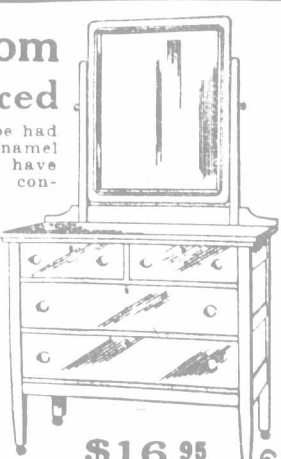
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## The Women of Europe and the War.

Continued from page 569.

A little later they systematized the saving and re-distribution of surplus food. They collected it from the big London meat, fish and vegetable markets, and social workers knowing of starving families had only to apply for the necessary amount of food to be sent to their respective depots to get the advantage of this thrifty arrangement. Some of the lady gardeners took out-of-work factory girls, and trained them to gardening and fruit farming on land lent for the purpose. (It is interesting to note that all but one of these girls have remained on the land and are now in great demand as working—in contradistinction to lady-gardeners.) This idea of women gardeners has also been developed at Girton College, Cambridge; the authorities of which have lent its beautiful grounds for the use of a colony of Belgian Refugees, who, under the direction of a Belgian Professor of Agriculture who was wounded at the front, are carrying on their highly lucrative trade of intensive market gardening and teaching it to the women of the Easterly Counties, who will thus develop a new industry as the result of their hospitality in the same way as their ancestors started the silk industry after their reception of the Huguenot refugees of earlier days.

But to return to the Women's Emergency Corps.—It organized the Women's Volunteer Reserve, composed of over 10,000 women in London alone, typists, teachers, domestics and others who drill on Saturday afternoons and in addition learn signalling, fencing, camp-cooking, nursing, despatch riding, and all the many "back-region" trades of an army, which would enable men of combatant age to be pushed forward while women took their places behind the scenes. True to its name of an Emergency Corps, they have always on hand volunteer workers ready to be sent wherever they are wanted and who, for instance, if some work such as a canteen for soldiers in some town or station wants organizing and doing at once, will go and organize it and then stay and run it until sufficient local volunteers can be found to carry it on. They are now running canteens right behind the French firing lines (the British government is still too conservative to avail itself of women's services in such a capacity) and they have another at the Gare du Nord at Paris, open day and night (all other restaurants in Paris are closed at night fall) where as well as food etc. hot and cold baths and fifty-eight beds are provided for men who gladly avail themselves of these luxuries while awaiting their train to the North and home.

At the outbreak of hostilities, the first great problem, apart from feeding and housing the Belgian Refugees, was to provide food and shelter for the thousands upon thousands of women and girls—some poor people, but many of them educated, but young and with no reserve funds—who were thrown out of work. In this connection the Queen opened a "work for women fund," believing that the prevention of distress is better than its relief and that employment is better than charity, etc." This fund was used for training women new trades and for those in which the demand for their services was likely to increase. Thus they were taught toy and doll making—shoe making and repairing, gardening, banking etc., while some few were even given scholarships to enable them to become doctors and nurses of which the dearth even then was great and has now reached almost alarming proportions. Besides the Queen's fund, an enormous amount was done along these lines by the big voluntary organizations of women. The National Union of Women Suffrage Societies opened a workshop, it ran a "menderies" it taught women to make fireless cookers, and ran a factory to make them; it paid women to learn to cook, thus giving them a trade in constant demand and making them more competent to husband the resources of their families; it started classes to teach women the technical art of acetylene welding which is used in the making of aeroplanes and the pupils

of which are booked at high wages for The Graham White's factory as soon as they are through with the course; they opened a shop for the disposal of their goods, which became such a popular resort for every sort of enquiry or need that at one time it became necessary to post a big notice saying "No Belgian babies can be given away here." The shop is still in existence but it is now used more as a bureau of information and a meeting place and tea shop for social workers, as the workshops and factories which used to stock it have served their day and been shut down.

For with the entrance of women into every sort of occupation and profession in order to release men for the fighting line, the surplus women's labor has all been utilized. As cab-drivers, car conductors, lift "girls", booking clerks and ticket collectors on the railways, lamp-lighters, street-cleaners, chauffeurs, shoemakers, gardeners, milk maids, agriculturists, remount workers, checkers and balers of hay for the Army Service Corps, and a hundred other occupations, not to mention munition workers and allied engineering trades, women in England to-day are busy indeed, and the necessary work of the organized women's societies became to protect these willing workers from the results of their own generous impulses and from those greedy employers who were only too anxious to exploit the jealous and patriotic desire of women to do war work by paying them a starvation wage. Over and over again have the women's societies protested against the false economy of sweated labour, and have gone to the government to expose cases of fraud and underpayment, and now they have obtained the concession, for the munition workers at least, that men and women alike shall be paid an equal minimum living wage.

These Women's Interests Committees, as they are called, have done much to protect the rights of the soldiers' and sailors' wives and have helped them to get their pensions and allowances etc., where technical difficulties and red tape had crept in, and recently they have carried out an exhaustive enquiry into the truth or otherwise of the so called "war-babies" scare with the pleasing result that they have proved the scare-mongers to be wrong and have published the statistics to prove that there were fewer illegitimate births during the last 12 months than in preceding years.

It is interesting to note the great success which women have made as munitions workers, much of which is of an intricate engineering nature and at first thought to be unsuitable for women, but now there are hundreds of thousands of them employed at it, and some of the most successful of the factories are staffed entirely by women. In a report brought into the British Association for the advancement of science, it was stated that not only the delicacy and intricacy of much of the work made it a suitable occupation for women's fingers, but that already many of them were using their brains at the work to such advantage that they had suggested improvements in the processes which had led to better and quicker production.

The need for men and even more men awakened the British Government to the necessity of doing everything possible to protect infant life, and they offered to pay half the cost of any society working towards that end. The result has been an enormous growth in the number of schools for mothers, prenatal clinics, well-baby clinics, crèches, and centres for feeding expectant and nursing mothers, and a great deal of voluntary effort has gone into the work of visiting etc, which cannot but have a good effect on the health of the coming generation. One danger which accompanies the large amount of voluntary war work has been, in England as elsewhere, the tendency to neglect the usual social activities, which are and always have been run by volunteer workers and voluntary subscriptions. To minimize this danger the London Suffrage Society opened at once, what has been of great service ever since, a Bureau of voluntary workers, at which anyone with an hour or a life-time to spare is put in touch with the activity needing workers at that time. Useful as this idea was in large cities, it was adopted with great success also, by some country women, who lived far apart and found it very difficult to get infor-

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information about what wanted doing at different times. So several of them living in widely scattered villages clubbed together and opened an "information bureau and registry office" in a shop in the biggest village of their group. In the window of this shop they posted notices of any needs of the district or of anyone volunteering help. In a month they had dealt with 500 inquiries. For instance, the secretary of the local hunt had a notice put up asking for volunteers for the Remount Department. Two out-of-work grooms saw the notice, volunteered at once and were accepted. A call came for 1,000 vegetable plants to stock some Reservists' gardens. These were immediately forthcoming from people who had sown too many seeds and were only too glad to find a better use for their young plants and "thinnings" than throwing them away. One lady with quantities of furniture to spare offered to give it for a Belgian Hostel if anyone would give the house. Another lady with a house to spare but no furniture joyfully saw the notice, the two came together and the Hostel was started, and so on.

Another instance where organization benefited everyone concerned was Lena Ashwell's concerts and theatrical performances. On the one hand she saw actors and actresses almost starving for a job; on the other she saw thousands of troops needing recreation and amusement at night after their days of physical toil, and quite able and willing to pay small prices for good shows. Miss Ashwell organized touring parties, which drew big houses and made a decent living for the needy performers. Other ways in which individual women are helping are the adoption of children for good or for the duration of the war that their mothers may be free to work; school teachers are giving free tuition to one or more orphans; house wives have taken in convalescent soldiers and Belgian Refugees into their homes; others are teaching French and even Hindu to soldiers and nurses going to the front, while still others are teaching the camp cooks to cook something beyond the everlasting "stew". Well might Lord Kitchener say "I cannot refrain from a grateful recognition of the large number of women drawn from every class and phase of life who have come forward and placed their services unreservedly at their country's disposal". With the recent growth of munition plants, day and night canteens for the employees have been in great demand and have called forth much volunteer service as have also the canteens in towns and villages whose usual accommodation is quite inadequate to deal with the needs of the soldiers.

Men and women too are sociable beings and just as the men have needed recreation, so have their wives at home, who, in addition to the hard work of being father and mother in one, are bearing the burden of anxiety and the strain of nervous excitement. No wonder that many of them sought the poor people's clubs, the saloons, where they found light, cheerfulness and free newspapers, as well as a chance to chat and exchange confidences with others of their kind. To help these women and to fulfil their very human needs, clubs have been started everywhere and are doing a fine work for many an uncomplaining heroine, while for the younger women, many of them daughters and sisters of soldiers, a different type of organization has been started. The real patriotism of these girls, combined with their youthful enthusiasm to do something for their country had not the safe outlet which that of their brothers had. They could not enlist and go to fight, and their bottled-up zeal became a danger to themselves and to the state, being only too often expressed by a feeling of adoration for "anything in Khaki". Mrs. Harley, General French's sister, felt the need of these girls; she organized them into the Active Service Girls' Cadet Corps, and by giving them something to do, she taught them the real patriotism of service and the unreal patriotism of cheapening themselves in the eyes of the soldiers. The work which they do varies, but it is something like a continuation of Girl Guides' Work—they learn cooking, drilling, signalling, etc., and do a hundred jobs of service in their own towns, such as helping with the 'chores' in Belgian Hostels giving up their school prizes and taking certificates instead of donating the funds to Red Cross Work etc. A further great help

to those girls who in the near neighbourhood of camps have been open to special temptations, has been the work of the Women Patrols, organized and financed by the British National Council of women. There are no women police in England, so volunteers were called for and several thousands are now at work, patrolling the streets, two together, keeping their eyes open, warning young women, helping any in trouble, answering enquiries for safe lodgings, and generally acting the part of kindly big sisters. So successful has been their work (and much of it done by women at work during the day and spending their leisure in this work of service) that Lord Kitchener has recently issued a circular to his Brigadier Generals, telling them to give the women patrols every assistance at all times.

One further work for helping the women, and girls not only of Great Britain but of the whole empire, is the formation of the League of Honour, which has just recently been inaugurated in Canada under the Y.W.C.A. This is not a new society, but consists in enrolling women and girls of all societies, and all classes and creeds into a League to help the men in their fight abroad by the Purity, Temperance and Prayer of the women at home.

It is only possible in the space of an article like this to touch on such stupendous efforts as those put forward by the women of Britain in the making of Red Cross supplies, Volunteer Aid Detachments, nursing and Hospital work. One illustration will show something of their zeal for the health of the fighters. After the first use by the enemy of poisonous gas, there appeared in the evening papers an appeal for a supply of respirators. Full directions were given, and so quick was the response that the papers of the next evening announced the surprising statement that the necessary supplies had come forth and no more were needed.

It has never been the practice of the British war office to accept women's hospitals for service in the field, so the many women who have organized and are running these hospitals in Europe to-day are doing so either under Foreign Governments or on their own responsibility. There are great numbers of these volunteer hospitals, but there is only time to speak of one set of them which the writer chooses because of having intimate inside information concerning them. These are the Hospitals organized and run by the Scottish Federation of the National Union of women suffrage societies. There are now two hospitals in France, three in the East and one in Russia, which is more a civil hospital and deals with the Polish Refugee women and children, whose plight is truly desperate. According to the last report these hospitals have already cost over £70,000 (\$350,000.00) to equip and maintain, but that is not so interesting to recall as that they are staffed entirely by women. Surgeons, physicians, anaesthetists, nurses, orderlies, X-ray operators, chauffeurs, all are women, who have gained such a name for themselves that the French soldiers know the Hospital at Royaumont as "Paradise". No doubt women understand some things better than men, and the "homey" attachments to these women's hospitals have been a great success. The Vêtements (clothing) departments for instance, disinfect, wash and mend the men's garments and send them out spick and span when time for 'evacuation' comes. The X-ray motor cars have done great service by being early available. They carry apparatus for taking photos and developing the plates, so that by the time the man reaches his bed, the diagnosis is almost complete and much valuable time saved.

The women students of Girton and Newnham, the women's residential colleges at Cambridge, equipped a hospital in tents for France, but when that section of the French army moved to Salonika, this easily mobilized hospital was ordered to go with it.

The hospitals in Serbia have had a very varied career—some have now returned to England, others have remained and are prisoners of war, while still another has been sent to Corsica in complete charge of the wounded soldiers and refugees who have now been sent there. It is impossible to realize what the foreign hospitals have meant to poor little Serbia—desolate by three wars on end, her sanitation inadequate at the best of times, (except perhaps at Belgrade, their one modern city.) it seemed impossible

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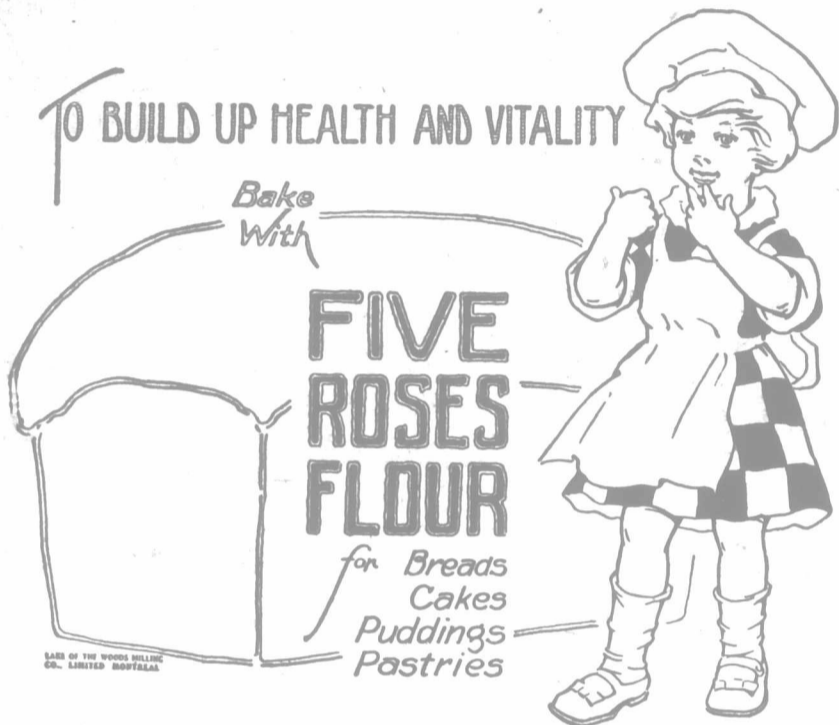
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to stem the outbreak of typhus and other fevers which raged almost unchecked, because of the lack of water and the omnipresent filth. We cannot imagine what our women have endured—many of them brought up in luxury—educated and used to the best of modern sanitary devices, these women have been working day and night in places where they are attacked all the time by voracious lice, which seem to get through even the elaborate precautions of poisonous ruffles which are worn round the neck, ankles and wrists. Many of our noblest women have given their lives in the struggle, but still more continually volunteer. These women are offering their lives to their country just as much as are the boys in khaki and without any of the general recognition and élat which is a soldier's encouragement. To lay down one's life in a struggle with sordid filth—one can only compare it with the heroism of Miss Davis, the Welsh girl, who heard that an American Doctor thought that he had found an antidote to the gas gangrene. He was calling for a human volunteer, although he knew that all his guinea pigs and other small animals had died under his experiments. Miss Davis knew this too, but she went out to France, saying nothing to anyone for fear of being stopped, injected herself with the poisonous gas and sent for the scientist. He came, applied his antidote, and after 24 hours of what must have been a sickening uncertainty, the girl's life was brought back from the verge of the grave.

Such stories bring tears to the eyes, but a thrill of pride to the heart. One could tell many such stories of disinterested self-sacrifice and the cheerful offering of life itself to the service of humanity. They make us proud of our women and may well act as an inspiration and a challenge to us to give our best in this fight of Right against Might.

EDITH LANG,  
637 Huron St.,  
Toronto.

The price of this article will go for Serbian Relief Work.

### First Steps in Garment Making.

By MARGARET M. KENNEDY.

In these days of rapid change, is there anything that seems to require more constant attention than the clothes we wear? We look back to the "good old days" when cloth was "all wool and a yard wide". Garments did not wear out so quickly then, and it was as much a part of a girl's education to know how to sew as to know how to read or write. Then came a time when girls thought it nice to boast that they knew nothing about sewing, but what a wondrous change has taken place within the last few years for not only the girls, but the older folk as well, are taking every opportunity of learning something more of this fascinating and elevating subject.

To achieve success in anything, garment making included, one must be willing to master the smaller details before they can hope to arrive at a satisfactory conclusion.

It is for those who are anxious to make a beginning, to lay a solid foundation for future building, that the following hints are here given:

A little practice every day, that one may become familiar with the stitches and their use, and gain speed in manipulation will be necessary. Ten or fifteen minutes' real work every day will be better than an hour once a week for beginners. This advice, I fear will not be followed unless you have everything quite handy. Not every home can afford a separate room for sewing, convenient as that is, but every home can and should have a bag, a box or a basket kept in a convenient place and fitted out with the following articles: Scissors, needles, pins, pincushion, emery cushion, thimbles, inch-tape, tracing wheel, buttons, hooks and eyes, dome fasteners, tape and tape needles, white and colored thread.

Perhaps you have a pair of scissors with broken point or so dull that they refuse to cut until you have urged them several times to do so. Why become exasperated every time you try to cut a piece of cloth, when for a few cents they can be made as good as new? It is not the cost, but just that we do not think until we are going to use them. If this is so, put it down on the shopping list at once unless there is someone at home

who can and will put a good sharp edge on them. If they have never had a good steel edge, it will repay you a thousandfold in time, patience and quality of work to buy a good pair and let the children use the old ones for cutting out paper dolls. The sewing equipment costs so little one can afford to buy the best of everything, and the best is always cheapest in the end.

A good useful pincushion, one that is light, does not take up too much room in the sewing basket and can be pinned to the dress when you are sewing, is three inches wide, six inches long, made of fine close woolen cloth, stuffed with horse-hair.

Since we find many grown-ups who do not know the names of the stitches and where they should be used, or the different kinds of seams used in making garments, and since we would not like to have this said of any of the readers of the FARMER'S ADVOCATE, we will give them here as briefly as possible, for I know you are all anxious to begin the actual making of garments.

**Basting stitch**, which is used to hold the parts together and as a guide in sewing, is quickly made, but requires just as much care as any of the permanent stitches, for unless the parts are held together properly the basting had better not be there for the sewing will not be in the right place and time will have been wasted. This stitch may be started with a knot, but all the permanent stitches will be stronger and neater if started as they are finished, that is, by taking up a very small stitch and sewing over it three times.

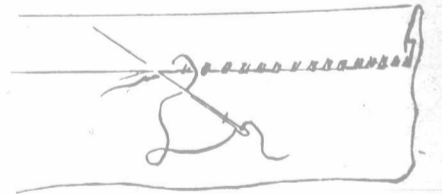
**Running stitch** is used for seams and for making tucks, but it should never be used where there is much strain.

**Two runs and a back stitch** is made as the name indicates, and is a little stronger than the running stitch because every third stitch is made over the last running stitch.

**Back stitch** is used for seams on which there will be a good deal of strain. In making each stitch, the needle is inserted back over one-third of the last stitch, and the point is brought out twice as far in front of the thread that is hanging down as it went back.

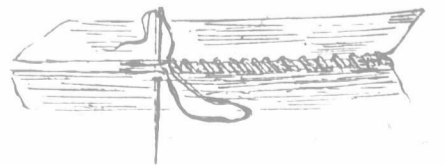
**Stitching** is stronger than back stitch in that the needle only comes out in front of the thread that is hanging down just as far as it goes back, causing the threads to meet on the sewing side and resemble machine stitching. This stitch, however, was made long before there were any sewing machines. It was from this stitch that machine sewing got its name. Stitching is also used to make a firm edge—as on the cuffs of a shirt or in rows as an ornamental finish.

**Hemming** is used to sew down the twice turned edge of the cloth. All the stitches that have been mentioned before this one are made straight. Hemming, however, is a slanting stitch and requires a little more practice than the others to make it well. The work is held firmly over the forefinger of the left hand with the edge of the hem towards the worker.



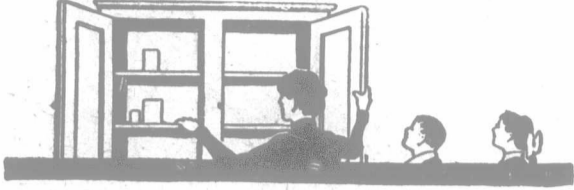
The needle is inserted just below the edge of the hem, right through to the back and brought out through the edge of the hem. For the next stitch the needle should be inserted just in front of the last stitch and points towards the left shoulder. Study the diagram carefully before beginning.

**Overhanding** is used to sew two folded or two selvage edges together and for hems on table linen (when used on the latter it is called "damask" or "napery" hemming.) It is also used for sewing on lace. This is not a difficult stitch to make if you will remember to hold the edges firmly between the cushion of the thumb and forefinger (not over the



finger as in hemming, for this causes one side to be fuller than the other). Point

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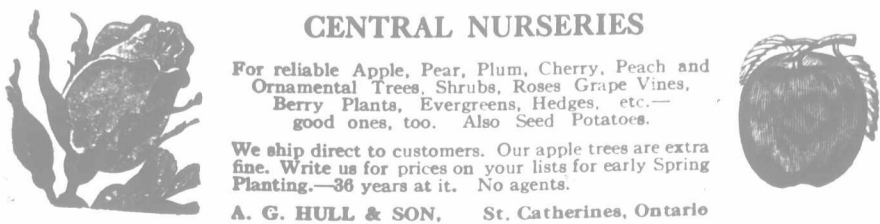
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the needle towards the chest and take up a very small catch of the cloth, for being folded or selvedge edges they will not fray out. The stitches should be close and the seam smooth and flat when opened out:

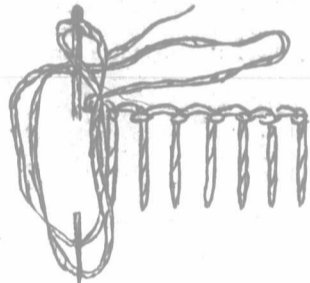
Overcasting is used to prevent the edges of the cloth from fraying. As the name indicates, the thread is cast over the edge of the cloth. In making this stitch the edge of the cloth is held along the cushion of the left forefinger, the needle is inserted from one-eighth to one-fourth of an inch from the edge, according to the looseness or firmness of the weave of the



material you are working with, and points towards the left shoulder. The space between the stitches should be a little greater than the depth of the stitch. If the cloth is on the bias, always sew with the grain of the cloth, else there will be a roughness on the edge. The stitches should not be drawn tightly, but should lie flat on the edge and all slant in the same direction.

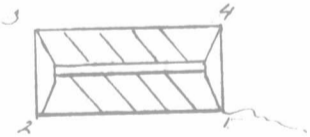
Gathering is similar to running, with this exception: a little more cloth is passed over than is taken up on the needle. It is important that the stitches be all the same size and the spaces between the stitches be the same size. The thread is then drawn up firmly, fastened around the needle, which is placed on the cloth at the end of the seam and each stitch folded back with the point of a coarse needle to form a little pleat.

Buttonholes—Much practice is necessary for perfection in buttonhole making. First practice the stitch along a folded edge of cotton until you can make a row of nice even stitches. Next practice



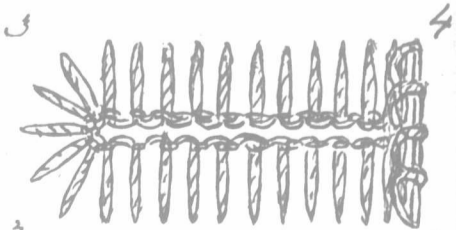
Buttonhole Stitch.

cutting the buttonholes. If you have not a pair of buttonhole scissors, try this plan: Place the button in position on a piece of cotton that has been folded and basted together firmly to keep it from slipping. Next, insert a pin on either side of the button straight through



Buttonhole Barred and Overcast Ready to Work.

to the back. Remove the button and pins, see that the pin holes are in a straight line with the thread of the cloth, then insert the point of the scissors at the first pin hole and cut straight between two threads to the second pin hole. Test for size by carefully slipping the button through. If directions have been carefully followed, it should be the exact size. Then following the order given in the diagram work a fan front buttonhole.



Fan Front Buttonhole.

Work on firm white cotton with colored cotton thread, and never mind barring or overcasting as the cotton will not fray and it will be enough if you can make a nice even stitch on this, your first buttonhole. Next try the double bar button-



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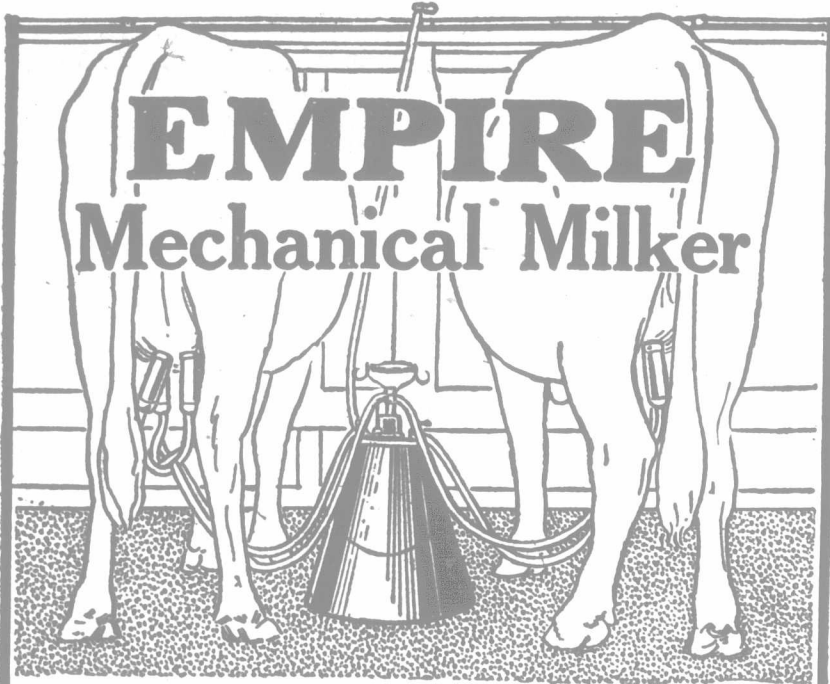
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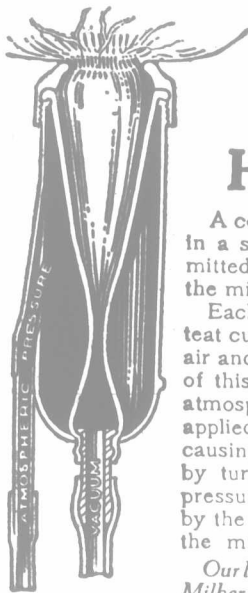
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Thus, the "Empire" gets more and better milk, saves time and wages, and solves the serious problem of hired help.

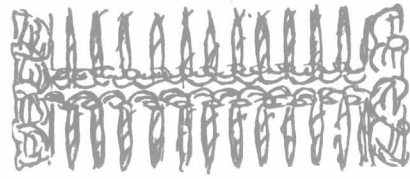
## How It Works

A compact air pump creates a vacuum in a steel tank. This vacuum is transmitted along the stalls by piping, to which the milking units are connected.

Each unit consists of a pail, a pail lid, teat cups complete with connections for air and milk, and a Pulsator. By means of this Pulsator, vacuum (suction) and atmospheric pressure are alternately applied to the linings of the teat cups, causing them to collapse and expand by turns, massaging the teats by the pressure, then drawing the milk in spurts by the suction. The instant it is drawn the milk flows into the closed pails.

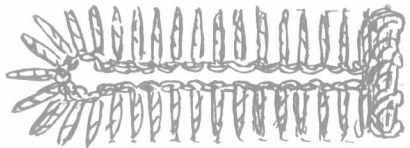
Our literature about the Empire Mechanical Milker is of interest to owners of either large or small dairies. We will send it to you on request without any obligation to you. Just write us saying, "Please send me information about Empire Mechanical Milkers". Address Dept. C

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Double Bar Buttonhole.

hole, and when you have succeeded in making this, try to bar overcast and work one on cloth. In this buttonhole a small round piece is cut out of the end nearest the edge of the garment to make a place for the button to fit in to, else the



Buttonhole for Thick Cloth.

cloth being thick the buttonhole would spread apart and would look badly.

In arranging the buttonholes in a garment, be very careful to so place them that they will not only help to keep the garment in place, but that they will not mar the proportion of the garment.

**Buttons**—A button with four holes will hold more thread and, therefore, remain on longer than a two-hole button. Insert the needle from the right side so that the knot will be under the button, place a pin on top of the button to prevent the stitches from being too tight, and sew over it, crossing the threads on the top and having two parallel stitches on the back. When the holes are all filled up, remove the pin. Wind the thread tightly around the stitches three or four times to form a neck for the button. Fasten the thread securely at the side under the button.

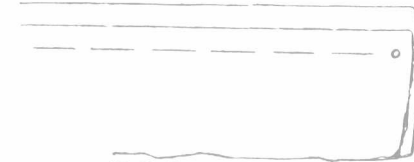
In sewing on a two-hole button, take the stitches at right angles to the edge of the cloth. This will avoid stretching at the end of the buttonhole.

**Hooks and eyes** will remain on until the garment is worn out if properly sewn on. To do this work, buttonhole stitch all around the little circles of the eye, take three stitches over each other on each side of the eye and fasten off the thread securely. The hook is sewn on in the same way, except that the sewing is continued under the hook as far as the bend, or, if a safety hook, sew under the little raised art. On the safety hook the metal protects the threads and prevents them from wearing out.

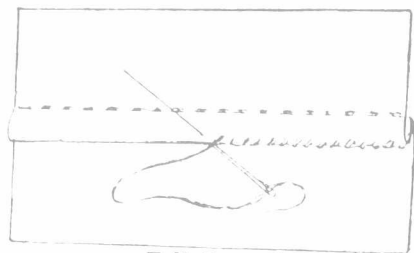
## Seams for Garments.

**The overhand seam** is chiefly used on undergarments. Where the cloth is not wide enough the selvedge edges are overhanded together.

**The fell seam**, which means that the seam is hemmed down to protect the edges, is used on undergarments. When used on tailored garments it is called a



Fell Seam Basted.



Fell Seam. **!** **E**

"covert seam" when the edges are turned in and stitched down on the right side of the garment, whereas, on undergarments it is usually finished on the wrong side of the garment.

A **French seam**, called in former times a "Mantua-maker's seam" because used on dresses, is now frequently used on undergarments as well as on wash dresses but does not make as strong a seam for undergarments as the fell seam. It is made by first placing the material so that the seam will be on the right side, then turning it wrong side out, creasing it so that the sewing is at the edge, then sewing it far enough from the folded edge to catch in the first seam. The seam will then be on the wrong side of the garment.

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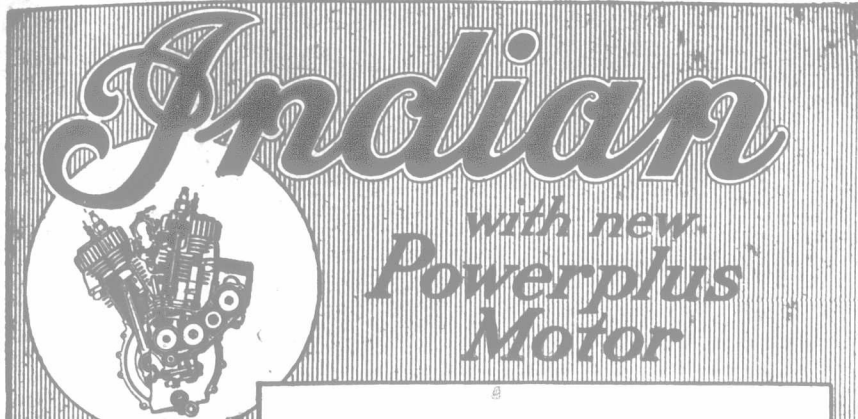
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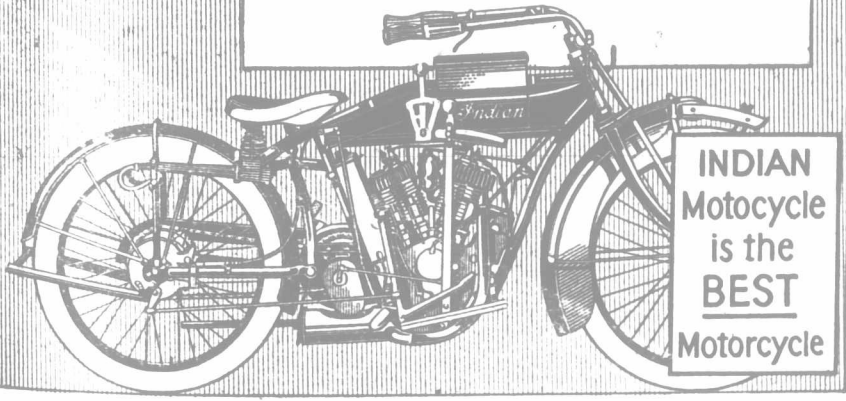
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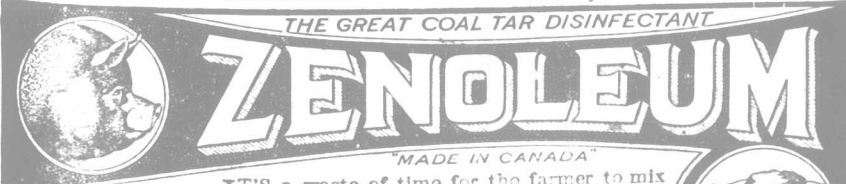
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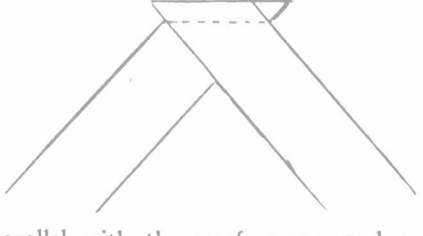
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A plain seam, one that is used on dresses but never on undergarments, is stitched, pressed open and overcast on each side, or it may be left unopened and both edges overcast together.

Facings—A facing, sometimes called a "false hem," because it takes the place of a hem, may either be on the straight or bias, depending altogether on where the facing is to go. If the edge is curved, however, the facing should always be on the bias, and that a true bias or it will twist and not be flat as all facings should be.

The threads—In cloth we have two lines of threads: first, the threads that run parallel with the selvedge, which are called "warp," and second, the threads that run from selvedge to selvedge, called "woof."

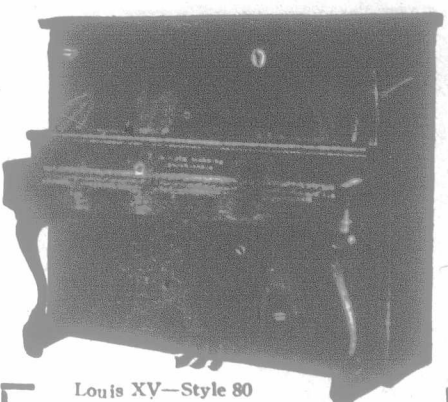
To make a true bias then, fold the cloth over until the warp threads are



parallel with the woof, crease and cut on the folded edge.

Gossip.

The annual meeting of the Menie District Ayrshire Breeders Club was held in the rooms of the District Agricultural Representative, A. D. M'Intosh B.S.A. Stirling, on Saturday, March 11th. Considering the recent storms and consequent heavy state of the roads a good representation of the Breeders was present. The Menie Club was the first Ayrshire Breeders' Club organized in Canada, and the first Breeders' Club of any class organized under the Dominion Department of Agriculture. The territory covered by this Club consists of the Counties of Hastings, Prince Edward, Durham, Northumberland and Peterboro, and in these Counties there are about two hundred farmers who are breeding pure bred Ayrshire Cattle. Alex. Hume of Campbellford, in opening the meeting touched upon many points of interest to Ayrshire Breeders, while William Stewart of the same place, and one of the pioneer Ayrshire breeders of Canada, gave a report of the meeting of the Dominion Association which was held recently in Toronto. The meeting was also addressed by Mr. M'Intosh on the subject "Suggestions that will help our Club." The report of the Secty Treasurer, W. E. Tummon, was adopted. A Committee that was appointed a year ago to wait on one of the local fair boards, which barred prize winning animals at Toronto from competing, reported that the board had decided to drop the clause. It was felt by the members of the Club that any clause in a prize list that barred the best and most typical animals of any breed from competing at the local fairs was not educative, and an injury to the breeds as a whole. The question of Cheese Companies paying by test for milk in preference to the pooling system now generally practised, was strongly endorsed by the Club, and the opinion expressed that the cheese and dairy industry would be encouraged greatly were legislation adopted making all companies adopt the "pay by test" system. Mr. M'Intosh in his address pointed out several companies that had tried both systems and under no conditions would go back to the pooling system. The members discussed the advisability of holding an auction sale this spring, but found that so many, owing to the brisk demand, had disposed of all their surplus stock decided to postpone same until probably about next December or January. It was decided to meet in Stirling again next year. The Officers of the Club are:—Hon. Pres. Wm. Stewart; Pres. Alex. Hume, Campbellford; Secty-Treas. W. E. Tummon, Crookston; Vice-President, E. A. M'Cook, Campbellford. Directors, Dr. A. J. Fyle, Ameliasburg; W. T. Harris, Madoc; Jno. McCubbin, Warkworth. Chas. M'Conn, John Locke, J. O'Connor, W. S. Grills and W. Bland, Campbellford; Geo. Stokes, Tweed; and W. J. Haggerty, Stirling.



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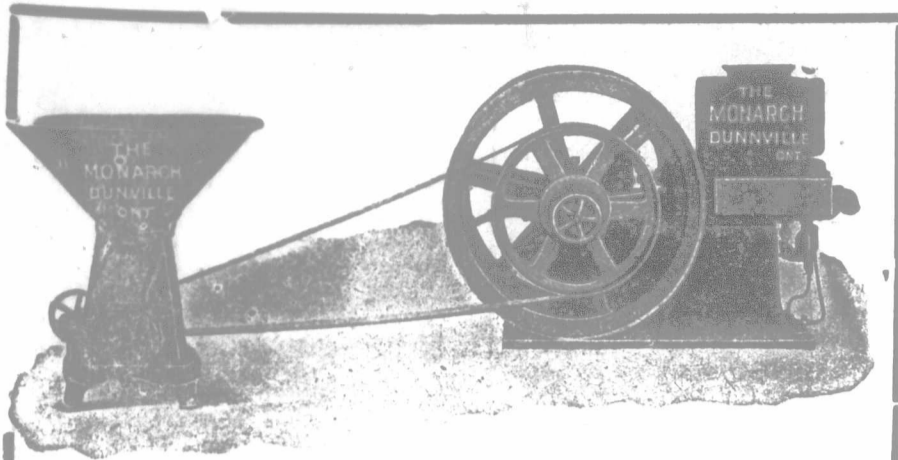
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2nd—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

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.

##### Driving in-foal mare.

I have a mare 21 years old in May. She is in foal for the first time. The time of her parturition arrives the first week of August. She is yet and has always been a great driver. As I intend to use her to do a good deal of driving in April and May would it be wise to make her wear a support. She looks to be in first-class condition. W. L.

Ans.—Keep driving the mare if she is needed but be careful not to overdo it. Do not give overly long drives and never speed her up too highly. Be careful of her and she will require no special support.

##### Line Fencing—Choking Tile-drain—Foreclosure.

A owns a farm next to B. B. lives in a city and rents his farm to C. While A was building a wire line fence C objected to the fence being put on a small line tree. The line tree was to be one anchor post. The old rail fence had been fastened to the tree for 21 years. C's son, a non resident and over 21 years of age cut the fence off the tree. Several months after B came and A and B inspected the fence which had been built and agreed that it was built in its right place. B said fence should not have been cut off the tree—C wanted whole line fence moved 2 ft. over on A which had been there over 21 years.

C gives A notice to rebuild fence which was cut. C calls on fence viewers in a month unknown to B.

1. Has a tenant paying money rent a right to call on fence viewers without owner's authority?

2. Who should pay cost and build the fence?

3. Can B or C have the line fence which has stood 21 years moved if A objects. (A and B agree.)

4. A has tile that empties on B 75 yards from line fence. C stops up tile that has been in use for over 40 years. What is the penalty for stopping up the tile?

5. Can a mortgage be fore-closed in war time if neither party has enlisted? F. C. B.

Ans.—1 and 2. A and B should each make a just proportion of the fence. If they cannot agree as to what is the just proportion of each, or as to the description of fence, either one of them may call in the fence-viewers to view, and arbitrate in the matter.

3. Not legally.

4. A may sue C for any damages that may result.

5. It is possible. It depends upon circumstances other than the one mentioned.

### Gossip.

At the bull sale, held recently in Brandon, Manitoba, 61 animals sold at an average price of \$175.85. Aberdeen-Angus brought the highest average figures, for the 8 offered were cashed at an average of \$186.87. Fifty Shorthorns averaged \$179.30; 2 Herefords averaged \$175; and one Holstein brought \$100. The highest-priced Shorthorn bull was Gloster Prince, contributed by I. I. Miller, of Myrtle, Man., and purchased by H. Leadley, of Winnipeg, for \$630. This was a junior yearling, sired by Royal Hero. The next highest-priced bull was purchased by George Allison, of Burbank, Man., at \$600. This was Fancy Lord, a senior yearling, and considered by many to be the most promising bull sold at the sale. Another bull was cashed at \$330, and still another at \$310. The highest-priced Aberdeen-Angus brought \$250. It was contributed by F. J. Colver, and sold to Dr. S. A. Cox, of Brandon.



## Too Much Mustard?

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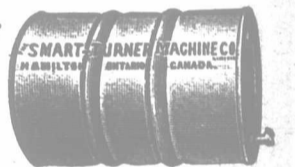
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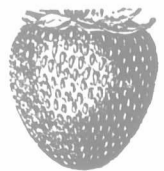
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And, before the hatches come, I want to warn against gapes, leg weakness and indigestion, for these ailments are responsible for half the baby-chick losses. Therefore, feed Pan-a-ce-a—it will save you these losses.

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Here are a few of the valuable ingredients in Pan-a-ce-a to meet the requirements of your poultry which I have just stated: *Nux Vomica*, a nerve tonic; *Carbonate of Lime*, a shell former; *Hyposulphite of Soda*, an internal antiseptic; *Quassia*, an appetizer; *Iron*, to enrich the blood, and other valuable ingredients, all well known and recommended by the highest medical and veterinary authorities.

Perhaps the strongest argument in favor of Pan-a-ce-a is the fact that it has been on the market for 22 years and is growing in favor each year. Read the guarantee in the right-hand panel—that is your protection. There is a Dr. Hess dealer in your town, a man whom you know, a man who stands back of my guarantee and will return your money if Pan-a-ce-a fails to make good. 1½ lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.15; 25-lb. pail, \$3.50 (duty paid).

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Why pay the peddler twice my price?  
Your stock need this tonic now to harden and condition them after the confined heavy feeding of winter. There's nothing better to put horses in trim for hard spring and summer work. Milch cows need it just now to prepare them for the heavy milking season ahead. Dr. Hess Stock Tonic makes all stock healthy, keeps them toned up and expels worms. Sold under money-back guarantee. 25-lb. pail, \$2.25; 100-lb. sack, \$7.00 (duty paid); smaller packages in proportion. Send 2c for my new free Stock Tonic book.

**Dr. Hess Instant Louse Killer**

Kills lice on poultry and all farm stock. Dust the hens and sprinkle it in the nests, or, if your fowl are provided with a dust bath, sprinkle Instant Louse Killer in the dust bath every other week—the hens will do the rest. Also destroys bugs on cucumber, squash and melon vines, slugs on rose bushes, etc. Comes in handy, sifting-top cans, 1 lb. 35c; 3-lb. can 85c (duty paid). I guarantee it.



**FREE**  
If you have a sick or injured animal, write Dr. Hess, tell symptoms, enclose 2c stamp for reply, and he will send you a prescription and letter of advice free of charge.

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### Questions and Answers. Miscellaneous.

**Oats from the West.**  
Would good, clean oats grown in Saskatchewan be suitable for sowing in this part of Ontario.

SUBSCRIBER.  
Ans.—Yes, if of good sample, high germination and clean.

**Cement for Wall.**  
How much cement is required to build a wall 94 ft. long, 10½ ft. high, and 18 inches thick. Concrete to be mixed 1 to 8 and use some small stone fillers.

L. W. K.  
Ans.—Approximately 47 barrels.

**Thrush.**  
I have a young mare which has some kind of foot disease which gives a bad smell. Nothing can be seen except there is some kind of grease in the groove which runs from heel to frog. Would you kindly let me hear through your valuable paper what disease it is and if there is any treatment?

SUBSCRIBER.  
Ans.—This is likely thrush caused by irritant material in the cleft of the frog. Clean the cleft of the frog out thoroughly and keep it clean. Remove all partially-detached horn and dress with calomel once every day until all discharge ceases. Work the calomel well down to the bottom of the cleft. Neglected or very severe cases require a veterinarian.

**Share in Hens.**  
B has A's farm on shares. B gets half of all proceeds, pays half of all expenses and does all the work. A furnishes 60 hens, on shares as above. At the end of the year which one should replace the hens that have died, there being quite a few on account of mites invading the pens? Should B replace the dead ones? Who should kill off the old ones and replace young ones to keep the flock in good condition?

A NEW SUBSCRIBER.  
Ans.—We should say that if the hens died because of neglect on the part of B in any way he should replace them. Otherwise, if it is thought necessary to replace them the owner of the farm should do it. Enough pullets should be raised each year to replace the old hens and arrangement should be made in the agreement for this. Perhaps B should raise these pullets and be allowed the old hens at killing time but this is a matter for tenant and owner to decide.

**Cement Tank.**  
1. Give estimate of material required and method of constructing a galvanized iron hip-roof on a 14 foot cement silo.  
2. Give directions for building and reinforcing a cement water tank to be built on top of barn floor.  
3. Do you think a tank, 7x8 feet built with adjustable silo frames would be satisfactory?

H. M.  
Ans.—1. It would be rather unsatisfactory estimating the amount of material required without knowing the pitch of the roof. We would advise having your local tinsmith give an estimate on the amount of galvanized iron required.  
2. A concrete tank may be built square, round or long and narrow as desired. A frame may be built to have the bottom of the tank wall six inches thick and tapering to four inches at the top. When the walls become dry remove the casing and put six inches of cement in the bottom. It is best to plaster the tank on the inside with strong cement. It is a good plan to reinforce the tank with wire. Owing to the tank being placed on the barn floor it would be wise to put woven wire in the cement bottom of the tank. It will be necessary to strongly reinforce the barn floor or there may be danger of the joists weakening and causing the cement to crack. If possible it would be more satisfactory to have the tank built on solid footing.  
3. Silo rings are very satisfactory for use in building cement tanks. Cement tanks give splendid satisfaction but require to be built on a firm foundation.

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No. 1 Red Clover	\$16.25
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(Northern grown)	
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Terms cash with order. Bags extra at 25c. each. On all orders east of Manitoba of \$25 or over we pay the freight.  
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Ask for samples if necessary.

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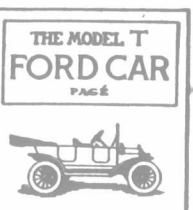
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SEND TO ORDER, ADDRESS TO THE POSTMASTER GENERAL, WILL BE RECEIVED AT OTTAWA UNTIL NOON, FRIDAY, THE 15TH DAY OF APRIL, 1916, FOR THE CANCELLATION OF THE MAIL CONTRACT. IF YOU PROPOSE TO RENEW YOUR CONTRACT, YOU MUST SEND TO THE POST OFFICE AT OTTAWA, ON APRIL 15, 1916, A CHECK FOR THE AMOUNT OF YOUR CONTRACT, TOGETHER WITH THE ORIGINAL CONTRACT, TO THE POST OFFICE INSPECTOR, OTTAWA, ONTARIO.  
G. C. KEMPERSON, Superintendent,  
Post Office Department, Canada, Mail Service Branch, Ottawa, 3rd March, 1916.

**Questions and Answers.**  
Miscellaneous.

**Elevated Tank.**  
As I am thinking of putting in a water system would like to enquire through your paper as to the merits of the elevated tank system and if it would be satisfactory in a cold section of the country.

J. P. J.  
Ans.—Elevated tanks are proving quite satisfactory. They may be built sufficiently high to furnish pressure to be of use for fire protection as well as supplying house and barn with the needed requirement. Some are built on a steel tower, others are built of concrete similar to a silo. The bottom may be put in at any height by using heavy steel crosswise of the tank, filling in with concrete and placing woven wire over it, then putting in four or five inches more of concrete. It is not a difficult matter to build the tank, and if the pipes are protected there should be little trouble with freezing unless the temperature goes very low. The bottom part of these elevated concrete tanks may be used for a milk-house if so desired.

**Size of Barn Basement.**  
1. What size of barn basement would be required to conveniently house about seventy head of cattle and six horses?  
2. What height should the walls be, and what thickness?  
3. Which is preferable, stone or cement?  
4. What sized windows and how high from the floor should they be placed?  
5. Is an L shaped building preferable to any other style?

S. LYNN.  
Ans.—1. The dimensions of the basement would depend on how the stalls were arranged and if box stalls were desired. Each cattle beast should be allowed a stall 3 feet wide. As a rule 7 feet is allowed for rear passage and gutter, from 5 to 5½ feet for cattle to stand on. 2 feet for manger and 6 feet for feed passage. If the cattle are to be tied in two rows, space would have to be allowed for manger, stall and rear passage on each side of feed passage. A stable 110 feet long and 34 feet wide inside measurements would stable 70 head in two rows lengthwise of the stable and allow for a passage at each end. If the horse stable were at the end of the cattle stable 24 feet should be added to the length or the entire stable would be 134 feet long which is rather too long for the width. In most stables a number of box stalls is an advantage and can be worked in by making the stable 8 or 9 feet wider. The stable need not be made quite so long unless it is necessary to tie the 70 head of cattle. A horse stall should be 5 feet wide and allowance is usually made for a 7 foot rear passage, 9 feet for length of stall, 3 feet for manger and 5 feet for feed passage. The horse stable 24 feet by 35 feet could be built separate from the other stable. The 35 feet would give 6 stalls and a passageway. If a box stall was required the length could be increased.  
2. The wall should be about 9 feet high, and one foot thick would be sufficient if built of concrete—stone walls are usually built thicker.  
3. Either stone or cement is satisfactory.  
4. Different size windows are used. In some stables windows are placed the long-way near the top of the basement, in others they are placed up and down. Sashes with 10 or 12 lights each 10 by 12 inches make a very good size window and may be arranged in the wall as desired. The closer the windows are to the floor the more danger there is of them becoming broken. However the high narrow window does not permit of as much light throughout the stable as does a deep window.  
5. An L-shaped building is preferred by some men. It may be built to protect the barn-yard from the north and west winds which is an advantage if a practice is made of turning the cattle in the yard during part of the day. Having a stable all under one roof is usually more convenient for feeding cattle. The horse stable could be built at one end.

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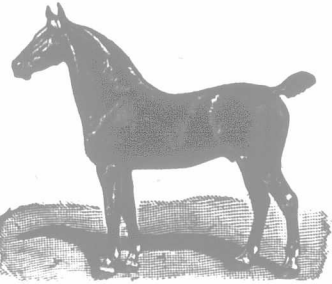
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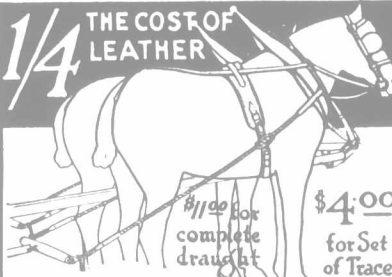
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**GRIFFITH'S GIANT ROPE TRACE**  
Have your dealer show you these outfits. If he hasn't any in stock, write us. But make sure you get them. Mention this paper and we will send you a list of other money savers. G. L. GRIFFITH & SON, 60 Waterloo St., Stratford.



**Dr. Page's English Spavin Cure**  
Cures the lameness from Bone-Spavins, Sidebones, Ringbones, Curbs, Splints, etc., and absorbs the bunches, does not kill the hair, absorbs Capped Hocks, Bog-spavins, thick pastern joints, cures lameness in tendons, most powerful absorbent known, guaranteed, or money refunded. Mailed to any address, price \$1.00. Canadian Agents: J. A. JOHNSTON & CO., Druggists, 171 King St. East, Toronto, Ont.

**BITTER LICK**  
**Salt Brick**  
**Great Conditioner & Worm Destroyer**  
Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc., in such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen, all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only one cent a week. Ask your dealer or write for booklet to STEELE BRIGGS SEED CO., Winnipeg, Man. and Toronto, Ont.

**Highfield Ayrshires** 4 bulls for sale from R. O. P. dams, 10 months old. Priced right for quick sale.  
W. Leeming, R. R. 3, Glanford Stn.  
**Two Black Percheron** stallions, 2 years old, weight 1,600 or better, height, 16 or 16 1/2; extra quality, for sale at farmers' prices.  
NORMAN ATKIN, North Malden, P. O. Amherstburg Station.

**Questions and Answers.**  
Miscellaneous.

**Cows with Swollen Knees.**

I have three cows in my herd with swollen knees. On one it is the left knee and on the other two it is the right. They are very sore and prevent the cattle from lying down. I have bathed them with hot water and applied a liniment. They seem somewhat better. A neighbor told me it was caused by the cow reaching and slipping suddenly. Is this correct or is it a disease?  
D. T.

Ans.—We do not think that the swollen knees are caused by any disease. The complaint is quite common with cows on floors where there is not sufficient bedding. The cows may have slipped or struck their knees on the manger. The swelling is believed to be due to a bruise and the treatment you are giving should effect a cure.

**Sow Lost Litter—Pasture for Calves.**

1. Could you tell me where I made the mistake in feeding my brood sow? She was fed principally on pulped turnips with a handful of oat chop or bran on them and was rather thin. She had the run of the yard all winter in day time. She lost all the pigs which were big and fat with very little hair and weak. They all died in a few hours but two or three which lived about a day.

2. Also what is best to sow in orchard (for pasture) which was ploughed out of sod last fall. I want to pasture my calves on it.

Ans.—1. The sow was doubtless too thin owing to poor feeding. The exercise was good but a little more grain and roots would have likely saved the pigs. Turnips are not as good feed for sows as are mangels and sugar beets.  
2. Try oats and red clover with a little vetch thrown in.

**A Few Hints and Experiences.**

EDITOR "THE FARMER'S ADVOCATE":

I had an experience a short time ago which I believe is a very rare occurrence, but lest some reader some time have the same and be as ignorant as I was as to the trouble I thought I should advise my fellow farmers through the medium of your paper.

A valuable pure-bred Holstein cow gave birth to a fine heifer calf. Everything was all right for a few minutes when my hired man who was working close by espied her staggering. He called me from the house and I was by the cow almost immediately. She seemed to be choking and I shoved a piece of rubber hose down her throat but the passage was clear. In two minutes she was dead. I opened her and found the veil of the calf had gone down her windpipe and suffocated her. Had I known the trouble I could easily have pulled it out for not over 30% could get into the pipe.

In talking with some East Indians recently who were farmers in their Native land—and by the way these particular ones are very intelligent, I inquired as to how they kept up the fertility of their soil for they sell sugar cane off their farms year after year and have been doing so for generations. They informed me that only the manure from what few animals on the place supplied all the fertilization, and that which they depend on most is the urine of their Bulls (Buffalos). They have no floors in the stables and each spring or fall clean about six to nine inches of earth out of the stalls where the Buffalo stand and spread this thinly over the land replacing with soil from their fields that which has been taken out of the stable. On the average farm in this country a very small percentage of the liquid manure is conserved and if so valuable in India how much do we lose by wasting?

Speaking of manure and the spreading of this valuable substance in the winter time, I have found that on land that has been plowed in the fall it is a good idea to haul it out and spread thinly on top of the snow if the fields are level, but on land that has to be plowed as early in

**CALDWELL'S**

**Part of the Feed Should be Ground**

Hens keep healthier when part of their grain feed is ground. High egg records are out of the question unless a high-protein mash formed of digestible foods is given regularly to the hens.

You know something about food values. Read what goes into Caldwell's Laying Mash. That mash will produce all the eggs your hens are capable of laying.

**CALDWELL'S LAYING MEAL**

Made from Chopped Oats, Beef Scrap, Corn, Gluten Feed, Barley, Dried Grains, Middlings, Malt Sprouts, Molasses Meal, Clover Meal—No Grit, Shell, Charcoal or wild seeds.

**ANALYSIS:**  
Protein 15 per cent.; fat 4.5 per cent.; Fibre 7 per cent.; Carbohydrates 53 per cent.

Caldwell's Scratch Feed—ideal variety of grains to keep up health and egg-production. Complete feeds also to bring chicks along rapidly. Write for lists and prices if your dealer cannot supply you. Caldwell's egg record FREE.

**The Caldwell Feed & Cereal Co., Ltd.**

DUNDAS, ONTARIO  
LARGEST FEED MILLS IN CANADA  
MAKERS OF ALL KINDS OF HIGH-CLASS

**STANDARD FEEDS**

**Rosedale Stock Farm** For Sale—One 3 yr. old Shire stallion, one 3 yr. old Hackney stallion, both winners of 1915. Also two Shorthorn bulls 10 and 11 months old.  
G. T. R., & C. P. R., & Electric Lines. Long-Distance Telephone.  
**J. M. Gardhouse, Weston, Ontario**

**WOODLANDS BROWN SWISS AND PONIES**  
We have no Clydes. left for sale. Our special offering is Brown Swiss Bulls, out of high-testing and big producing dams. Strictly high-class. Also Shetland and Welsh Ponies.  
**R. BALLAGH & SON, GUELPH, ONTARIO**

**ORCHARD GROVE HEREFORDS**

Have several young bulls and heifers for sale. Satisfaction guaranteed.  
**L. O. CLIFFORD, Oshawa, Ont.**

**Shorthorns 10 Bulls** 4 good ones 18 months of age, 3 twelve and 3 seven. 6 roans and 4 reds all registered and got by the good kind of stock, and will be sold cheap to make room. 30 breeding females to select from.  
**Jno. Elder & Sons, Hensall, Ont.**

**Shorthorns** Have still left one bull (15 months) by Sittyton Victor (Imp): two spring bull calves by Newton Sort =93019=; a few young cows, and a few heifers among which is a junior yearling show proposition. Come and see them.  
**Wm. D. Dyer, R. R. No. 3, Oshawa, Ontario. 2 1/2 miles from Brooklin, G.T.R. 4 miles from Myrtle, C.P.R.**

**Maple Grange Shorthorns** Pure Scotch and Scotch-topped. Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.  
**R. J. DOYLE, Owen Sound, Ontario**

**10 Shorthorn Bulls** and 40 females. Shropshires and Cotswold ewes for sale at prices within the reach of all.  
**JOHN MILLER, Ashburn, Ont. Myrtle Sta., C.P.R. & G.T.R.**

**Spring Valley Shorthorns** Herd headed by the two great breeding bulls Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.  
**KYLE BROS. Drumbo, Ont. Phone and telegraph via Ayr**

**Shorthorns Bulls** PRESENT OFFERING Master Butterfly, red roan, calved June 1915 sired by Nonpareil Lord =87184=, Dam, Blythsome Girl 5th, =66982=, Master Ramsden, red roan, calved May 1915, sired by Nonpareil Lord =87184=, dam, Miss Ramsden 144th, by Lord Lavender =70558=. Fifteen choice yearling heifers.  
**A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C. P. R., & G. T. R. Oshawa, C.N.R.**

**GLENGOW SHORTHORNS AND COTSWOLDS**  
Pure Scotch in breeding, we have an exceptionally choice lot of bulls for this season's trade, ranging in age from 8 to 15 months, big mellow fellows and bred in the purple. Also ram and ewe lambs of first quality.  
**Wm. Smith & Son, Columbus, Ont. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.**

**Spruce Glen Shorthorns** When in want of Shorthorns visit our herd. We have 70 head to select from. Minas, Fames, Miss Ramsdens, Florences, Emilys, etc. Many of them one and two-year-old heifers. Also several young bulls of breeding age—level, thick, mellow fellows, and bred just right.  
**JAMES McPHERSON & SONS, DUNDALK, ONT.**

**Shorthorns** Pure Scotch and Scotch topped—Booth. Also five (5) young bulls from ten to twenty months old, of the low down, thick kind, good colors—reds and roans. Prices reasonable.  
**G. E. Morden & Son, Oakville, Ontario**

**OAK LODGE STOCK FARM**

Shorthorn Bull, 20 months old, bred from dam of milking strain. Two bulls, twelve months old. Will be sold at a price that will please customers.  
**J. E. BRETHOUR & NEPHEWS, BURFORD, ONT.**

**Maple Shade Farm Shorthorns** The products of this herd have been in very strong demand. There's a reason. Can always supply a good young bull at a price which will make him well worth the money. Not many females for sale but can show a few which should interest you.  
**Maple Shade Farm, Brooklin, Ont. W. A. DRYDEN, Brooklin, G. T. R. C. N. R., Myrtle, C. P. R.**

**Ploughs—Wilkinson**  
TRADE MARK REGISTERED

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

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

No. 3  
Sod or  
General  
Purpose  
Plough.  
15 styles  
to choose  
from.



## CREAM WANTED

We think we have the longest experience.

We try to give the best service. We need your cream and will make it "worth your while" to ship to us. "A card brings particulars."

**Toronto Creamery Co., Ltd.**  
TORONTO

## CREAM

Where are you shipping now? And what are you getting for your cream?

We want more individual shippers and more men to gather cream for us.

Write for our proposition.

**Silverwoods Limited**  
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## CREAM

We pay express charges and furnish cans. Remit promptly. Take all you can make. Write us.

**THE BERLIN CREAMERY CO.**  
Berlin, Canada.

## Sarnia Creamery

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

Write for particulars.

**Sarnia Creamery Co., Ltd.**  
Sarnia, Ont.

## ALLOWAY LODGE STOCK FARM Angus, Southdowns, Collies

Special this month:

**Southdown Prize Rams**

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

## Elm Park Aberdeen-Angus

Our herd is headed by Beautys Erwin =5736= grand champion bull at Edmonton 1914 and London 1915. He is out of our champion cow Beauty 4th, =1852=, and sired by Erwin C. =5735=; grand champion bull at Chicago 1915. He is assisted by young Leroy, sired by grand champion bull, Chicago 1912. We have stock by these bulls for sale.

**JAMES BOWMAN, Elm Park, Guelph, Ont.**

**Tweedhill—Aberdeen-Angus.** Choice young bulls of serviceable age; also females. If you want anything in this line, write: James Sharp, R. R. 1, Terra Cotta, Ontario, Cheltenham, C. P. R. & G. T. R.

## The Glengore Angus

Some choice bulls, from 7 to 15 months, for sale. For particulars write:

**GEO. DAVIS & SONS, P.R. No. 1, Erin, Ont.**

**Beaver Hill Aberdeen Angus** Bulls fit for service. Females all ages. Cows with calves at foot. Prices reasonable.

**ALEX. McKINNEY, R.R. No. 1, Erin, Ont., Cheltenham, G. T. R., Erin, C. P. R.**

the spring as is possible it retards the spring work more by having to wait three or four days extra for the ground to thaw and dry. Spreading in heaps in the winter is worse for it takes sometimes two weeks to thaw out where the heaps have been. Two years I tried that and spread the heaps early in the spring. About six inches in the bottoms was frozen solid when the ground around was free of frost and beneath the heaps was fully eighteen inches of ground frozen. (I might say the heaps contained about 500 lbs. each.) The consequence was we could not wait till the earth was thawed under the heaps the plow was thrown out there and was merely disced, and every place where a heap had been the grain grew so rank it fell down, and was practically lost. I find it best to haul manure out in the fall on to the land (and plowed down) where needed next year for roots, so that the root crop gets more of the good of the manure than if put out in the spring. The winter manure can then be spread on to the land to be summer fallowed either in heaps or right off the sleigh, the latter much preferred.

Last month I only had one cow milking and it was her tenth month. She is due to freshen again early in June. She made 830 lbs. milk for \$6.00 worth of feed 200 lbs. Bran \$2.00; 1,200 lbs. Turnips \$2.00. Good Clean Oat Straw (saturated) \$2.00 about 72 cents per cwt. which is very cheap production for winter milk especially with a cow in her tenth month of lactation, moral "A good cow pays."

B. C.

T. K.

## Gossip.

### James Benning's Ayrshire Sale.

The Glenhurst herd of Ayrshires, the property of James Benning, Williams-town, Ontario, will be dispersed on April 19. This herd has a continent-wide reputation, and is one of the oldest herds in the Dominion of Canada, being founded 55 years ago by the late David Benning, by importations from Scotland. The greatest care has been taken to breed the dairy type of Ayrshires and one of their striking characteristics is their size. For style and smoothness of conformation they are also first class. Animals from this herd have gone to parts of the United States and Canada wherever Ayrshires are bred. Representatives have also been sent to the Orient, the Japanese Government having made several selections from this herd for their Government Farms. The World's Fair Champion was also bred in this herd. Mr. Benning writes that the herd is perfectly free from disease, there never having been a reactor. The 30 milk cows have a test of 4.06 per cent. butter fat. Any of these cows, Mr. Benning asserts, could qualify for the Advanced Register. The sale will include no less than 75 animals of all ages, and it is safe to say that there has never been a better lot of high-quality individuals offered at auction. Senior in service is Glenhurst Torrs Mayor, 43480, the dam of which is Torrs Cony 3rd. (Imp.), which gave 1900 pounds of milk in one month testing 4.02 per cent. butter fat. Assistant in service is Royal Prince, 42171, the dam of which in one month gave 1500 pounds of milk. This is a pair of bulls of exceptional merit and they are proving themselves to be prepotent stock-getters. Some of the breeding cows are imported and a number of others are daughters of these cows. Practically all the others trace to the famous Floss strain. Fifty and sixty pounds per day from this strain is common. A few of the individuals may be mentioned. Glenhurst White Ruth 2nd has dropped a fine bull calf and she is milking 55 lbs. per day, and she will go over 60 lbs. Lessnessock Brownie freshened in December, and has milked 55 lbs. per day, testing 4.04 per cent. butter fat. Redhill Sally has tested 4.03 per cent. to 4.06 per cent. butter fat. Craigley Pansy 2nd. (Imp.) is half sister, by the same sire, to Auchenbrain Brown Kate 4th. (Imp.), the ex-world's champion. Mr. Benning wishes to thank his many customers for past favors, and extends a hearty invitation to all to attend the sale on April 19. Vehicles will meet the Moccasin and noon express train at Summerstown station, G. T. R., to take visitors to Glenhurst. See the advertisement on another page and write for a catalogue.

## You'll be sure of the best silage and the longest service



Made in Canada

It is not a low price that makes a silo worth buying. It is the quality of the silage you will get out of it and the number of years the silo will last.

Your silage must be well preserved if your cattle are to thrive on it. You cannot make good silage with a cheap make-shift silo. Such a silo cannot be kept air and water tight, and unless it is, poor silage will result.

The least expensive silo to buy and the most profitable one to own is the Ideal Green Feed Silo. It produces the very best quality of silage and gives you the longest service.

Every detail in the making of this silo is fully explained in our large silo catalogue. Ask for a copy, and read it. You will then see how carefully the material is selected; the staves milled, splined and fitted together and secured against the tremendous pressure of the silage; how the staves are treated with a preservative that protects them most effectively against the acid in the silage.

Every superior feature of the Ideal is a result of long experience in the process of manufacture. There is nothing mysterious about the extra value you get in the Ideal. Everything is fully explained in the catalogue and will be clear to you when you investigate. Write for the catalogue today.

## DE LAVAL DAIRY SUPPLY CO., Ltd.

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

MONTREAL PETERBORO WINNIPEG VANCOUVER

## Twenty Imported Bulls

These imported bulls, along with 10 home-bred bulls, may now be seen at our farms. There are some choice ones among them. We also imported four cows and a heifer, all of which are forward in calf. An invitation is extended to anyone interested in this class of stock to visit us at any time. Correspondence will receive our most careful attention.

**Burlington Jct., G. T. R.**  
Burlington Phone or Telegraph.

**J. A. & H. M. PETTIT**  
Freeman, Ont.

## The Salem Shorthorns

are headed by "Gainford Marquis" (Imp.). Records prove that he is the greatest Shorthorn show and breeding bull in existence. Special offering: Eight bulls from eight to fifteen months.

**J. A. WATT,**

**Elora, Ont., G.T.R. & C.P.R.**

## Escana Farm Shorthorns

FOR SALE: Two imported bulls, proven valuable sires; 12 bulls, 10 to 20 months old, all by imp. sires and from high-class dams; also for sale, 20 heifers and young cows, several with calves at foot, all of very choicest breeding, and especially suitable for foundation purposes.

Mail orders a specialty. Satisfaction guaranteed.

**MITCHELL BROS.**

**Burlington P.O., Ontario**

Jos. McCrudden, Manager. Farm ¼ mile from Burlington Jct.

**Willowbank Stock Farm Shorthorn Herd** Established 1855. This large and old established herd has at the head the two great bulls: Imported Roan Chief =60865= a Butterfly or either sex. Splendid condition. Good families of both milking strain and beef. **James Douglas, Caledonia, Ont.**



## Walnut-Grove Shorthorns

Sired by the great sire Trout Creek Wonder and out of Imp. cows and their daughters of pure Scotch breeding and others Scotch topped. For sale are several extra nice young bulls and a few heifers. Let us know your wants.

**DUNCAN BROWN & SONS, R.M.D. Sheddon, Ont., P.M. & M.C.R.**

**Shorthorns and Shropshires**—T. L. MERCER, Markdale, Ontario. young cows in calf, heifers from calves up, and young bulls from 9 to 18 months of age, richly bred and well finished. In Shropshires we have a large number of ram and ewe lambs by a Toronto 1st-prize ram; high-class lot.

**Quality and Production** are combined in the dams of the young bulls 10 to 12 months old. Also females of all ages for sale.

**M. L. HALEY**

**Springford, Ont.**

**M. H. HALEY**

**Shorthorns and Clydesdales**—Two bulls, serviceable age, both good ones, and are offering females of all ages. Have some choice heifers bred to Clansman =87809=; also two mares in foal, 3 and 4 years old, and one 2-year-old filly. All from imp. stock.

**A. B. & T. W. DOUGLAS, Strathroy, Ont. L.-D. Phone.**



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VANCOUVER

**Bulls**

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& H. M. PETTIT  
Freeman, Ont

**Shorthorns**

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R. & C.P.R.

**Shorthorns**

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Established 1855.  
This large and old  
=60865= a Butterfly  
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P.M. & M.C.R.

Markdale, Ontario  
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M. H. HALEY

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bred to Clansman  
All from imp. stock.  
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**Deep Seedbeds Properly Prepared**

—That's what you get when you use the deep-cutting, double-turning, leveling and compacting

**"Acme" Pulverizing Harrow**

"The coulters do the work"—you should see them mix the soil, cut clods, weeds and trash and make the whole into a firm yet mellow seed-bed several inches deep. The "Acme" is simple, durable and easy to pull. Sizes 3 ft. to 17 1/2 ft. wide. Thousands in use. Send for booklet now.



No 23. 6 1/2 ft. wide  
**The Bateman-Wilkinson Co. Limited**  
500 Symington Avenue Toronto, Ont.



**The Salt is mighty important**

**Windsor Dairy Salt**  
Made in Canada  
THE CANADIAN SALT CO. LIMITED

**STAMMERING**

or stuttering overcomes positively. Our natural method permanently restores natural speech. Graduates pupils everywhere. Write for free advice and literature.

**THE ARNOTT INSTITUTE**  
BERLIN, CANADA

AUCTION SALE OF

**Dual-Purpose Shorthorns**

20 Females and 6 Males

Including the noted stock-getter, Bullrush (Imp.) 69738—Vol. 54E, and several young bulls got by him from heavy-milking dams. The females are of a deep-milking strain, nearly all bred, and some heavy with calf. Sale on

**Thursday, April 13, 1916**

Write for catalogue to the proprietors.

**A. & G. FORBES**  
West Montrose, Ontario

Northlynd R.O.P. Shorthorns and Jerseys Present offering: one shorthorn bull old enough for service, whose dam, his dam's full sister and his grandam in six yearly tests made an average of over 8,500 lbs. milk, testing over 4% in an average of 329 days.  
G. A. Jackson. Downsview, Ont.

**Two Shorthorn Bulls** For sale, by imported sire Commodore =86521=, one is a yearling and the other a two-year-old. Both are out of a Nonpareil cow which is a good milker. Prices right. Apply to H. T. Rigney, Denfield R.R. 4, Granton is nearest station.

**Gossip.**

Attention is directed to the small advertisement of the Vaudreuil Dairy & Stock Farm Ltd., in this issue. They are offering for sale a stock bull and the entire herd of Ayrshires.

Farmers and people throughout the Province of Quebec are making preparations for the chick hatching season. Those who wish to secure best results in hatching may obtain good information by writing to the Poultry Department, Macdonald College, P. Q., for a bulletin on "Farm Poultry," which will be sent free upon request.

**Maple-shade Shorthorns.**

That history will repeat itself in matters pertaining to the breeding and exhibiting of live stock has many times been proven and will likely continue to repeat itself. The case in point is the massive, perfectly-fleshed bull, Archer's Hope, in service at the head of the Maple-shade herd of W. A. Dryden, of Brooklin, Ont. Two years ago at Toronto he was first and senior champion and reserve for grand champion, the latter honors many thought he should have won. He is a bull of outstanding merit, and with that is probably the greatest and most potent sire ever at the head of this herd in the 52 years since the herd was founded. He has produced many prize winners, grading all the way up to champions, but a roan 10-month-old son of his now in the herd is one of the very best he ever sired. He is a coming champion without a doubt. So high is the quality of the get of Archer's Hope, that the big annual increase of the 60 odd head that make up the herd goes quickly to breeders looking for the best.

**Enlisting in Rural Districts.**

EDITOR "THE FARMER'S ADVOCATE":— Apropos of the subject of Rural enlistment it is gratifying to note that city people are so much in sympathy with the poor farmer. They always were, but now their sympathy has taken a practical turn and the farm help problem is solved.

Doubtless many of the city people who write letters for the press were raised in the country, but the world has been moving and farm life and farm operations are not what they were perhaps thirty or forty years ago. The gentleman who wrote recently saying every man of military age could be taken from the land, their places filled by school boys etc, and still production be increased, has, I fear, been having a long Rip Van Winkle sleep.

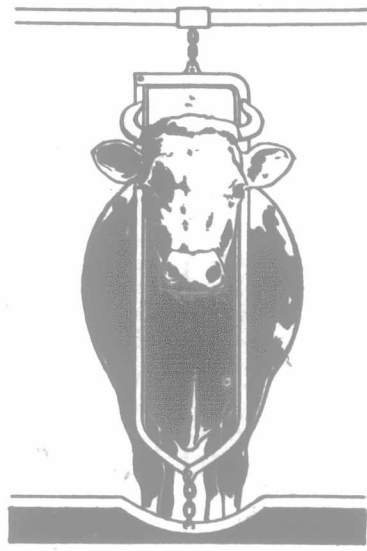
The proposal to turn boy scouts, high school students etc, loose on the farming community requires thought. How many boy scouts would a farmer require to take the place of his son—a practical, capable, bred-on-the-land boy? Let someone answer who has had experience of a number of city boys running loose on his farm—tampering with machinery and the hundred and one other things that might be mentioned.

It is considered unpatriotic to even hint at the grave danger we are facing by taking the men from the land. A man like Peter McArthur can see it because he is a thinker—has a mind trained to think.

In proportion to population the rural districts are doing their duty. True, they do not have whirlwind campaigns and there-by draw attention to what they are doing. The thinking people in the country are fully alive to the seriousness of the situation and every effort must be made but the farmer scarcely knows what is expected of him. The advice offered is so conflicting. Can he serve his King and Country as well by remaining on the farm as by fighting in the trenches? Some advertisements hint that he cannot while news articles show a deplorable shortage of help on the farms.

I notice that city women are offering themselves for farm work. Personally I am thinking of inserting the following "Ad" in the dailies:—

"Wanted, a city woman for general farm work—forking manure, plowing, cultivating, seeding, hoeing turnips, etc. One capable of handling a four-horse team preferred. All modern machinery used. Wages no object. If suited, live long engagement."  
Ontario Co., Ont. J. L. M.



**A Little Investment in Cow Happiness will Pay Big Dividends**

It is in the dairy end of farming that modern equipment most surely and quickly pays for itself in increased profits. A small sum invested in equipment for the increased comfort of your cows will earn more than gratitude from them—it will increase the milk flow. An unhappy animal cannot be a productive animal. The money-making possibilities of a dairy farm depend directly on the treatment of the stock. The money-saving possibilities of modern equipment will be apparent to you also if you read

**The Dillon Book on Stalls and Stanchions**

In it we have tried to explain, in terms of dollars and cents, the importance of Dillon "Stability" Stable Equipment as a farm asset. We show how, with smallest possible outlay, you can have a sanitary barn, and one in which the labor of caring for the stock is reduced to a minimum. The book tells in detail the features of Dillon Stalls and Stanchions that recommend them to the shrewd judgment of the modern farm owner. You should get this important Dillon book, and with it the expert advice we are ready and willing to offer relative to the remodeling of your barn.

Free to you—if you write now

Write for the Stall and Stanchion Book. With it we will send, if you ask us to, our larger book on Stable Equipment in general. Also, if you will send us information as to how many cows you have to stable and tell us what sort of equipment you now have, we will furnish valuable advice (without cost or obligation in any sense) on how to improve that equipment at small outlay.

**R. Dillon & Son**

64 Mill Street - South Oshawa, Ont.

**Dairy Shorthorn Bulls**

From 12 to 14 months old, from good dams and by our stock bull, College Duke -85912- . Address—

**Weldwood Farm**

Farmer's Advocate London, Ontario

**THE AULD HERD**

Two good young bulls for sale, one fourteen and one seventeen months old, also a couple younger. Intending purchasers met at station on request.

**A. F. & G. Auld, R. R. 2, Guelph, Ont.**

**DUAL-PURPOSE SHORTHORNS**

For Sale—One 2 yr. old, and two yearling bulls, closely related to "Royal Princess," the 1st prize cow at Guelph which gave 51 lbs. per day, testing 4.6% fat.  
S. W. JACKSON, WOODSTOCK, ONT. Burgessville Phone

**Meadow Lawn Shorthorns** We are offering a choice lot of bulls at very reasonable prices. An exceptionally good one sired by Clan Alpine 2nd, No. 88387, G. D. Donside Alexandra (Imp) No. 59513, and any one wanting a right good herd header would do well to secure this bull as he is a smooth, well proportioned fellow that attracts attention at first sight.  
F. W. Ewing, G.T.R. & C.P.R., R. R. No. 1, Elora, Ont.

**"Maple Hall Farm" Shorthorns** Three choice young bulls, eight to twelve months old; also younger ones and some young cows with calves at foot. Two-year-old heifers and younger ones.  
D. BIRRELL & SON, Claremont, Ontario  
Stations: Greenburn, C. N. R., Claremont, C. P. R., Pickering, G. T. R.

**Pleasant Valley Farm Shorthorns** For sale, 9 bulls of serviceable age. We can interest you in a real good bull at a right price, for herd headers or use on grade herds. Some sired by (Imp.) Loyal Scott; also females. Write us before buying.  
GEO. AMOS & SONS, Moffat, Ont., Stn. C.P.R., 11 miles east of Guelph



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It takes 400,000 cars to carry Fertilizers to our farmers every season. Forty per cent.—2 cars out of 5—is Filler. Order higher grades and Nitrate of Soda for your active Nitrogen and save freight.

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Keeps new harness new. Makes old harness look like new.

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BRANCHES IN ALL CITIES

**SHORTHORNS**

Five high-class bulls, from 10 to 15 months, two sires by Real Sultan, others just as good. Am pricing them low, as it is getting late in the season. A few heifers and young cows to offer, some milking families. Freight paid.

Stewart M. Graham, Lindsay, Ont.

**SHORTHORNS**

Three bulls in the sale, London, March 29th, the only ones I have for sale except calves. Would price a few females. Inspection solicited.

J. T. GIBSON. DENFIELD, ONT.

**Burnfoot Stock Farm, Caledonia, Ont.**  
Breeder of heavy milking dual-purpose Shorthorns. We offer now a handsome roan bull, calved Aug. 13, 1915, out of Jean's Lassie, the champion 2-year-old in the R.O.P., and sire as good. S.A. Moore, Prop., Caledonia, Ont.

**Fletcher's Shorthorns**—Our herd of pure Scotch Shorthorns are mostly direct from imp. stock. Three very choice bulls for sale, also females. GEO. D. FLETCHER, R.R. 1, Erin, Ont. L.D. Phone. Erin Sta. C.P.R.

**For Sale** The imp. Shorthorn bull Bandsman, #73729. Also 2 young bulls, a Princess Royal and a Fair Maid.  
WM. GRAINGER & SON, R.R. No. 1, Auburn, Ont. Blyth Phone 3810.

**Shorthorns** bulls, females, reds, roans, size, quality. Breeding milkers over 40 years. Cows milking 90 lbs. a day. Big, fleshy sires that will raise calves right. Please write: Thomas Graham, R.R. 3, Port Perry, Ont.

**Shorthorns and Swine** Have some fine cows and heifers of show quality, some with three at foot. Also choice Yorkshire sows.  
ANDREW GROFF, R.R. No. 1, FLORA, ONT.

**Shorthorns** "Pail Fillers" Our short horns are bred and developed for big milk production. If you want a stock bull bred that way, we have several, also Clyde, station using 2, with 2nd at Caledonia the other day in a big class. P. Christie & Son, Manchester, Ont.

**Gossip.**

**Newcastle Shorthorns and Tamworths.**

For many years A. A. Colwill, of Newcastle, Ont., has been known through the columns of this paper as one of Ontario's leading breeders of Shorthorn cattle and Tamworth swine. In his Shorthorn breeding operations Mr. Colwill has paid particular attention to the increasing of the milk yield of his Shorthorns. Having this object in view when founding his herd many years ago he purchased the animals best conforming to his idea of the type required to attain the results hoped for without too much stress being placed on the pedigree they carried or the lines on which they were bred. Therefore, his herd of to-day is Scotch, topped on English foundation, the majority of them filling, and several of them more than filling a twelve-quart pail at a milking on ordinary feeding or on grass alone. This is the kind of stock he is selling to customers, the kind that bring many letters of approval from satisfied customers. Just now he is offering some attractive heifers from one to three years of age, and a little later some young bulls bred from some of his best milking cows and sired by Roan Beauty 118097, which is also bred on milk-producing lines. The Newcastle Tamworths are too well known to need any comment as to their high standard of quality. They are descended from such noted boars as the Toronto champion, Colwill's Choice, Imp. Knowle King David and Imp. Cholderton Golden Secret. There are on hand for sale some exceptionally choice, young sows. Some of them bred, others of breeding age, and still younger ones. The same may be said of the young boars. Parties wanting high-class Tamworths can safely trust Mr. Colwill to select for them, as no man knows better than he the type and quality required in a Tamworth.

**Duncan Brown's Sales.**

Duncan Brown & Sons, Sheddin, Ontario, are well pleased with the way their stock has wintered. In a letter to "The Farmer's Advocate," they write that Gainford Eclipse, recently purchased, has arrived in his new home safely, and they are well pleased with him. The senior herd bull, Trout-creek Wonder, although he is getting up in years, is as smart as a two-year-old, and his calves all arrive strong. The herd has wintered well, all are healthy and vigorous. Messrs. Brown also write regarding their sales.

"We have sold all of this year's crop of bull calves. One of the Bruce Mayflower family to R. N. Reid, Puslinch; he ought to make a good one. We sold another to J. J. Dewhurst, of South Woodslee, that we think hard to beat. We sold another to Harry Lampman, of Palmyra, that we expect Ontario should hear from. We sold one to Alfred Langstaff, Wallaceburg, he is as good as the best. Another was sold to John Pollard & Sons, Iona Station, that should make a good one. We have three bulls for sale about thirteen months, with the same quality of skin and bone that Trout-creek Wonder puts on them and fit to head any herd, that we would sell at reasonable prices. We have sold two Strathallan heifers to W. W. Scott, Highgate, that will be a credit to Western Ontario.

A unique and interesting experiment has been launched by the Saddle and Sirloin Club, Chicago, Ill. In the evening classes of the Chicago high schools, just closing, it is significant to note that one hundred and twenty-five boys and young men, from the shops and offices, devoted their evenings to a study of agriculture with the ultimate intention of becoming farmers. Apropos of this, Dean Davenport, of the University of Illinois, in a recent address before the Cook County Farmer's Institute, stated that of the eleven hundred students in the freshmen year of the College of Agriculture, a few years ago, one-eighth were from the city of Chicago. These are interesting and encouraging facts. The Saddle and Sirloin Club, recognizing this manifest interest and desiring to encourage and promote it, by practical means, has instituted a series of live stock demonstrations. The idea has been enthusiastically received, the students are eager, and the movement should result in much good.



**"Good News for Farm Women"**

Orange, N. J., March 1, 1916

Dear Mrs. Dairywoman:—

The bearer of good news is always welcome; and I have some very good news for farm women. We've a new separator at our house and it's a wonder.

One splendid feature of this new invention which must have been planned with the comfort of the dairy woman in mind is the knee-high supply can. This does away with the hard, high lift no woman should be asked to endure day after day. It's only a few inches to lift and a tilt of the pail, even for a small boy. This is one item of good news.

Cleanliness is the beginning, middle, and end of good dairy work. You know how quickly the separator shows the effect of any slight letting up in this direction. With dishes to wash three times a day, cooking utensils, calf pails, milk pails, etc., a big pile of separator disks is just about the "last straw", isn't it? But with our new Sharples there are only three pieces to clean, not one heavy, bulky, or fussy. This is the second piece of good news.

Formerly, a slight slowing of speed in turning the handle of the separator meant a loss of cream—and money. One's attention had to be strictly on turning the crank at an unvarying high speed, which was trying to both mind and strength. My third and best piece of good news is that

**THE NEW SHARPLES SUCTION-FEED**

Separator draws up into the bowl just the right amount of milk—always in proportion to the separating force. If you feel out of sorts, you may turn slowly and the bowl will drink up just enough milk for clean skimming and no more. If you feel spry and want to get through to sew, to trim a hat, or to visit a neighbor, turn as fast as you please and the bowl will take up proportionally more milk, yet the cream will be of the same thickness. Smooth, even cream, such as the Suction-feed gives you makes quality butter that brings top prices.

The separator has only one thing to do while you have many tasks. The separator has always been a tyrant which insisted on being turned at regulation speed, whether you were well or ill, worried or happy, rested or worn out. But this new Suction-feed Separator meets your moods. Its speed is your speed and yet, it gets all the cream all the time.

Why don't you drop a postal to the Sharples people for their new book? Then, you can show your husband that this new invention will be a money saver for him as well as a labor saver for you.

Yours truly,  
A Dairywoman

What this farm woman says in her letter is absolutely true. There are many other pieces of good news in our new book, "Velvet" for Dairymen, which fully describes this wonderful separator. Send for your copy today. Address Dept. 78.



The bowl is easy to wash. There are only three parts, and no disks.

**The Sharples Separator Co.**  
Toronto - - - - - Canada

**Robert Miller** Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service, Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years and still it grows. There is a reason.  
ROBERT MILLER, Stouffville, Ontario

MARCH 3

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## Eastlake Galvanized Shingles

They are a PROVEN roofing—not an experiment. Very easily laid, joints are snug and close fitting—they simply cannot leak. They save labor in laying and improve your buildings. Reduce insurance rates. No danger from fire by lightning or sparks.

Write for interesting Booklet. Price 10c and detailed information about "Metallic" building materials, Siding, Corrugated Iron, "Metallic" Ceilings, etc.

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### A Strong Hatch

Make sure of high fertility and strong, lively chicks by keeping your breeding stock healthy and vigorous. One cent a hen per month will put your flock in prime condition. Pratts Poultry Regulator gently aids and tones the digestive organs and converts food into strong, hatchable eggs. Sold on our Money Back Guarantee. 25c. packages and larger money-saving sizes up to 25 lb. pails, \$2.50. At all dealers.

### Pratts POULTRY REGULATOR

FREE—Write for "Poultry Wrinkles."

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ORMSTOWN, P. QUE.

For want of stable room the following registered Jerseys will be sold cheap:

- 2 First-class yearling heifers.
- 1 First-class yearling bull (extra) fit for immediate service.
- 2 First-class bull calves.

All sired by Royal Merger II, out of my best cows.

Also 2 mares, 4 years; 3 imported, registered Shetland ponies; 1 gelding, coming 2. Clydesdale mares and fillies of the very best breeding and conformation. Apply to:—

D. McEACHRAN, Ormstown

Jerseys For Sale—1 am offering 2 very fine Jersey bulls, age 10 and 12 months. Also 1 yearling cow from imp. sire and high-testing dams. To prevent inbreeding will sell my stock bull De La Roche (imp.). Prices right. CHAS. E. ROGERS, Ingersoll, Ont.

### Questions and Answers. Miscellaneous.

#### Size of Milk Stool.

What are the dimensions of a milk stool for holding a pail? J. M.

Ans.—The size of stool would depend somewhat on the size of pail used. A stool which gives a space about 15 inches square should be sufficient for the pail. The raised part of the stool, for the milker to sit on, should be about six inches higher than the bottom for the pail, and may be about 15 by 12 inches. The stool may be raised to the required height by attaching legs to it.

#### To Kill Skunk Odor.

An Ontario County correspondent writes in reply to a question by J. H. P., re saving butter that had absorbed skunk odor, that she was able to save some badly affected by the same trouble by putting it in 10-lb. crocks, tying a piece of white cotton over them, placing a china plate on top, and then the crock was turned upside down and buried in the ground three feet deep. The butter was left buried six weeks. A board was placed on the top to prevent water getting in. The butter was all right when taken out.

#### Seeding to Alfalfa.

I intend sowing some alfalfa this spring on a side hill, which had oats last year, but I did not get it plowed last fall. Would you advise sowing the seed and harrowing it in without plowing, or will I get a catch if I plow it in the spring? A. S.

Ans.—It is not stated whether or not the field is free from weeds and grass. Alfalfa is a plant that is frequently crowded out by wild grass. As it takes a considerable amount of seed to sow a field we would advise having the field in good tilth and clean before attempting to sow alfalfa seed. Provided the field mentioned is clean, we see no objections to cultivating the ground thoroughly, making a good seed-bed and sowing the seed this spring. If there is much grass growing it would possibly be more satisfactory to summer-fallow the land until the first part of July, then sow the alfalfa seed without a nurse crop.

#### Capacity of Silos—Amount Required For Foundation—Entomological Supplies.

1. Are West Highland cattle good beef producers? Are they good milkers?
2. How many tons of silage will a silo 30 by 15 feet, and one 28 by 14 feet contain?
3. How many barrels of cement will be required for a foundation of 40 by 18 feet, 10 inches high by 6 inches thick?
4. Where may I purchase entomological supplies?
5. Where may I purchase wrestling suits and mats? E. S.

Ans.—1. The West Highland cattle produce beef of high quality. The meat is fine grained, and the fat is usually distributed well among the lean. The flavor is good, and carcasses dress out well. But these cattle feed rather slowly and mature late. They are not noted for their milking qualities.

2. Silage varies in weight, depending on the maturity of the corn and its compactness in the silo. With average silage, a silo 30 by 15 feet should contain about 105 tons, and the smaller one about 80 tons.

3. Mixing the concrete in proportions of one part cement to eight of gravel about 3½ barrels of cement will be required to build the foundation.

4 and 5. Try the Students Co-operative Supply Store, O. A. C., Guelph.

#### Gossip.

At the recent Manitoba Winter Fair, held at Brandon, Herefords made a fine showing and attracted much attention. In the "Boys' Fat Calf Competition" the first, fourth and fifth prizes, in a class of twenty-five entries, were won by Herefords. This is the second year in succession that a Hereford has won this champion prize over all breeds. Master Holby J. Moffatt, Carroll, Man., was the successful competitor.

H. D. S.

# Before You Build

## WHAT THE FARMER CAN DO WITH CONCRETE

**A Concrete Foundation for a Horse Barn**

Concrete is becoming recognized as the only material for a horse barn foundation. It is the best material for the job because it is so strong and so durable. It is also the most economical material for the job because it is so easy to mix and so easy to lay.

When building a horse barn, the first thing to do is to lay a concrete foundation. This foundation should be at least 12 inches thick and should be laid on a bed of gravel. The foundation should be laid in a trench that is 12 inches wide and 12 inches deep. The trench should be dug to the depth of the foundation. The gravel should be laid in a layer 4 inches thick. The concrete should be laid in a layer 12 inches thick. The concrete should be laid in a trench that is 12 inches wide and 12 inches deep. The trench should be dug to the depth of the foundation. The gravel should be laid in a layer 4 inches thick. The concrete should be laid in a layer 12 inches thick.



Concrete is the Best Material for a Horse Barn Foundation

In the first place, concrete foundation is the best material for a horse barn foundation because it is so strong and so durable. It is also the most economical material for the job because it is so easy to mix and so easy to lay.

### Get This Free Book

It contains 150 pages like those shown here—116 pages give practical instructions for improving your farm, explaining the most economical way to construct all kinds of buildings, walks, foundations, feeding-floors, walls, troughs, tanks, fence-posts, and 45 other things needed on every farm.

There are 14 pages of information vital to every farmer who intends to build a silo. 22 pages show what concrete is; how to mix it; the tools needed; what kind of sand, stone and cement are best; how to make forms; how to place concrete; and reinforce it, etc., etc. In fact it tells everything necessary to know about the world's best and most economical building material—Concrete.

This book is the recognized authority on farm improvements and has benefited 75,000 farmers.

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### Brampton Jerseys

B. H. BULL & SON.

We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show-ring.

BRAMPTON, ONTARIO

### Jerseys, Shropshires, Tamworths

J. B. COWIESON & SONS, Queensville, Ont.

We are offering now for the first time a limited number of high-class and richly bred heifers from breeding age down, our entire offering is high-class and prices no higher than the other fellow. When writing, state distinctly what you desire or, better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows.

### THE WOODVIEW FARM

#### JERSEYS

LONDON, ONTARIO

John Pringle, Proprietor

Canada's Most Beautiful Jersey Herd—Half the herd imported from the Island of Jersey. Several cows in the Record of Merit, and others now under official test. Some very choice stock for sale. When writing, state distinctly what you desire or, better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows.

## When Writing Please Mention Advocate



Makes Hens Pay, for it Makes Them Lay!

The cost of a daily ration of Gardiner's Ovatum for every hen in your flock would be covered by one extra egg per hen per month. The gain from feeding Ovatum will average several times that much. Very often, especially in winter, Ovatum will start a good daily production from a flock that has not been laying at all. This it does by invigorating the digestion and the reproductive organs, so that the hens get more good out of their feed, and turn more of it into eggs. It will certainly pay you to feed Ovatum. Get it from your dealer in 25c. and 50c. packages or 10-lb. bags. If he hasn't it, write us for prices on Ovatum, Ontario Feeders' Cotton Seed Meal, Sac-a-Fat, Pig Meal and Calf Meal.

GARDINER BROS., Feed Specialists, SARNIA, Ont.

April 12th is The Date For The Sale of Holsteins

At Winchester, Ontario, By EDWARD BAKER & SONS, Cloverside Farm.

80 Head will be sold and in the offering will be several cows with R. O. M. records and others ready to qualify.

Remember that this herd is headed by Count Pontiac Clothilde, a son of King Pontiac Artis Canada and a 23 lb. 4-year-old. Our former sire was a grandson of the 30 lb. cow, Sara Jewel Hengerveld 3rd. Come and buy their progeny.

Our Illustrated Catalogue will be mailed on request. Edward Baker & Sons, Proprietors, Winchester, Ont.

Spruce Grove Holsteins

SIR LYONS HENGERVELD SEGIS 69859 I have for sale three sons of the above sire, from 6 to 16 months old, from large and high-producing cows. GEO. COOPER, Willowdale, Ont. T. & Y. Railroad Line.

HOLSTEINS

Two bulls over a year old, three more fit for service. Two grandsons of "Rag Apple Korndyke 8th" (May) and several sons of "King Segis Pontiac Duplicate," one of the best.

R. M. Holtby, R.R. 4, Port Perry Ont.

Walnut Grove Holsteins

Herd headed by May Echo Champion, full brother of May Echo Sylvia, who made 36 lbs. butter in seven days. Females for sale from one year old upwards. Prices right for quick sale.

C.R. JAMES, Langstaff P. O., Ontario Phone Thornhill

BULLS, BULLS. We have several young Holstein Bulls for sale, just ready for service. Sired by the Great Bull King Segis Pontiac Duplicate, and our Junior Herd Bull, Pontiac Hengerveld Pietervine and from High Testing Dams. Prices low for the quality. Write and get them. Manchester, G. E. K. and Myrtle, C.P.R. stations. Bell Phone.

R. W. Walker & Sons, R.R. 4, Port Perry, Ont.

FOR SALE: HOLSTEIN BULL, 15 months old. Dam's R.O.M. 643 lbs. milk, 25.95 lbs. butter in 7 days, at two years. Sire Grace Fayne 2nd's Sir Merona. PETER FICK, R.R. No. 3, Port Rowan, Ont.

Questions and Answers. Miscellaneous.

Eczema.

1. I have a mare which has been troubled with eczema for over a year. The disease has been confined principally to the legs and breast, and I have treated it with one part creolin to ten parts water, which appears to have effected a cure. Did I use the proper treatment? If not, what should I have used? Is there any danger of the trouble coming back again? H. B.

Ans.—1. Evidently your treatment was satisfactory. The trouble may occur again, as some horses are predisposed to it, or it may be caused by too high feeding. A method of treatment which is frequently used is to administer a purgative of 8 drams of aloes and 2 drams of ginger. Follow up with 1 1/2 ounces Fowler's Solution of arsenic twice daily for a week. Wash the mare thoroughly with strong, warm, soft-soap suds, well applied with a scrubbing brush. Then dress every second day until cured with a warm, five-per-cent. solution of creolin in water.

Leg Weakness in Hens.

I have a pen of White Wyandottes, but some of the birds are troubled with a weakness in the legs. They still continue to lay, but drag themselves around and frequently fall head first. They have difficulty in getting on the roost at night. We have only ten hens in the flock and they receive good care. They lay well during the winter. What treatment would you advise? J. W.

Ans.—There are two probable causes. The birds may be affected with a form of gout, known as articular gout. It is caused by feeds too rich in proteids, especially meats, and insufficient green feeds. However, the symptoms indicate rheumatism or an inflammation of the connective tissues of the muscles and joints. This is caused by exposure to cold or dampness. The occurrence of several cases in the flock would indicate something wrong in the housing conditions. Keep the birds in dry, well-ventilated houses, free from drafts. Provide plenty of green feed and exercise.

Veterinary.

Brain Trouble.

One morning, our 10 months old heifer held her head to one side, and when we turned her out she walked in a circle to the side her head was turned. Her head has now become straight, but she still turns to the side. She eats and drinks well. A. E. A.

Ans.—There is pressure upon the brain, and a recovery is doubtful. Purge her with 1/2 pint raw linseed oil and follow up with 15 grains iodide of potassium three times daily. Feed on laxative feed.

Partial Paralysis.

Pregnant cow became sick. I purged her, but she is now unable to rise. She has little power of her hind legs. She eats and drinks well. D. J. O'c.

Ans.—She is partially paralyzed. Feed on laxative, easily-digested feed, as good hay, bran, linseed meal and raw roots. Keep her bowels acting freely. It may be necessary to give her a pint of raw linseed oil occasionally. Keep comfortable, and turn from side to side two or three times daily. Give her 2 drams of nuxvomica three times daily. It is probable she will recover, but possibly not until after parturition.

Gossip.

A U. S. A. cable to London says that country has provided the Allies with 507,000 horses worth 125,000,000 dollars.

The English Hackney Society is seriously discussing the advisability of opening its stud book to horses bred in U. S. A. and Canada. It has been asked by breeders on the other side of the Atlantic to reciprocate in this manner, and our English correspondent has every reason to believe that the powers that be in London will soon open their stud book to stock bred in U. S. A., the Argentine and the British Colonies.

Two Bushels to One Next Season—Sure



Every farmer can get two bushels this year where he got one last year. Poor crops show impoverished soil and there is only one remedy—FERTILIZER. "Best-by-Test" Fertilizers are quick restoratives to run-down soil, and guarantee of double-yield crops. Best-by-Test Fertilizers have 20 TIMES as much plant food as average manure.

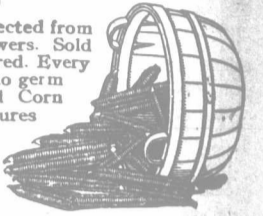
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make plants grow to full capacity of production. Let us send you our booklet explaining our Fertilizers, comprising

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Blood, Meat and Bone, Phosphates, Nitrates, Potash and Ammonia formulas. A brand for every soil and every crop. Write for prices direct or through your dealer.

True to name and type, selected from best yields of expert corn growers. Sold on ear, unless otherwise ordered. Every bushel tested and guaranteed to germinate 80 per cent. Our Seed Corn planted with our Fertilizer insures a big yield. Farmers in same locality can club orders to make a carload shipment.



Write for FREE Copy of our Book—"Facts About Fertilizers"

CANADIAN FERTILIZER CO., Limited 12 MARKET CHAMBERS

CHATHAM, ONT.

King Segis Pontiac Paul 15940

WE have for sale a few sons of the above bull, ready for service, and whose dams are large heavy producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices.

Correspondence solicited.

Also Berkshire and Yorkshire Swine

Larkin Farms

Queenston Ontario

LYNDEN FARM HOLSTEINS

Offers choice bulls with 20,000 lb. breeding, including Pontiac Korndyke Plus, 2 years old, out of Plus Pontiac Artis, 20,900 lbs. milk, 985 lbs. butter, champion 3-year-old of Canada in R.O.P. test, and sired by Inka Sylvia Beets Posch, the sire of May Echo Sylvia, champion milk cow of the world for 120 days, and the only bull in Canada with two 33-lb. daughters. Also the champion yearling bull at Guelph, by the same sire, and another yearling with four 20,000 dams in his pedigree. Also a few richly-bred young females.

S. LEMON & SONS

Lynden, Ont.

HOLSTEIN CATTLE

The only herd in America that has two sires in service whose dams average 119 lbs. milk a day and over 35 lbs. butter a week. Cows that will give 100 lbs. milk a day are what we are trying to breed. At present we have more of them than any other herd in Canada. We can supply foundation stock of this breeding. Visitors always welcome. Long-distance Phone.

D. C. FLATT & SON, R. R. 2, Hamilton, Ont.

CHOICE HOLSTEIN - FRIESIANS

Herd headed by Lakeview Dutchland Heng. 2nd. 1st prize 2-year-old C. N. E. 1915. His sire's full sister world's champ. as junior 3-year-old with 22,645 lbs. milk in yearly record. Junior herd sire, Pietertie Ormsby Beauty. His dam's breeding produced Duchess Heng. Korndyke 1129.4 lbs. butter, world's record at 3 years. His sire has 3 generations of over 30-lb. cows at his back. Write for extended pedigrees and prices of bulls for sale.

OAK PARK STOCK FARM

W. G. BAILEY,

R. R. No. 4, Paris, Ont. Can

HOSPITAL FOR INSANE, Hamilton, Ont. For Sale—Holstein Bulls varying in age from 1 to 11 months, from Record of Performance or Record of Merit dams and the grand bulls Sir Korndyke Wayne Dekol, grandson of Pontiac Korndyke, or Lakeview, Duchland Le Strange, a grandson of Count Hengerveld Fayne Dekol. Prices right. APPLY TO SUPERINTENDENT.

QUEEN CITY HOLSTEINS

Present Offering is 10 young bulls, from 6 to 14 months of age, the records of whose dams sire dam and her full sister, range from 28 to 32 lbs. They are sons of King Lyons Hengerveld Segis.

R. F. HICKS

Newtonbrook, Ont.

On T. & Y. Railroad Line

Clover Bar Holsteins My special offering just now are some choice young bull Ormsby, whose dam has 3 30-lb. sisters, and a 24-lb. 4-year-old and a 21.06-lb. 3-year-old daughters and his sire was the great Sir Admiral Ormsby. Also a few females. PETER SMITH, R.R. No. 3, Stratford, Ont. Stratford or Sebringville Stations.

EVERGREEN STOCK FARM—REGISTERED HOLSTEINS

Present offering: Several bull and heifer calves; also a few yearling heifers bred and ready to breed. Write for prices and descriptions. Bell phone.

A. E. HULET

NORWICH, ONTARIO

SPRUCEDALE HOLSTEINS 3 bulls from a cow with official test of 29.79 lbs. butter 7 days and 59.003 lbs., 14 days. Last calf born Jan. 14, 1916, weight 120 lbs. at birth, is nicely marked and every inch a show calf. Considering quality these bulls will be priced very low.

EZRA G. SCHWEITZER, R. R. No. 3, Stratford, Ont.

Lakeview Farm, Bronte, Ont.

offer for sale, sons and grand-sons of 100-lb. cows; one is out of a 24.06 lb. 3-year-old daughter of Lakeview Rattler's, 28.10 lbs., the latest Canadian champion 30-day butter cow 8 months after calving, and is half brother to L.D. Artis, 34.66-lb. Canadian champion senior 3-year-old. Terms to suit purchaser. MAJOR E. F. OSLER, Prop. T. A. DAWSON, Mgr.

Pioneer Farm Holstein Herd Offers a handsome bull 14 months old, 3/4 white, from 2 days, 16.878 lbs. butter in 7 days, and 16,700 lbs. milk in 1 yr. in R.O.P. Another from a 20,000 lb. cow; also other bulls of like breeding all sired by Canary Hartog, whose 3 nearest dams average 30 lbs. butter in 7 days, and 108 lbs. milk in one day. Write for prices or come and see them. WALBURN RIVERS, R. R. No. 5, Ingersoll. Phone No 343 L., Ingersoll Independent

Dumfries Farm Holsteins—Think this over—we have 175 head of Holsteins, 50 cows milking, 25 heifers due to calve in the fall, and 60 heifers from calves up to 2 years, as well as a dozen yearling bulls, and anything you may select is for sale. Breeding and individuality the very best.

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One Sure year where he got impoverished soil and R. "Best-by-Test" run-down soil, and by-Test Fertilizers as average manure

production. Let us fertilizers, comprising from Sold every a

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Plus, 2 years champion 3-year-old sire of May Echo in Canada with the same sire, a few richly-bred

Lynden, Ont

TITLE

19 lbs. milk a day and what we are trying Canada. We

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SIANS

E. 1915. His sire early record. Junior as Heng. Korndyke ns of over 30-lb. bulls for sale.

Paris, Ont. Can

Sale—Holstein Bulling in age from 1 to 11 and bulls Sir Korndyke Strange, a grandson of NDENT.

the records of who They are sons of King

& Y. Railroad Line

me choice young bull by Count Mercader 3-year-old daughters

Bringingville Stations.

HOLSTEINS

ifers bred and none.

DRWICH, ONTARIO

official test of 29,79 59,003 lbs., 14 days very inch a show calf

d, Ont.

sons and grand-sons of one is out of a 24.66 daughter of Lakeview this after calving, and terms to suit purchaser. DAWSON, Mgr.

ths old, 3/4 white, from milde, at 1 yr. 11 mths mother from a 20,000 nearest dams average come and see them ersoll Independent

75 head of Holsteins due to calve in the ls. and anything you

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**Steady, All-Day Hauling**

A big day's work from your tractor if you equip with *time-tried* Columbia Batteries. Choose them for engines, autos, lanterns, phones, bells and blasting. *High-powered*—they cost no more, but last longer.

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Raise your calves and get the bigger money to which you are entitled. But do not feed the calf whole milk, with butter fat worth \$600 a ton.

You can sell all the mother cow's milk and butter and make your calf pay you a big profit on its feed, by raising it on **Blatchford's Calf Meal**

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You get 100 gallons of rich milk from 100 pounds of Blatchford's Calf Meal, and it costs you only one-fourth as much. It will make your calf grow fast and well.

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Write us for our Free Book on "How to Raise Calves Cheaply and Successfully Without Milk."

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L. C. Beard, Hagers-town, Md., writes: "I can say Blatchford's Calf Meal will pay anyone 100 Pct. they has calves to raise."

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**Ayrshire Bull**

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"Auchenbrain Pride" (Imp.) = 33208 = grand stock bull, vigorous, prepotent and a getter of fine heifers. Also our entire herd of pure-bred Ayrshires.

Audreuil Dairy and Stock Farm, Limited  
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**Questions and Answers. Miscellaneous.**

**Cooked Versus Uncooked Grain for Hogs.**

Which will pigs do the best on, uncooked chop or cooked whole grain? F. B.

Ans.—Experiments have proven that there is very little, if anything, to be gained by cooking grain for hogs. We prefer feeding chop without cooking it.

**For Cow Not Showing Oestrus.**

In March 16 issue of "The Farmer's Advocate," "farmer's son" asks, what can be done for a cow failing to come in season. If he will breed her by force she is sure to show oestrus on the seventh or eighth day after she is bred. I have tried this method more than once, and it has never failed me yet, and the cow is almost sure to be in calf.

Durham Co., Ont. W. F. F.

**Poultry House for 200 Hens.**

1. As I purpose building a poultry house this summer would the following dimensions be satisfactory: 20 feet wide, 50 feet long, 8 feet high on the south side, 5 feet high on the north, with 8-foot rafters to the south, and 15 foot rafters to the north? Will a pen this size accommodate 200 hens, or would you advise a pen of a different dimension?

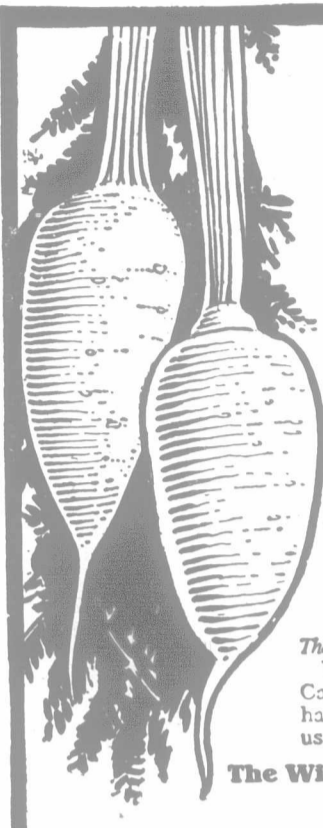
2. I purpose dividing the building into four pens, each 12 1/2 by 20 feet, with an open space 3 by 4 feet, and window on each side 6 feet by 3 feet 9 inches. Four roosts to be put in the north end, each 12 feet long, with a 5-foot dropping board underneath. The floor of the pen to be of earth. Would you consider this arrangement satisfactory?

3. Is the amount of moisture required in hatching eggs by incubator determined by watching air-cells in the eggs? B. S. D.

Ans.—1. A pen built as described should give satisfaction, but we would suggest putting tight board partitions, as far out as the roosts at least to stop any draft, wire would be all right for the remainder of the partition. By giving the north part of the roof a steeper pitch than the south side a window could be put in facing south the full length of the house and would permit the sun to shine back on the roosts. However, we prefer the 20 by 20 feet open front house for 100 hens. Two such pens would accommodate the flock. The pen is 3 feet high facing south, with 2 feet of open wire netting the full length of the pen, 4 1/2 feet high at the back with a 4 by 5 foot window facing west, and a door facing east. The north side should be two ply lumber and one of paper, the remainder may be built of single boards with the cracks battened. The roosts are put in at the north end. This kind of pen is only 7 feet high at the centre, but a man can get around in it quite easily to look after the birds. Having the south part of the pen all open may seem to be rather cold for the poultry in winter, but they appear to do well in these houses, and the front being low down does not permit of snow blowing in. On Weldwood farm there is a modification of this pen used. Instead of having the two sides of the roof meet at the ridge the north side is raised a sufficient distance to allow a sash containing 24 panes of 10 by 12-inch glass. This construction permits good light throughout the pen. An addition of 4 feet was made to the east end and is used for storing feed, breaking up would-be sitters and for setting hens. The nests are each 15 1/2 inches long and 8 1/2 inches deep, made in the shape of a box without a cover. A rectangular hole near the floor was left in the wall, between the storage place and main pen, to accommodate each nest. These nests are drawn to the passageway at night, and pushed back in the pen for the day. Providing a hen wants to set the box is pulled to the passage, the end of the nest forming the wall, and the hen sets in her own nest where she cannot be molested by other hens.

2. The earth floor is satisfactory, provided it can be kept dry. A concrete floor is frequently used.

3. We do not think that the air cells would indicate the amount of moisture required. If a pan beneath the egg-tray is covered with water or wet sand to one inch in depth, it is claimed that the moisture will be sufficient.



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The proverbial "pig in a poke" was not a more uncertain purchase than are garden seeds if you do not know that there is a reliable firm behind them.

You cannot tell by looking at them whether field and garden seeds are well-bred, vigorous and sure to grow, or exactly the opposite. You must buy by faith, and your faith has the best foundation when you select

**EWING'S Reliable Seeds**

For over forty years these seeds have produced the finest vegetables and flowers grown in Canada—and they are better to-day than ever. They do not disappoint.

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**The Stewart Machine** (Ball Bearing) is Best for Clipping

More Work—Better Price

It's a valuable outfit that should be in every stable. The best veterinarians have agreed that to clip horses, mules and cows at the proper time improves them wonderfully in many ways. Insist on having the "Stewart." It's the easiest to turn, does the fastest work, stays sharp longer and is more durable than any other clipping machine made. Get one from your dealer, price only \$9.25 or send us \$2.00 and we will ship C.O.D. for the balance.

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A 610 N. LaSalle St., CHICAGO, ILL.  
Write for complete new catalogue showing world's largest and most modern line of horse clipping and sheep shearing machines. Sent FREE on request.

Clip the Udders and Flanks of your Cows. It insures clean milk, free from the impurities which otherwise drop in and cannot be strained out. Your cows will be healthier also.

Clip Horses and Mules before spring work begins. It gives them new life and energy to clip off the rough coat which holds the wet sweat and dirt. They are healthier and work better.

**GREAT DISPERSION SALE**

**75 - Ayrshire Cattle - 75**

CELEBRATED GLENHURST HERD OF AYRSHIRES

The Property of James Benning, Williamstown, Ontario

**Wednesday, April 19, 1916**

World's Fair champions were bred in this herd. Included are six females of the famous Floss strain. This herd was founded 55 years ago, and is headed by Glenhurst Torrs Mayor—43480—, junior champion at Regina, 1914; sire Lessnessock Comet (imp.) 30586; dam Torrs Cony 3rd (imp.) 30597. Cuts of this herd will appear in a later issue. Mature cows milking 60 pounds per day; four-year-olds milking 50 to 55 lbs. per day. Two-year-olds making records of 8,500 lbs. Cows milking from 1,500 to 1,900 lbs. per month, testing 4.2 to 4.6 per cent. butter-fat. Cows large size, large teats, good testers and deep milkers.

Vehicles will meet Moccasin at 7.59 o'clock a. m. going east, and 11.48 going west; 5.04 p. m. east, and 6.33 p. m. west.

Sale will commence at 1 p. m.

A. Philips, M.L.A. Auctioneer. James Benning, Williamstown, Ont.

**Stonehouse Ayrshires** Hector Gordon, Howick, Que.

Are a combination of show-yard and utility type seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere.

**Glenhurst Ayrshires**

For 50 years I have been breeding the great Floss tribe of Ayrshires, dozens of them have been 60-lb cows; I have lots of them get 60 lbs. a day on twice a day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you write me.

James Benning, Williamstown, Ont.

**AYRSHIRES**

1 bull fit for service; a prize-winner. Dam twice first at Toronto, qualified in R.O.P. with good record, Jan. 1916. Calves of best breeding, special prices. Females all ages.

Orders solicited for Yorkshire, Feb. pigs. Write for prices to-day.

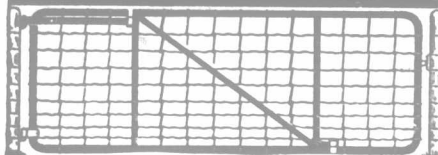
ALEX. HUME & CO., R. 3, CAMPBELLFORD, ONTARIO

**GLADDEN HILL AYRSHIRES**

Some choice bulls of breeding age from record cows. Bull calves sired by Fairview Milkman, a son of Milkmaid 7th, Canada's Champion Record of Performance cow, for sale. Also a few females.

LAURIE BROS., Agincourt, Ont.

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THERE is no guess work in the manufacture of Peerless gates. The points of greatest strain are scientifically calculated and then we design braces, stronger than actually necessary, to make our gates stiff and rigid—they simply

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They embody only the best materials. Frame-work of 1 1/2 inch steel tubing electrically welded together. Peerless pipe braced gates are all filled with No. 9 Open Hearth galvanized steel wire—built for strength and durability weather proof and stock proof.

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COTTON SEED MEAL  
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POULTRY FEEDS  
SEED POTATOES  
SEED GRAINS

Write for prices.  
CRAMPSEY & KELLY  
Dovercourt Rd., Toronto, Ont.

**Tower Farm Oxford Sheep.** Champion flock of Canada. Choice shearing rams and ewes, also ram and ewe lambs, bred from imported and prize-winning stock. See winning at Toronto and Ottawa. Erin or Hillsburgh Stations. Long-distance Phone. E. BARBOUR, R. R. 2, Hillsburgh, Ontario

**Alderly Edge Yorkshires**  
Two boars and two sows, farrowed Sept., weight about 150 lbs. Price right.  
J. R. KENNEDY Knowlton, Que.

**Lakeview Yorkshires** If you want a brood sow, or a stock boar of the greatest strain of the breed, (Cinderella) bred from prize-winners for generations back, write me. Young sows bred and boars ready for service. JOHN DUCK, Port Credit, Ont.

Choice stock to offer in SHORTHORNS, POLAND CHINA AND CHESTER WHITES. First prize Poland China herd at Toronto and London, 1915. Pairs not akin—bred from winners. Prices moderate. Geo. G. Gould, No. 4, Essex, Ontario.

**CLEARVIEW CHESTER WHITES.** For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions. D. DeCoursey, R. R. No. 5, Mitchell, Ont.

**Morrison Tamworths and Shorthorns,** bred from the prize-winning herds of England. Choice Tamworths, both sexes, all ages. 150 head to choose from. Choice Shorthorns, 3 extra fine red roan bull calves, 8 months old, dandies, also cows and heifers of the deep milking strain. CHAS. CURRIE, Morrison, Ont.

**Pine Grove Yorkshires** Bred from prize winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.

Joseph Featherston & Son, Streetsville, Ont.  
**SUNNYSIDE STOCK FARM** Champion herd at Toronto and London. Large Dorset Horn Sheep, young stock of both sexes for sale.

W. J. Wright & Son, Guelph, Ontario  
**Tamworths** Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.

JOHN W. TODD, Guelph, Ontario  
**Townline Tamworths** Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.

W. J. Wright & Son, Guelph, Ontario  
**Tamworths** Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.

## Questions and Answers. Miscellaneous.

### Standard-bred Horse—Soiling Crop.

1. Is a Standard-bred horse always a Standard-bred, or does he have to trot in 2.30 or pace in 2.25 before he is one?

2. What is the best soiling crop next to silage and alfalfa? H. R.

Ans.—1. An animal whose sire and dam are recorded as standard in the American trotting register and in the trotting division of the Canadian Standard-bred Stud Book, is admitted to registry. For full particulars write John W. Brant, Ottawa, Ont., who is Sec.-Treas., of the Canadian Standard-bred Horse Society.

2. A mixture of 2 bushels of oats and 1 bushel of peas sown to the acre, makes a very good soiling crop, and if it is not all used for green feed, may be cut in the milk stage and cured for hay.

### Addressing Mail to Soldiers at the Front.

How, and in what order, should letters to soldiers on active service be addressed. Some people tell me to send them to the army post office, London, England, and others say, send direct to France. Does every soldier have a number? PERPLEXED.

Ans.—We understand that each soldier goes by a certain number, and in addressing letters to them, a form which is used on the envelope is to give the persons name, his number, number of battalion, number of Canadian expeditionary force, war office, London, England. With this information the mail should reach the soldier for whom it is intended.

### Cat Trap—Bird Bath—Bird Book.

How is a simple cat trap, which is used for catching stray cats, constructed?

2. How is a bird bath constructed?

3. Where can I obtain full information in regard to the building of bird houses? C. K.

Ans.—1. One method of destroying stray cats is to have a tight box with a sliding door, and a bottle of bi-sulphide of carbon in it. The bait is placed at the back of the box, and when the cat enters, it tips the door which falls, and in doing so opens the bottle and the fumes poison the cat.

2. Place the bath in the open, as cats are less likely to molest birds than if the bath is placed high. A basin 4 feet long and 5 inches deep in the center is placed in the ground. By having the basin made with a gradual slope to the centre gives shallow water for the small birds. No drainage is necessary. Use a broom to clean out the basin before putting in clean water.

3. Wild Bird Guests is a book written by E. Bayne, and gives a description for building bird houses. The book also deals with many phases of bird life.

### Temperature of Storage for Eggs.

1. In what kind of cold storage should eggs be kept, and at what temperature? Would the kind of storage built by the government for the fishermen's products a few years ago be satisfactory?

2. Is salt-water ice as good as fresh-water ice? If not, why not?

3. Is the fertilizer manufactured in this country as good as that made in the United States? M. A. C.

Ans.—1. Any kind of storage place, that is clean and free from odors, where the temperature and humidity can be controlled should be satisfactory for storing eggs. Eggs may be kept in storage with a temperature of 30 degrees F., and a relative humidity of about 80 per cent.

2. Fresh-water ice is preferred. Salt-water requires a lower temperature to solidify it than does fresh water, and naturally it would commence to thaw sooner than fresh-water ice. While it may give a lower temperature, it is doubtful if it will last through the summer season as well as ice made from fresh water.

3. All fertilizers are supposed to come up to a certain standard of analysis. Every brand of fertilizer should have its analysis stamped on the bag.



Stands the test of Canada's trying weather as no other paint you have ever used. For barns and other buildings, for your implements and wagons, and for your home, both outside and in there is a Ramsay finish that is the best of its kind. To the man who does his own painting the convenience and economy of Ramsay's Paint is self evident. The man who hires painters to do his work for him will do well to specify Ramsay's paints—they wear so well and protect wood and metal so thoroughly from deterioration. The local Ramsay dealer will give you splendid service and suggestions. Or write direct to the factory.

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With Three Drums and Strong Rigid Steel Frame. Some improvements are: Heavy Steel Axle, Thick, Heavy Steel Plate, Drums Riveted, up to stand any strain, Roller Bearings. Runs like a bird. Full particulars free by mail, or ask your dealer. None genuine without the name "BISELL." Lock out for it. This Roller will stand hard work and lots of it. Write Dept. W for free catalogue.

T. E. Bissell Co., Limited, Elora, Ont.

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in Canada. Look up our show record it will give you an idea of the kind of Oxfords we have for sale.

PETER ARKELL & SONS, Proprietors, Teeswater, Ont.

Customers, beware of imitations of this advertisement.

## Oxford Down Sheep—Summer Hill Farm

We breed and import Registered Oxfords. Rams and ewes in any quantity for sale—all recorded. Positively no grades registered as pure-breeds; also no grades handled except by order.

PETER ARKELL & CO., Proprietors, Box 454, Teeswater, Ont.

### Shropshires and Cotswolds for Sale

Yearling rams and yearling ewes a few imported 3-shear ewes, an extra good lot of ram lambs from imported ewes. Prices very reasonable.

Claremont, C.P.R., 3 miles JOHN MILLER, Claremont, Ont.  
Pickering, G.T.R., 7 miles Greenburg, C.N.R., 4 miles

## Cloverdale Large English Berkshires!

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from imp. stock. Prices reasonable.

C. J. Lang, Burketon, Ont. R.R. 3

### Duroc Jersey Swine, Jersey Cattle

In Duroc Jerseys we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.

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Our offering never better. Champion hog winner of 12 firsts, 5 championships, 2 years' showing, still at the head. Boars and sows all ages, same breed as winners of export bacon in keen competition at Toronto in 1915.

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### Cherry Lane Berkshires and Tamworths

In 1915 we made a clean sweep of all the western sows in Berkshire and Tamworths; we have for sale both breeds of any desired age, winners in the West. First and third prize Berkshire boars at Guelph, first and champion Tamworth boar at Guelph.

S. DOULSON & SON, Norval Station, Ont.

### ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar, Saddon Torredon we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.

H. M. VANDERLIP, Breeder and Importer, R. R. 1, Brantford, Ontario  
Langford Station on Brantford and Hamilton Radial.

### Newcastle Tamworths and Shorthorns

Boars ready for service in March, April and May, others ready to breed; both sexes ready to wean. All descendants of Imp and Champion stock. Several extra choice young bull and heifer calves, recently dropped, grand milking strain; 2 bulls, six and seven months old, several extra choice young cows with calves at foot, also heifers all ages. Prices reasonable.

A. A. COLWILL, Newcastle, Ont.



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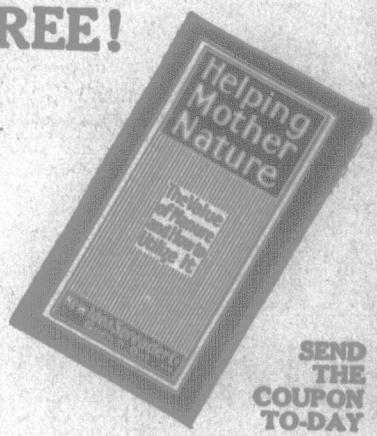
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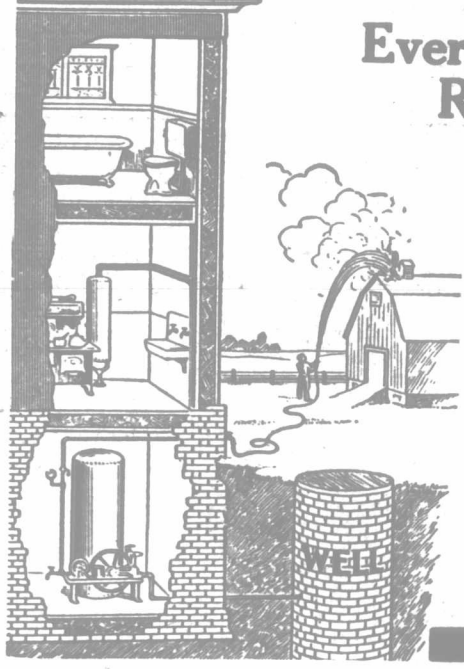
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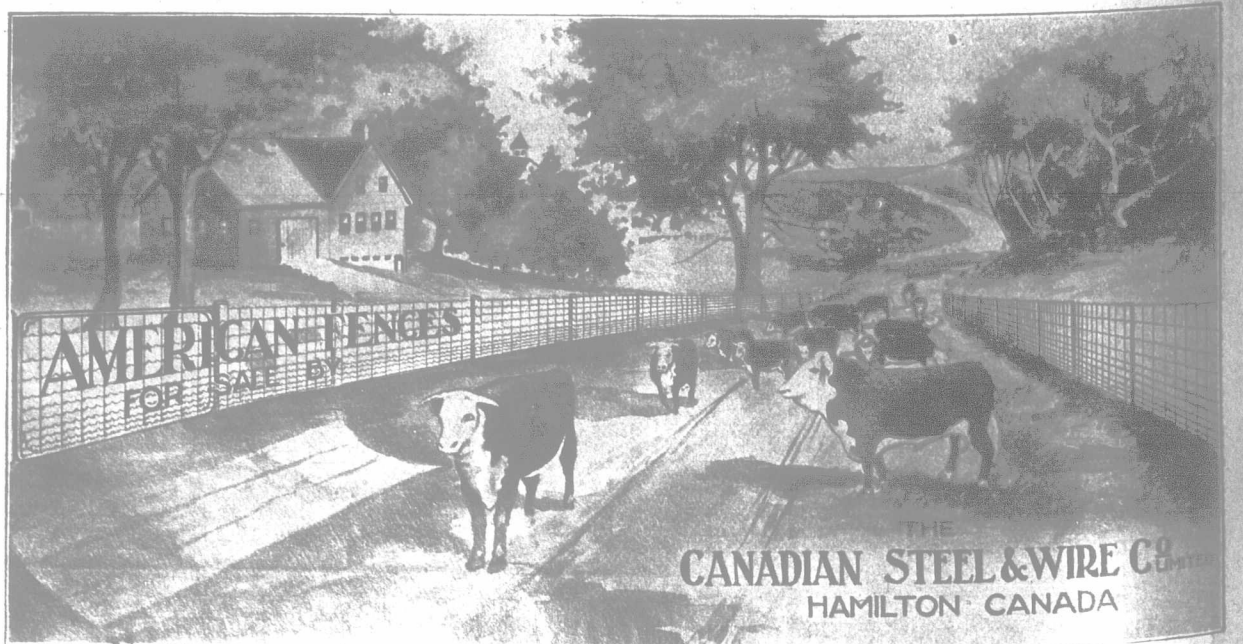
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