

APRIL 22, 1920

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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME ECONOMICS

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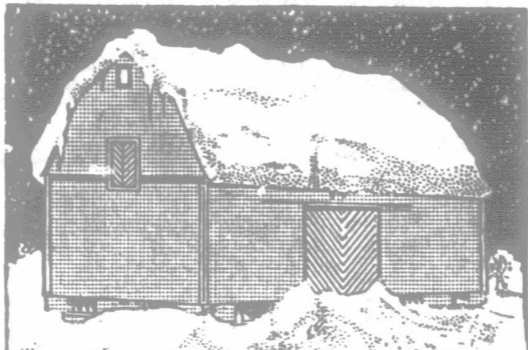
LONDON, ONTARIO, APRIL 29, 1920.

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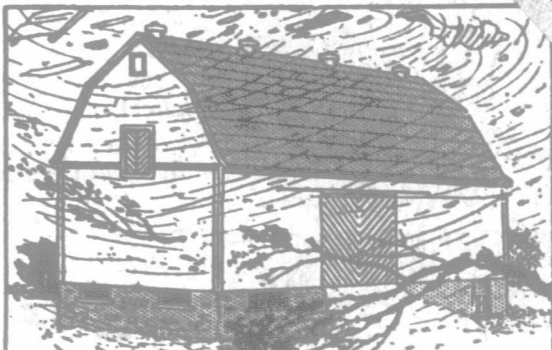
Dairy and Cold Storage Co.
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RAINPROOF



SNOWPROOF



WINDPROOF

The Economy of an Asphalt roof

The cost price of the roofing material is not the real cost of any roof. There is also the cost of laying and the cost of the repairs it needs from time to time. The sum total of all of these is the real cost.

While you may pay less per square for some other roofing material than you would for Brantford Asphalt Roofing the cheaper roofing will cost you far more in the end.

Brantford Asphalt Roofing

is not made to sell at a price to meet competition. It is made of the most enduring materials procurable, and made most carefully, too.

The body of Brantford Asphalt Roofing is a specially woven felt of exceptional pliability and durability. It is also very absorbent, so that it will take a heavy asphalt saturation.

A special blend of asphalts is used for the saturation and coating. By blending hard, brittle asphalts with soft, pliable ones we get an asphalt with remarkable elasticity—a tougher and more durable material.

Any good grade of asphalt is a very enduring material but our blend of asphalts is exceedingly lasting, and it puts Brantford Asphalt Roofing in a class by itself as an economical investment.

It is non-absorbent, therefore proof against rain and snow—and there are no exposed edges or places where the wind can get under and loosen or lift off the roofing.

The cost of Brantford Asphalt Roofing and the cost of laying it is the total cost of this roofing. It requires no repairs. It is a permanent roof.

If you could go through the factory and see this roofing made, you would be convinced of its splendid quality. But it has already proved this by its record of many years of service on roofs and still practically as sound as ever.

Brantford Asphalt Roofing is the real economy roof,—the roof that is made on a small margin of profit. By enlarging our output and installing the most up-to-date labor-saving machinery we have reduced the cost of production and thereby offset to a large extent the increased cost of raw materials. Quantity production has helped us to keep prices down, and at the

same time maintain quality at its highest level. This company is building for the future and is maintaining its old policy of keeping up the high standard of its products and offering them at fair and square prices.

Brantford Asphalt Roofing is easily handled and quickly laid, saving time and cost of labor.

If you have a barn, silo, chicken house, root house or other building that needs re-roofing, or if you are going to put up any new building this year you will be interested in reading our latest roofing catalog.

Write for a copy. It is free.

Brantford Roofing Co., Limited

Brantford, Canada
Branches at Toronto, Montreal, Halifax

Also makers of Brantford RUBBER Roofing, Brantford Asphalt SLATES, Standard MOHAWK Roofing, and LEATHEROID Roofing.

"Save the surface and you save all" Paint & Varnish

Safeguard Your Roof

THE roof is an important item—it "makes" or "mars" the whole structure. In shingle-roofed houses it is even more necessary to see that it is in good regular repair, because once a roof commences to decay a general deterioration of house-value is the immediate result.

To ensure a permanent durability, as well as an added appearance, use

B-H Shingle Stain

either as a mixture in which shingles are dipped or as a stain to apply to the completed roof.

It comes in all colors, and gives a tough, durable "seasoning," besides contributing largely to the artistic effect of your home.

Like every other B-H product, the B-H Shingle Stain is first choice among people who know good paint.

Look for the B-H dealer in your territory—the B-H Sign hangs outside his store.

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MONTREAL HALIFAX ST. JOHN TORONTO WINNIPEG
 MEDICINE HAT CALGARY EDMONTON VANCOUVER

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We will send a Gilson Engine, any size, without charge, to any responsible farmer in Canada to try out on his own farm, at his own work.

Write for further particulars of free trial offer, catalogue, and special introductory prices.

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Great-West Policyholders enjoy is that undesirable risks are excluded.

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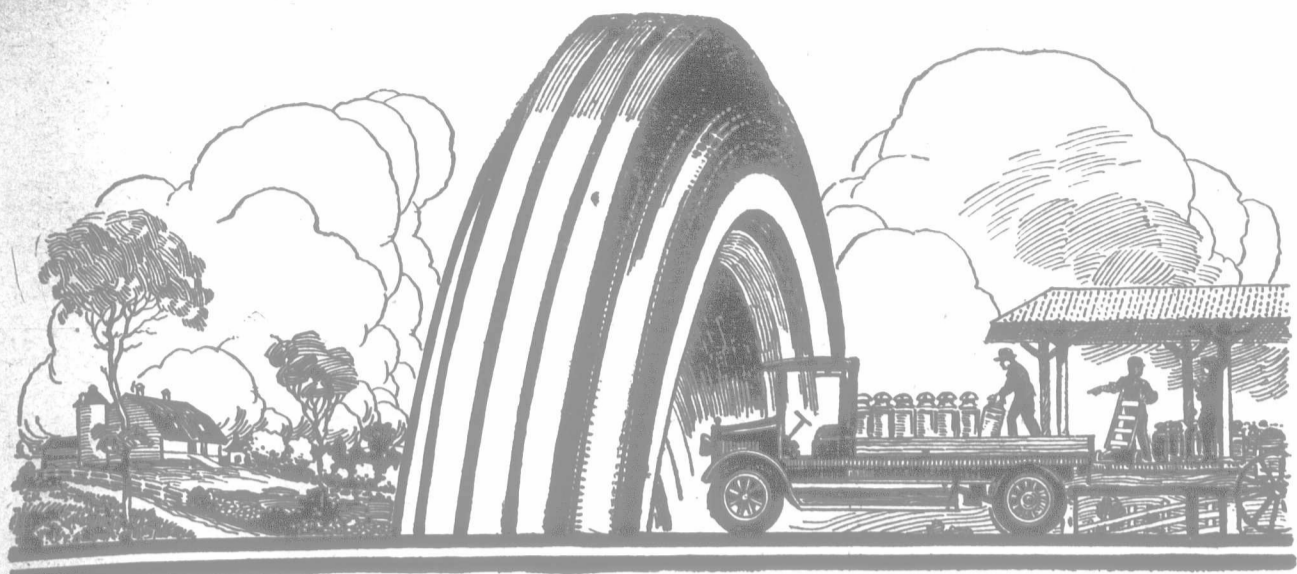
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ARE **GOOD** TIRES

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Factory prices—shipped promptly—freshly made from our factory direct to you. You will lose money and miss a profit saved if you buy fencing—either woven wire, barbed wire, gates or other materials for fence building, if you do not first get our illustrated and honestly descriptive literature, price list and order blank on

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Alfalfa Genuine Ontario Variegated.....	\$45.00
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	Per bus.
No. 1 Red Clover.....	\$45.00
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Unhulled White Blossom Sweet Clover..	16.00
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On all orders of \$50.00 or over we pay the freight east of Manitoba. Bags extra, at 65c. each. Terms—Cash with order. Ask for samples if necessary.

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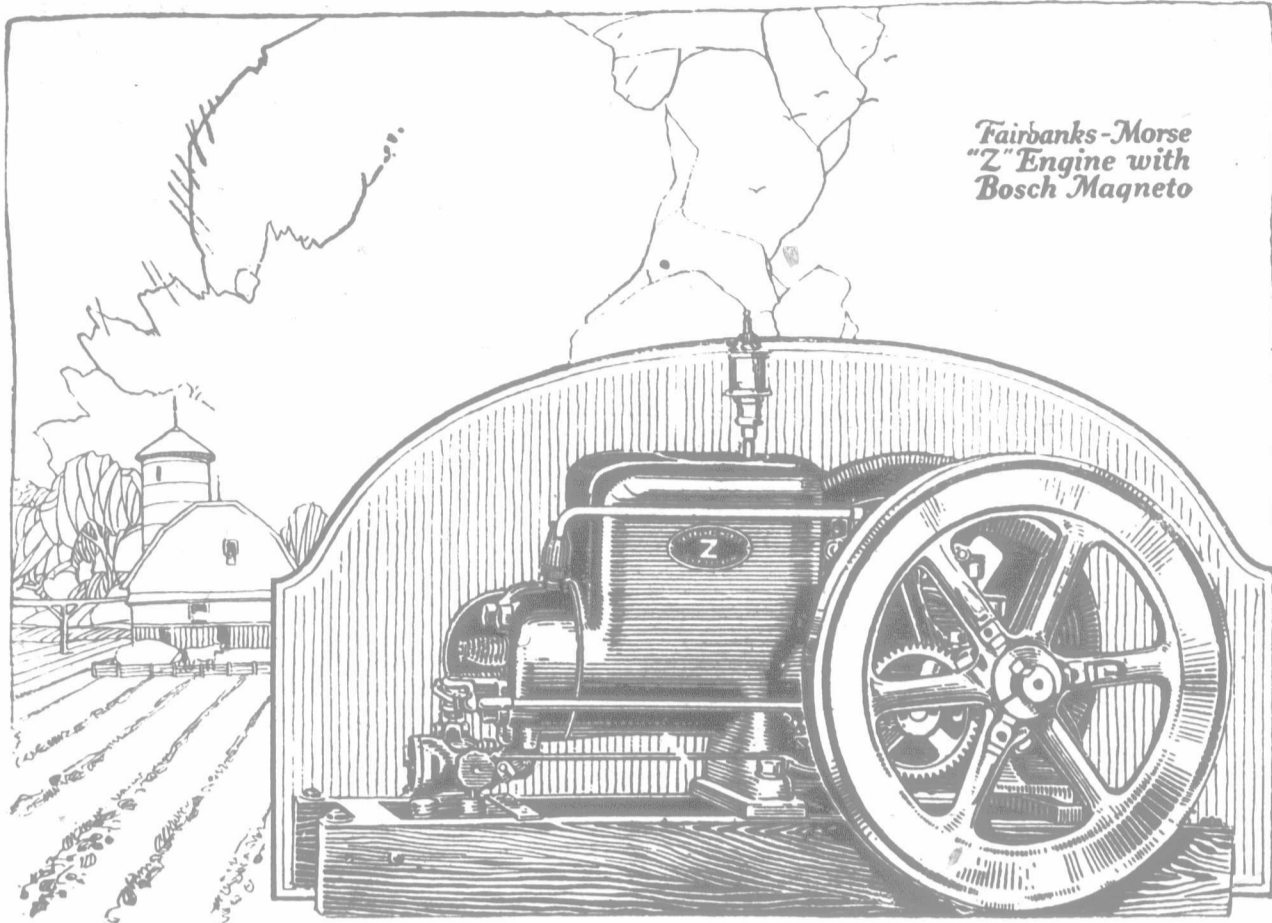
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Bosch Magneto



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dealer near you—see this world's greatest engine—understand the full meaning for you of the engine service which all Bosch Service Stations throughout Canada give, in co-operation with every "Z" dealer, to every "Z" Engine buyer.

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The Canadian Fairbanks-Morse Co., Limited.

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Co., Limited.

90% No. 1's!

Isn't it worth a little extra time and money to be sure of trees bearing like that on the left?

Trees such as that on the right, left to the mercy of insects and fungous growths, are a luxury none can afford these days.

Ensure a big and profitable yield by careful spraying with reliable and economical J. C. sprays.

ARSENATE OF LEAD
CAL-ARSENATE
POISON BORDO DUST

John Cowan Chemical Co. Limited
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Shinn-Flat

Lightning Rods

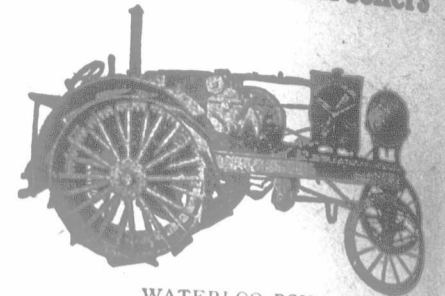
Are scientifically the nearest approach to absolute protection that has ever been devised. Their form gives them 36% greater electrical carrying capacity than old style round cable of the same weight and number of strands—putting them in a class by themselves and making them much easier to sell. There is no competition for Shinn-Flat.

Lightning Can't Strike if Shinn Gets There First

We want good dealers who are interested in a specialty line that sells readily and affords a good margin of profit. Every property owner is a prospect. Ask us how we help you get started.

Shinn Mfg. Co. of Canada, Limited
Prof. W. H. Day, Secretary and General Manager
Manufacturers of Shinn-Flat Lightning Rods
"The Kind That Carry a Cash Bond"
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WATERLOO BOY
The Simplest, most Accessible, most Powerful 3-plov Tractor on the market. Suitable for hauling 3 plows, Threshing, Silo Filling and General Farm Work.



Individual Farmers' Threshers, suitable size to be driven by small Tractors and Gasoline Engines. Do your own Threshing. Keep your farm clean and save expense. Write for free catalogue, prices and any information wanted.

THE ROBT. BELL ENGINE & THRESHER COMPANY, LIMITED, Seaford, Ont.
Also Steam Tractors and large size Threshers.

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Bed with Shavings

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BEST ABSORBENT

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Steel Rails

For Reinforcing Bridges and Barn Driveways.
Cut any Length

JNO. J. GARTSHORE
58 Front Street West, Toronto

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Sweet Clover Seed

RECLEANED

No. 1 Government Standard for purity...	Per Bus. \$22.50
No. 1 Red Clover	45.00
No. 1 Alsike	42.00
No. 1 For Purity Timothy	8.40

Bags 60 cents each.
A. S. HUNTER & SON - DURHAM, ONT.

APRIL 29, 1920

RIGHT Spring gravadam roads going into wearisome you would Tarvia road

Think o heavily th drifted, no days it rain how much ordinary r the same—f easy riding

And, bes is the mos any farmi nunity bec for up-keep Tarvia is

St. John, N. B. Halifax, N. S. Sydney

For s BURL 32

APRIL 29, 1920



Applying "Tarvia-X" on Kennedy Road, Scarboro Township, Ont. Toronto & York Roads Commission.

A Tarvia Road is an all-weather road

RIGHT after the annual Spring thaw, when dirt, gravel and ordinary macadam roads are at their worst, and going into town means a hard, wearisome day's work, then's when you would appreciate a good Tarvia road!

Think of it: no matter how heavily the winter snow has drifted, no matter how many days it rains, and thaws, no matter how much the frost cuts up the ordinary road, *Tarvia stays just the same*—firm, smooth, solid, and easy riding.

And, best of all, a Tarvia road is the most economical road for any farming or small-town community because it costs very little for up-keep.

Tarvia is a coal-tar preparation

shipped in barrels, tank-wagons or tank-cars, depending upon the size and location of the job. No matter what your road problem may be—whether you require a road binder for new construction, a dust PREVENTIVE, a road preserver or a patching material—there is a grade of Tarvia made for the purpose.

Summer is the time to apply Tarvia. You and your neighbors can have all-weather roads for next winter and spring if you get together now and start on a Tarvia road program right away.

Our engineers will be very glad to furnish information and suggestions on request.

A note to our nearest office outlining your problems will not involve any obligation on your part.

Tarvia

Preserves Roads—Prevents Dust

The **Carroll Company** Montreal Toronto
 LIMITED
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Burlington Steel Fence Post

Cheapest—Strongest fence post for woven or barb-wire line fences, residential fences, etc.

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The White-Allwork Kerosene Tractor

Practical for every power job on the farm

The White-Allwork Tractor is a wonder of simplicity, sturdiness and power. Well worth a place in "The First Quality Line." Use it for any field job, turning a three-plow furrow (four on some land), seeding or harrowing. Weighs only 4800 lbs. Will work on wet land without undue packing. Turns in a 12-foot radius. 28 H.P. at the belt and 14 H.P. on the drawbar—and plenty of extra power over these ratings, as hundreds of farmers have proved.

It will run a 16-inch ensilage cutter, or a 28-inch separator, grind feed, crush stone, saw wood, bale hay or straw—anything requiring power.

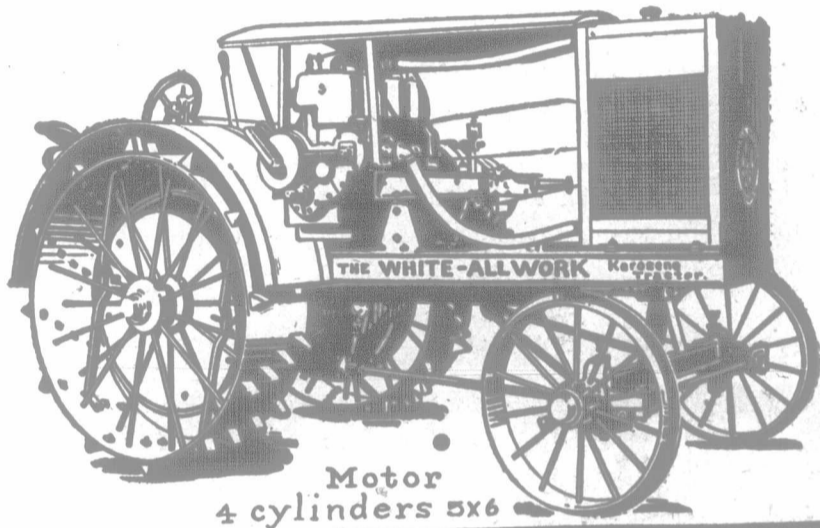
Decide for yourself whether it will pay

Let us tell you what the White-Allwork costs per acre for field work—What it will do on the blower. You can save money with a White-Allwork.

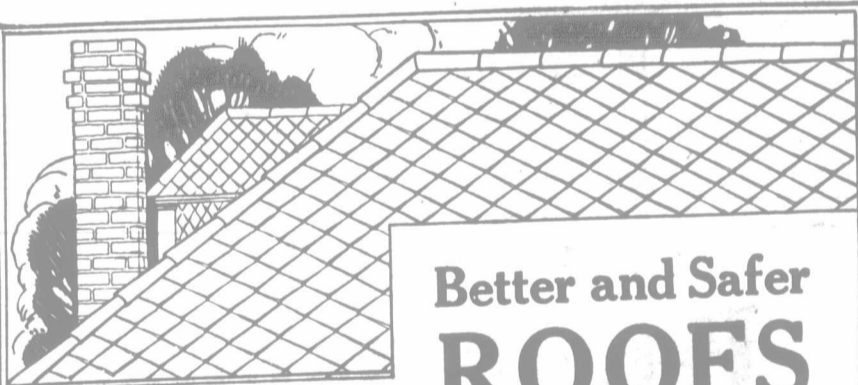
Ask for full information.

The Geo. White & Sons Co., Ltd.,
 Moose Jaw, Sask. LONDON, ONT. Brandon, Man.

Makers of the famous White Steam Tractors and Threshers
 "THE FIRST QUALITY LINE"



Motor 4 cylinders 5x6



Better and Safer ROOFS

Made in Canada of Canadian materials

TRY how you will, you cannot get better value or results if you use ASBESTOSLATE Shingles, lumber and wallboard for your roofing, siding or lining of your house, garage or other buildings.

Investigate—make comparisons and you will find that Asbestos Fireproof Products are everlasting in wear—safer and better in every way.

Let us send you particulars.

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Branches in all principal cities of the world.



"If it's made of Asbestos—we have it."

Buying "Cheap Tires" teaches a lesson—never to do it again. "The Tires That Give Satisfaction" make lasting friends of those who use them.

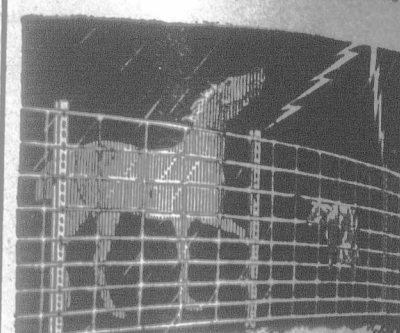
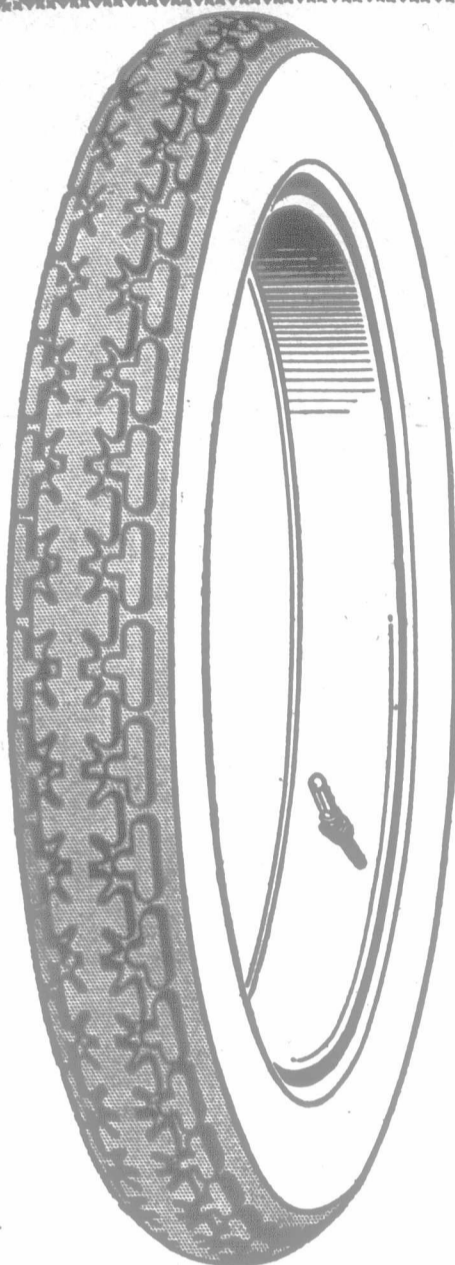
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"The Tires it Pays to Buy"

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BRANCHES IN ALL THE LEADING CITIES OF THE DOMINION.



Fence Posts that act as Lightning Rods.

A single bolt of lightning flash along the fence wires may kill a dozen or more animals at a stroke. That cannot happen if your fence is strung on

PRESTON STEEL POSTS

Besides effectually "grounding" the wire, these posts are completely fire-proof and unbreakable. Write for our Folder which tells how to have a fence that requires no upkeep.

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Mellow Soils Best For Growth

A HARD-CRUSTED soil surface excludes the air, dries out the soil and dwarfs the crop. Any soil, no matter how hard or dry can be made into a good mellow seed-bed with a Peter Hamilton Stiff Tooth Cultivator. The tender seedlings or young plants push their way more easily through a mellow soil than through a stiff and cloddy one.

Peter Hamilton STIFF TOOTH CULTIVATOR

is exceptionally good for breaking up land or for summer fallow. The frame is thoroughly braced and trussed, which gives it extraordinary endurance for deep cultivation in the hardest kind of soil.

Deep cultivation is now advocated by agriculturists and for this work and killing weeds the Peter Hamilton Stiff Tooth Cultivator is unequalled.

The relief spring is the most successful yet used. After a stone or other obstacle is passed the foot flies back automatically into place again. The foot can be set forward to work into the hardest land. You can cultivate just as deep or just as shallow as you like.

Any width of thistle or weed cutters can be supplied. One set is supplied with every machine. You need the help of a Peter Hamilton Cultivator for your field work. With it you can prepare the best seed-bed and get increased crops. Don't put off buying. Write us to-day.

The Peter Hamilton Co., Limited
PETERBORO, Ont. 31



Reaches the Hidden Spots

The O-K-Spra gets the solution for killing bugs and vermin to every part of a plant and to every obscure corner of a building.

See That Curve



O-K-SPRA

has the non-clog nozzle that strains the fine spray, the airtight locking device that gives strength to the stream, and the curved lance that directs it to points not reached without stooping in ordinary spraying.

The O-K Canadian Two-Row Sprayer

is built for small acreages, to be operated like a wheelbarrow between rows. It does the work as fast as you can walk.

The machine may be used for spraying trees, whitewashing barns, cleaning motor cars and buggies, fumigating farm buildings or applying fly wash to stock. It is an all-purpose sprayer.

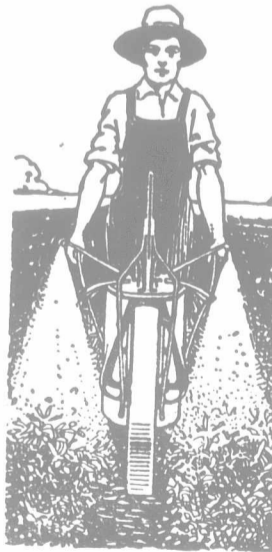
We have just bought the manufacturing rights of the Aylmer Barrel Sprayer, which, added to our line, makes it more complete. If interested write for more particulars.

Valuable spraying calendar, suitable for Canadian conditions, supplied with each sprayer. Write for literature.

CANADIAN POTATO MACHINERY CO., LIMITED.

54 Stone Road, Galt, Ontario

Makers of the famous O-K Canadian Four Row Sprayers and O-K Potato Planters and Diggers.



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You've be
away from
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and careless
and varnish

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These are
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buildings co

For Folder

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PRESTO

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Cord or Fabric.



Chance never drew a neat picture nor built a fair house.

In the making of Partridge Tires nothing is left to chance—detail perfection is secured by craftsmanship scientifically directed, and rigid inspection insures outstanding quality.

Partridge Tires are all that good Tires can possibly be.

PARTRIDGE TIRES

Game as Their Name

118A

LET US SOLVE THE GARAGE PROBLEM FOR YOU

You've been wondering how to get away from the public garage, with its monthly rent bills, its inconvenience, and careless disregard for your fenders and varnish. Here's the way out:

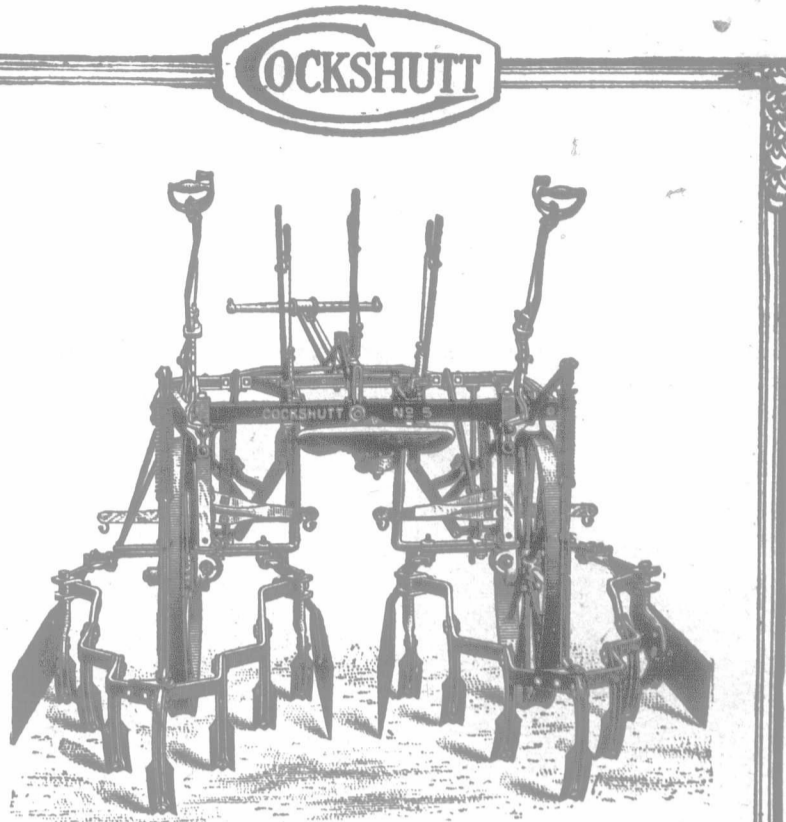
Have a garage of your own. Do not imagine that you have to pay a big price. At reasonable cost you can have one of our

PRESTON PORTABLE GARAGES

These are substantial buildings—made in sizes to suit every car on the market—and so designed that they enhance—instead of marring—the appearance of any property. Preston buildings come in sections—all ready to fit together.

For Folder describing these Garages write to

THE MS AND SC LIMITED
METAL SHINGLE AND SIDING COMPANY
ASSOCIATED WITH THE A & DRIMBY CO. LIMITED
PRESTON - MONTREAL - TORONTO
WINNIPEG - SASKATOON - CALGARY



Cultivate 2 rows

Just as easy as one—if you use the famous Cockshutt No. 5. Its handy levers adjust it instantly to suit any width of row or depth of cultivation.

Cockshutt No. 5 Cultivator

Think of the time you save, with a big acreage, in being able to thoroughly cultivate your corn and other row crops TWO ROWS at a time instead of one! The Cockshutt No. 5 is an all steel implement. It is light, flexible, yet strong and durable. Five handy, easy levers control the depth of work, the tilt of the teeth and expansion or contraction of the sections, as required to follow the rows and root out the weeds. Teeth have wooden break-pin connections—and a full equipment of teeth, thistle blades and hillers, goes with the implement.

We have a splendid line of cultivators—any field or crop can be handled by our Champion, Climax No. 1 No. 2 or our Soufflers. Write for catalogue and see them at our Agents.

Cockshutt Plow Co., Limited
BRANTFORD, ONT.

Sold in Eastern Ontario and Eastern Canada by
THE FROST & WOOD COMPANY, LIMITED
Montreal SMITHS FALLS, ONT. St. John, N.B.

FISH NETS TRAPS GUNS

THERE IS MONEY IN FISHING

We can supply you with all kinds of

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- Lawn Bowls
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All at popular prices. Trappers' and Sportsmen's Supply Catalogue Free.

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A vast new land of promise and freedom now open for settlement to returned soldiers and sailors FREE; to others, 18 years and over, 50 cents per acre. Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you. For full particulars as to terms, regulations, and settlers' rates, write

H. A. MACDONELL,
Director of Colonization,

HON. MANNING DOHERTY,
Minister of Agriculture,

PARLIAMENT BUILDINGS, TORONTO.

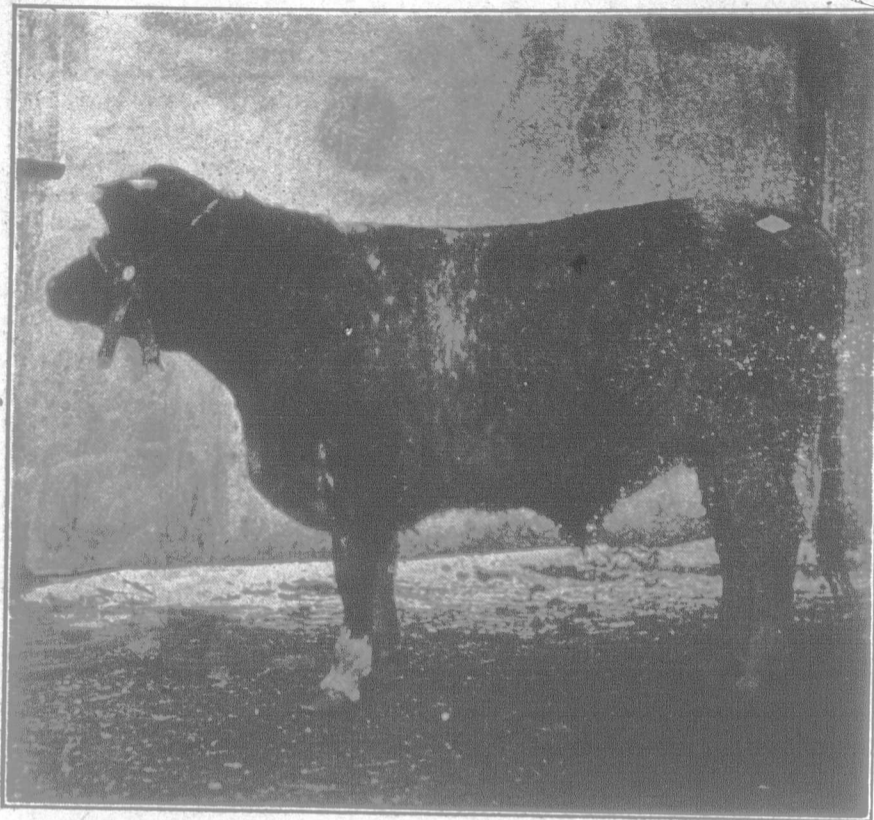
Is Your Spare Time Worth Money?

how you can make money in your spare time in an easy and pleasant way.

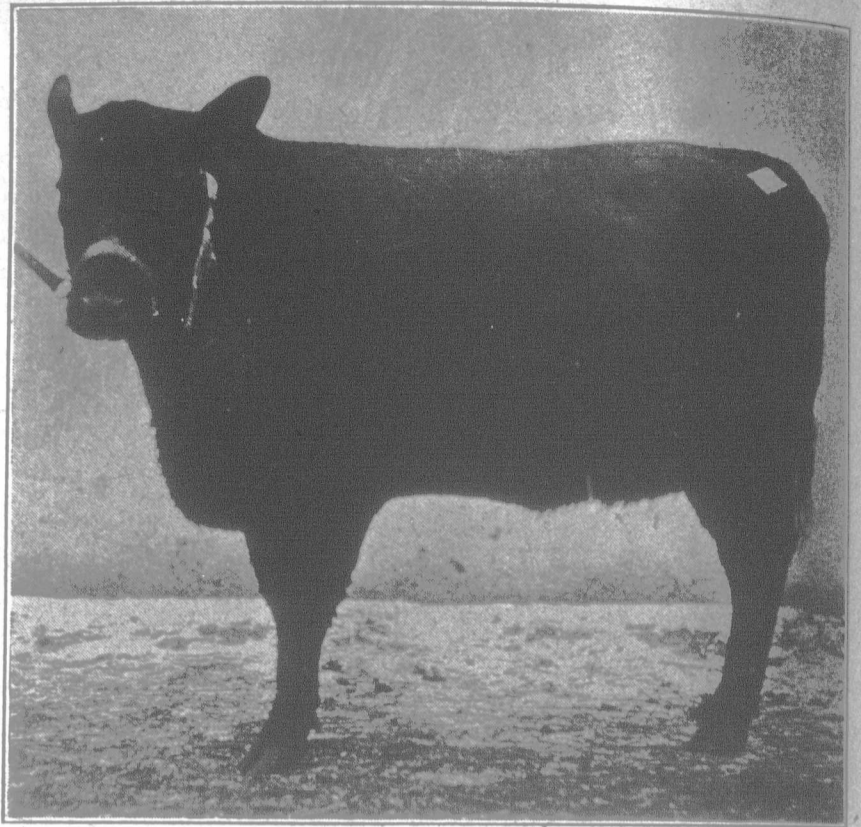
Write to The Farmer's Advocate and Home Magazine and learn.

ROYAL PURPLE CALF MEAL

EVERY farmer should endeavor to fit two to three calves for Christmas Baby Beef. You can make as much money off three calves if the proper attention is paid to them, as you can off ten acres of first class wheat. A great many progressive farmers are doing it now so why not you. You can produce these calves with our Royal Purple Calf Meal without using one drop of milk if necessary as our calf meal contains the proper amount of fat and protein to develop the calves. Our experience is that it requires 10% fat in a calf meal and not over 20% protein to produce this result. Less than 10% fat is not sufficient to develop your calves without using milk and over 20% protein is more than a calf can digest properly. Fat costs two to three times as much as protein in any form. This is why the cheaper grades of calf meal do not contain the high percentage of fat as you will find in our product.



PURE-BRED STEER under 1 year, entered in Lot No. 3, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 1st Prize. Also entered for Royal Purple Calf Meal Special, and awarded 1st Prize. Fed and Exhibited by Mr. Orill Williamson, R. R. No. 1, Jarvis, Ont. Sold for 33c. a lb. by auction.



ABERDEEN-ANGUS HEIFER under 1 year. Entered for Royal Purple Calf Meal Special, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 2nd Prize. Weight, 1,190 lbs. Sold for 29c. a lb. by auction. Fed and exhibited by Mr. Andrew Hicks & Sons, Centralia, Ont. Mr. Hicks is U.F.O., M.P.P., for South Huron.

Last year we gave a cash prize to the Toronto Fat Stock Show for the best calves raised on our Royal Purple Calf Meal. There were twenty-three entries. These two cuts show two of the prize winners. One of them sold for 33c. per pound which is the price of turkey and they showed a profit of over \$200.00 each to their owners. TEN of these calves weighed one thousand pounds or over each and not one of them over a year old.

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33x4 1/2		30.00
34x4 1/2		33.00
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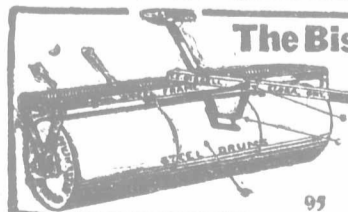
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Remember...
It is stated...
If the orch...
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FOUNDED 1866

The Farmer's Advocate and Home Magazine

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1866

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LONDON, ONTARIO, APRIL 29, 1920.

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EDITORIAL.

Remember that the earlier it can be found practicable to hatch the chickens in the spring, the greater are the chances of eggs from the pullets next winter.

It is stated by a prominent firm interested in farm buildings that this kind of work on farms is five years behind requirements. Certainly if one has the capital, conveniently-planned barns and buildings go some way toward overcoming the shortage of labor.

If the orchard has not been pruned this year, there is still time to go through and take out unnecessary limbs and cross branches. Remember that although it is unwise to make big cuts in most cases, where a big limb should be removed, making two cuts of it will often save a big split in the bark.

If one is not sure that the hens can get an abundance of green feed during the summer of the kinds they like, it would be the part of wisdom to make small plantings of oats or other green feed near the poultry yard where it is easily available. One or two rows of sunflowers, also, will help to provide shade for the summer months.

Notwithstanding the cost of production, we believe that in view of world market conditions, milk producers should be satisfied with the settlement of the Toronto milk-price question. An extra winter month and an average price of \$2.60 per can for May, June, July and August is as good as could reasonably be expected.

When planting the farm garden see that a variety of vegetables for the table is provided. No hungry man can do his best work if his only choice is between beans and beets. Try some asparagus, kohlrabi, or swiss chard, along with liberal plantings of lettuce, radishes, onions, lima beans, and the other vegetables usually planted.

A great many apple orchards this year are infested badly with oyster shell bark louse, due to the fact that the dormant spray was neglected pretty generally during the war years. Make every effort to apply it this year, because even in badly-infested branches it will take the bark from two to four years to become fully healthy again.

It seems evident that labor on the farms in Canada this year, especially in Eastern Canada, will be fully as scarce as for the last two or three years, if not more so, and this in spite of the fact, corroborated by the Deputy Minister of Labor for Ontario, that Ontario farmers are paying as high a wage as is offered for any similar class of labor.

In view of the labor scarcity and the avowed intention of a great many farmers to do the best they can without worrying over the cheap and inefficient labor that can be secured for high wages, it would seem good policy to do as thoroughly as possible what little can be done on the farm. If each man who is on the land would make his work count to the best advantage, no complaint would be justifiable from any quarter.

Under the provisions of the new Milk and Cream Testing Act, which has now all but passed the Provincial Legislature, shippers of cream and milk sold on the butter-fat basis should have a much larger degree of protection against low tests than they have hitherto enjoyed. It now remains for the milk producer to keep careful tab upon the percentage of fat that is allowed him. Most legislation can be made effective if the people will take advantage of it.

Good Out of Bad.

It is always well to be optimistically inclined and look about for advantages which may accrue from existing untoward conditions. It is possible to see in the labor shortage, under which agriculture is suffering at the present time, certain changes looming up that will undoubtedly be for the good of the industry. Farmers have come to realize that when working alone on one hundred acres they cannot afford to cultivate large acreages and get small returns. The tendency is to work the land more intensively and put a larger area under grass. The extension of our grass areas is not altogether desirable, but the production of larger crops per acre, through the use of good seed and better cultural methods, is demonstrating the advantages of good farming. Heavy production is the keystone to success in farming, and this applies to live stock, as well as to land. At the recent National Sale of Holsteins, held at Toronto, there was an unmistakable demand for 30-lb. cows, and this exemplifies the growing tendency on the part of farmers to pay more attention to the quality of cows they keep, rather than spend a larger amount of labor on a great number of cows and get little in return. The efficiency of man power on the farm is being increased, and under present conditions one man is accomplishing as much, and sometimes more than two did ten years ago.

In spite of conditions which in the main are unfavorable, farmers are making improvements, necessitated, perhaps, by the lack of labor, but in the end they will make farm life more pleasant for the farmer and his family. Electric light and small power plants are being installed, water is being piped to the house, and, on the whole, home and out buildings are being equipped with conveniences that have long been lacking. More than that, home life in the country is changing. It is being made easier, and the tendency will be when help becomes available to house it in cottages and keep the farm home for the farmer and his family.

Facts About Mixed Farming.

The report of the farm survey which appears on another page of this issue has reference to mixed farming in Western Ontario, or, to be more exact, in the Counties of Dufferin, Peel and Wellington. The survey covered the year ending April 30, 1919, and gives results from 268 farms averaging 152 acres in size. All told there were 329 farms containing 50,000 acres and including 41,000 acres of tillable land. Once again the fact is brought out that the small mixed farm must carry too large a proportion of the capital invested in buildings and machinery—42 per cent. to be exact—to be profitable, and we find that on 135 farms of 110 acres or less the average labor income was considerably less than \$800. The best group was one of 10 farms averaging 366 acres, with 290 acres in crop and an average labor income of \$1,678 as compared with a labor income of \$978 on the 268 farms of all sizes. The figures already given do not necessarily imply, however, that the average of each group is the best labor income that it is possible to procure from farms of these different sizes. The average labor income on 29 farms averaging 98 acres in size was \$498, but the 5 best farms in this group averaged \$1,534. Thirty-eight farms averaging 178 acres in size had labor incomes averaging \$948, but the 6 best farms in this group furnished labor incomes averaging \$1,926, and although the 10 farms that averaged 366 acres in size yielded labor incomes that averaged \$1,678 as indicated above, the 3 best farms averaging \$1,678 as indicated above, the 3 best farms showed labor incomes averaging \$2,670. The report verifies the general experience of farmers, when it says that "a farm of 150 to 200 acres gives the farmer all the opportunity there is in the mixed farming business." After all, the really interesting part of any data secured from farm surveys is the comparative study of

methods in use by farmers. It seems to be very strongly evident that good crop yields add materially to the labor income, even though much more labor must be hired. It is also apparent that good live stock has an even greater effect on the labor income than high crop yields, because under the same conditions of grouping the different farms according to good and poor crops and live stock there seems to be a heavier increase from the poorest to the best live stock than there is from the lowest to the highest crop yield. It is also significant that on the 49 farms with live stock below 31 per cent. of the average, 31 per cent. only were using pure-bred bulls. On the 37 farms, however, where the quality of live stock was 120 per cent. of the average, the percentage of farms using pure-bred bulls was 65. As between these two groups the cost of feed per animal unit was \$64 for the poor stock and \$86 for the best; the receipts per animal unit were \$59 from the poor stock and \$101 from the best, while the labor income from the farms with poor stock was \$422 as compared with \$1,658 from the farms with good stock. Thus it seems quite apparent that the statement in the report to the effect that "the more general use of good bulls offers the soundest solution of better returns for feed" is amply borne out. Speaking generally, it seems evident from the results that even on mixed farms where live stock was not the primary business of the farm the use of pure-bred sires is more than justified. The number of farms on which the live stock did not pay market price for their feed was 64 per cent. in the case of farms using grade bulls, as compared with 33 per cent. in the case of farms that had used pure-bred bulls for more than ten years, while 55 per cent. of the latter farms had live stock that returned more than \$10 profit per animal over the cost of feed as compared with 24 per cent. in the case of the farms using grade bulls.

A Clean-up Day.

If Arbor Day is necessary at the public schools, and a clean-up week is needed in the towns and cities, then it is important that a day be set aside on the farm to clear away some of the rubbish which has accumulated during the winter months and to put things in order for the spring and summer. It is surprising how quickly rubbish accumulates if the nucleus of a pile is allowed to get underway. A scattering of stones, broken bottles, old cans and rusted stovepipes lying around the yard certainly does not make the home attractive. Around the stable there is likely to be an accumulation of broken boards, pieces of piping, etc., which, unless one sets a definite time for cleaning up, will be stumbled over for the entire summer. One might as well pick them up first as last, and have the place looking as though someone lived there. Then on most farms it is necessary to start at the road gate, and, after making needed repairs, hang it so as to swing true. The gates around the buildings and into the different fields may have met with an accident during the rush season in the fall and were only temporarily repaired. It may save trouble later on to put them in good condition now, before the stock is turned on grass. All the fences should be inspected, and wires tightened and broken rails replaced.

After having straightened things up, consider what improvement a few flowering shrubs and plants would make to the home surroundings. Far too many farm dwellings are destitute of any shrubbery either in the fore or background. It does not cost much to purchase shrubs and plants; in fact, they may sometimes be secured gratis from a neighbor who has been beautifying his home for years, and is now in a position to spare a few surplus plants. Practically everyone appreciates flowers, and they certainly make the home more attractive. The young people will like them even if the old folk don't. We know all about the rush of spring work which leaves little time for either a flower or vegetable

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
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Agents for "The Farmer's Advocate and Home Journal,"
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garden, but, in our rush to accomplish what we consider to be the bigger things, are we not losing a good deal by neglecting those things which help to make home conditions worth while. A farm with tumble-down buildings, broken fences, and rubbish instead of flowers at the doorstep, tends to repulse rather than attract youth to country life. A day spent in cleaning up on every farm will help to make rural Ontario a more attractive place in which to live, and after all a pleasant, attractive home is more to be sought after than riches.

Nature's Diary.

BY A. BROOKER KLUGH, M.A.

A very dainty little spring blossom is the Spring Beauty. The stem, which springs from a rounded bulb, is from six to eight inches in height, and bears numerous, somewhat bell-shaped, flowers. The five petals are pale pink or sometimes white, with deeper pink veins. The stamens of this species mature first, and at the time they are shedding their pollen the pistil has the lobes of the stigma (on which the pollen grains must lodge to effect fertilization) tightly closed. Later, when the stamens have withered the three lobes of the stigma expand, and receive pollen from the stamens of other, more recently-opened, flowers. In this manner cross-fertilization is brought about. These two stages in the condition of the floral organs are shown in Figure 2.

The insects which visit the flowers of the Spring Beauty in search of pollen, and which carry the pollen from flower to flower and thus bring about cross-pollination, are the bumble bees, the bee-like flies of the family Bombyliidae and several smaller short-tongued bees. The Sulphur Butterfly is another insect which is a frequent visitor to the flowers.

We have two species of Spring Beauties in Canada, one having long, narrow leaves and very numerous flowers, the other shorter and broader leaved and fewer flowers. The general range of the former species is from Nova Scotia to Alaska and of the latter from Nova Scotia to Saskatchewan, though in some localities only one species is found, while in other parts of the country both species occur.

There are several species of butterflies which are to be seen in early spring, all of them being individuals which have wintered over in the adult stage in sheltered places. One of the commonest of these is the handsome Red Admiral, a species whose wings expand from two to two and a half inches. The inner portions of both front and hind wings of this species are dark brown, the hind wings having an orange margin, while the front wings have an oblique, deep orange bar, and very dark brown tips enclosing three white blotches. Another very common and easily recognized species is the

Camberwell Beauty, with its rich dark-purple wings bordered with yellow.

The White-throated Sparrow is now passing through the more southerly portions of Canada to its breeding-grounds, and its beautiful song is to be heard in many a piece of damp woodland and alder thicket, and even in many of the city parks. Whenever we hear the song of the White-throat it calls up visions of camps in the forests, of the rush of the rapid rivers of the north, of



Fig. 1. Broad Leaved Spring Beauty.
Natural size. Photo by Klugh.

alder-fringed streams where the beavers build their houses and dams, for the voice of this bird is one of the most characteristic sounds of the Northland. This song is a high clear whistle, consisting of two notes followed by three sets of triplets, and in spite of its extremely high pitch, for the upper notes reach the highest B on the piano of which instrument C is the last note, it is entirely free from any trace of shrillness. When we try to whistle it we appreciate how very high the pitch really is, and we are more likely to whistle it an octave too low, unless we happen to be remarkably expert whistlers. While the song of the White-throat is always characteristic of the species, and easily recog-

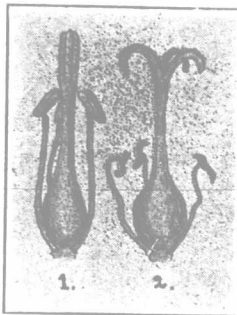


Fig. 2. Stamens and Pistil of Spring Beauty.
(1) Stamens mature, pistil immature. (2) Pistil mature, stamens withered (enlarged).

nized, there is a tremendous amount of variation in the songs of different individuals. They sing, for one thing, in several different keys. In some songs the two first notes are in an ascending scale and the triplets the highest of all, in others the second note is highest with a drop of a tone, or a half-tone, to the triplets, while in some other songs the first two notes are the same, and each note of the triplets is a half-tone lower than the last. These songs just mentioned are quite common variations, and in addition to these there are some rarer songs which are even more markedly modified.

While the White-throat is typically a bird of the northern woods, there are isolated breeding colonies of this species to be found in peat bogs in various parts of southern Ontario, and also in many places in central Ontario.

Assuming Heavy Risks.

BY SANDY FRASER.

There's a kind o' a tendency among humanity to tak' any statement for true that gets intae print. It gives it a sort o' a backing, as ye might say, that some man thought enough o' it to gie it space in the newspaper or in a book.

But there's ony amount o' lies run through the printing-press, and noo, when I read somethin' that someone is stating for a fact, I generally just look around for the proof before I swallow over muckle o' it.

I suppose ye'll say, "fire right ahead an' let us ken what ye're drivin' at," sae I'll just tell ye.

I was lookin' over a book, the ither day, written

by one o' these chaps they call philosophers, I'd tel' ye his name if I had time. But onyway here is one o' the things he said an' had printed. "The greatest successes have been for those who have accepted the heaviest risks."

Noo, what I said to mysel' at the time I read it, and what I'm sayin' yet, is, is that statement true, or is it a lie? Or is it baith, accordin' tae circumstances?

The best place to look for proof o' a thing like that is in the life-history o' some man that we hae been pretty weel acquainted wi'. If he was a great hand at taking heavy risks all we have to dae is to read ahead to the last chapter and see how the story ends. I have a case in mind, right noo.

Quite a number o' years ago, I'd better not tell ye how many, a cousin o' mine, (he claimed to be,) started in on his father's farm with the idea o' makin' a livin' for himsel' and, if possible, for his wife an' family. There was no thought o' makin' money in those days. Money was somethin' that we heard aboot, noo an' again, but saw juist aboot as often as we saw an eclipse o' the moon. What butter we made, or what stuff we raised on the farm we traded off at the store for cod-fish an' black-strap an' what ither dry-goods an' so on the women would be wantin'.

Noo, this state o' affairs might have suited my cousin a'richt, for he had never kened anything different, but it didn't suit his wife. Naething wad dae her but that they must quit the farm an' try somethin' that had a better lookin' future ahead o' it. She thought the lumbering business might be a way to get tae the top o' the ladder, but the first thing to do was to get off the auld farm.

And off they got, sold oot everything an' took the trail for the West. And frae that time the ex-farmer never needed ony mair coakin' along by his wife. Once he got west o' Lake Superior the air seemed to affect his blood, some way, and naething in the way o' a risky undertaking had ony terrors for him. If he had read that "the greatest success have been for those who have accepted the heaviest risks" he couldn't have gone into the buying o' lumber limits an' the buildin' o' saw-mills wi' mair spirit an' enthusiasm.

Things began to come his way pretty near frae the start. If lumber was cheap in those days it didn't cost much to get it oot. Men would wark all-winter in the woods for ten dollars a month and their pork an' bread, and it wasna lang till stories began to come back East tae the effect that oor lumberman was in the way o' becoming a millionaire, or somethin' juist about as bad. And later on we saw in the papers where they'd made a Lieutenant-Governor oot o' him and it began to look as though there was a guid deal to be said for the doctrine o' accepting the "heavy risk."

But he wasn't going to get off sae easy. About this time fire got intae some o' the best o' his timber-limits an' by the time it was through wi' him he was juist aboot back where he was when he left the farm, thirty years before.

It wouldn't hae been much consolation to him, at this time, for somebody to hae told him that "the greatest successes have been for those who have accepted the heaviest risks."

There's a word more that will have to be said, though. He's starting in agin taking risks and maybe we had better wait till we see how he comes oot before we dae too much revising on the proverb.

I was acquainted wi' anither man o' something the same make as my cousin, that I hae been talkin' aboot. He started in business as an agent for corn-shellers an' clothes-dryers and wi' an ambition to make one hundred and fifty thousand dollars. To mak' a short story o' it, he hit the mark he was aiming at, but by that time naething short o' a million wad satisfy him. He bought real estate and started building young sky-scrapers in the toon he lived in and I dinna ken whatna else he didna get mixed up in. And everything was lovely until the war came. Ye can imagine the rest. The last I heard o' the chap he was working in a munition factory. I dinna ken what "risk" he's taking juist at present. Maybe he's gone back to the agency business. It's risky enough a'richt.

But what I'm tryin' to come at is this. There's anither sense in which we can tak' oor proverb, in which it's true enough. What we want to get is the right idea o' success. As the world grows older an' wiser it will quit callin' the man who has made the most money the greatest success. As a matter o' fact, there are aboot five thousand things o' mair importance than dollars an' cents.

I would say that the person who has accumulated the largest amount o' wisdom an' experience is the one who has achieved the "greatest success" of life. Let us look at it in that way an' read the proverb again. "The greatest successes have been for those who have accepted the heaviest risks." We've got it right noo. The heavier risks we take the more experience we are bound to get and the more we learn o' the lessons that life can teach us.

It's what we are in the world for: a good all-round education. The worst thing that can happen us is not to get it, for it means that we will always be juist that far behind, what we might hae been. Eternity won't be lang enough for us to catch up in.

So this is what I mak' o' it, gin my logic is ony good; the largest experience and the most knowledge will be acquired by the person who is not afraid to accept the heaviest risk.

I dinna ken whether or not I'm sport enough to live up tae the doctrine. It will come kind o' hard, a'richt, being I've inherited sae muckle o' the Scotch caution o' my ancestors. They were unco' canny, that's a fact.

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With farm horses
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FEAT

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APRIL 29, 1920

THE HORSE.

Exercise and Condition of the Work Horse.

BY DR. G. H. CONN.

We hear the term condition used, but not always in just the right manner. By the term condition many people think that we are always referring to the present state of the health, but in the sense that we use it, we mean the animal's physical fitness to thoroughly perform bodily or muscular work. So when we speak of a horse being "soft" or "out of condition" or "lacking in condition," we mean that he is incapable of performing the usual amount of muscular work. When we speak of a horse being "hard," "in fine condition" or "in the pink of condition" we are referring to just the opposite. In the draft or work horse condition does not have the same meaning that it does for the race horse or the sporting horse, as they are called upon to perform to the limit of their endurance for a short space of time, while the work of the draft horse is slow and deliberate.

With farm horses it is possible in the spring season to take sufficient time during the first work of the spring to bring about a gradual conditioning. With some classes of work this is not possible, as it requires too much haste, so such animals must be conditioned by methodical exercising before being put to such work. Fire department horses and army artillery horses are very good examples of these.

The horse that has spent the winter in idleness and the fat, sleek horse that comes from the dealers are fat, soft and flabby and are easily fatigued and exhausted. Every organ and structure in the body has been doing just the amount of work that was necessary to digest the food, carry the animal from place to place as occasion demanded, and to maintain the other bodily functions; when it is suddenly called upon to do more than this it becomes rapidly fatigued and exhausted. The lungs must become accustomed to breathing more air, the heart to pumping the blood faster, the joints to the performing of a greater number of movements, and the muscles to exert more force and more movements.

HOW TO OBTAIN CONDITION.

Conditioning can only be accomplished by a judicious combination of good, wholesome feed and plenty of exercise carried on for some little length of time. The exercise should not be forced, and it should be graduated. The work should not be severe nor over such a length of time as to fatigue the animal. If over-exertion is practiced the animal will lose flesh; this is a common fault with most men in beginning their farm work in the spring of the year. They work their horses too hard. It indicates poor horsemanship to see a horse being worked when he is too tired to perform labor with safety; it is a frequent cause of accidents and injuries and is to be condemned under all conditions. The ability to distinguish the fact that the muscular development is becoming more pronounced, and of keeping the amount of work within the limits of the ability of the animal is the proof of good horsemanship. As soon as a horse is in good condition or is seasoned a fair amount of work will do him no injury at all, but will gradually add to the condition. Horses that are conditioned properly do not lose great amounts of flesh during the early working season.

AMOUNT AND KIND OF WORK.

In the work horse the kind of work will vary; with the farm horse it usually consists in the preparing of the soil for the spring crops. With most farmers there is usually several days' work early in the spring that must be performed before the heavier work begins; such as breaking corn stalks, hauling manure, repairing fences, hauling of various kinds and the like. Under those conditions the farm horse usually has quite a little light work before the heavy work begins. But regardless of the work, the horse should not be worked until it is greatly fatigued and should be rested often. If the farmer has nothing of a light nature for the team to do, and does not live too far from his marketing centre, it would be advisable to use the team, hitched to the wagon, for the frequent trips that he usually makes to town. This will be very good exercise and will help condition the animals and toughen the shoulders. The exercise or work should always be at the walk and, if the animals have been idle for any length of time, this will require some little patience upon the part of the driver. The amount of work or exercise and the length of time should be gradually increased; at first 2 hours of fairly brisk walking exercise may be sufficient; this can be increased slightly each day and the animal gradually put to light work, such as hauling light loads in the wagon, etc.

EFFECT OF FEEDING.

As the exercise or work increases the feed must be increased also. It is impossible to efficiently condition a horse on a light diet. It requires no little amount of judgment to properly ration the feed to the amount of work that the animal is doing, and the ability to do so only comes from actual experience. If the work is too hard for the amount of feed the animal is receiving he loses his sleek, glossy appearance; as we often say, he loses his "bloom" or fresh appearance.

FEATURES OF EARLY TRAINING.

Thirst and sweating of early training animals are very important features, and really are closely associated.

The sweating of young horses is very noticeable, and is many times due to nervousness; for this reason it is always best when working the young or highly nervous animal to treat them as quietly as possible. An experienced horseman does not tire the young horse with long, monotonous lessons, but proceeds with orderliness and concludes the lesson as soon as possible. When animals are sweating freely they become quite thirsty. Thirsty horses may be allowed to drink as much as they want if they are moved about until they are cooled, to prevent their becoming chilled. This thirstiness will diminish as their condition improves.

The quantity and the quality of the sweat is usually taken as an indication of condition; the horse that is green or soft will produce great quantities of a soapy, lathery sweat and will not dry very fast. As condition improves, the animal dries faster, the sweat becomes more watery and it requires more work to produce the sweating. Some animals sweat very easily even when in good condition, and others due to their nervous disposition, so these two latter factors are not to be over-looked. The weather conditions have much to do with the cause of sweating; it requires much work on a clean, dry, cold day, while horses sweat very easily on a damp, muggy, stuffy day.



Craigie Masterpiece.

Imported from Scotland by the Hon. Duncan Marshall for the Province of Alberta. Sire, Everlasting (11331); dam, Isabel (27186).

LIVE STOCK.

Know the stock you are raising.

Raise more and better cattle, sheep and hogs.

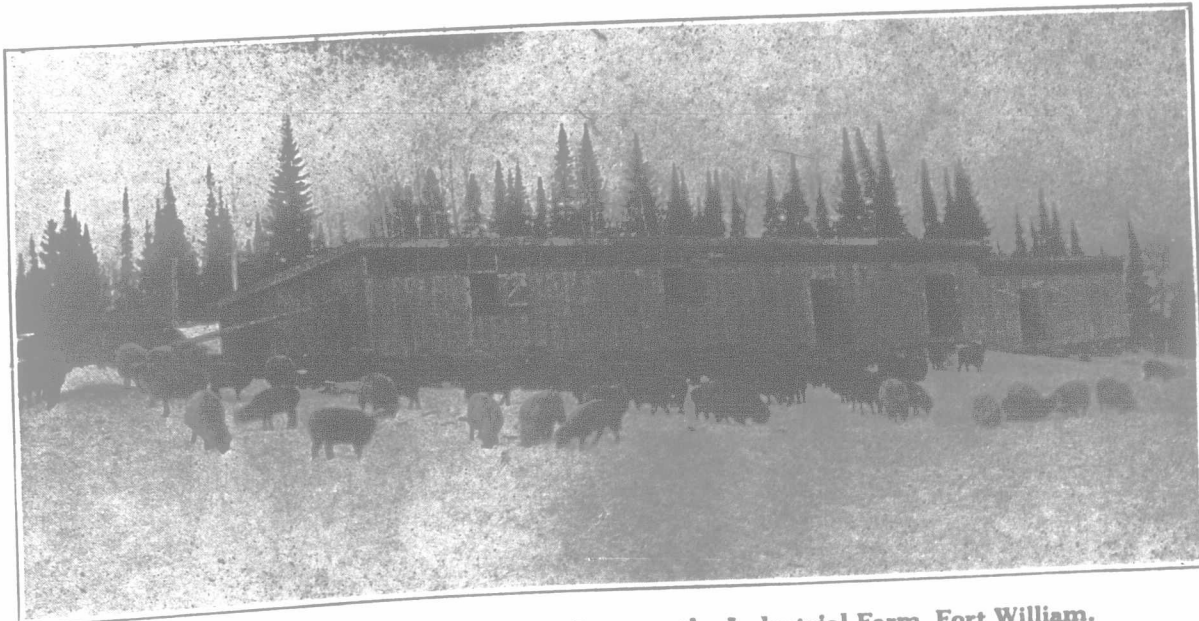
There is nothing gained by turning the stock on grass too early.

"The eye of the master fattens his cattle." How true the saying.

Use the knife on those pure-bred calves that are not up to standard.

The first twelve months of a calf's life usually determines whether it will amount to anything or not.

The poorest farm can be greatly improved by frequent application of farm yard manure. More stock means more manure to aid the production of bigger crops.



The Shropshire Flock and the Sheep Barn on the Industrial Farm, Fort William.

Live-stock Notes.

Upon inquiry of the steamship companies, it has been learned that importers are likely to experience considerable difficulty in securing transportation for stock from the United Kingdom to Canada during the coming summer. This is due to the heavy passenger and freight movement, space for which has been booked well in advance, and to the fact that few ships are available for the carriage of live stock, and many of these can only be equipped at considerable expense. Small shippers are likely to suffer most, in view of the fact that accommodation will probably be refused at all unless a minimum of business is offered. £250 has been suggested as the minimum which will be required.

The steamship companies indicated their desire and intention to meet the situation in the most practical way possible, and the suggestion was made that, so far as possible, shippers should co-operate in making application for space by planning to assemble their purchases for shipment on a particular boat at a given date. Such an arrangement, it was intimated, would greatly facilitate business and justify the steamship companies in meeting the needs of the shippers. The Live-Stock Branch will endeavor to facilitate any arrangement of this kind, and will be glad to receive letters from importers advising of their requirements. It is suggested, however, apart altogether from any assistance the Government may provide that importers will do well to arrange for their own shipment, in so far as possible, in accordance with the plan as above outlined.

THE HANDLING OF HIDES.

One of the chief factors in determining the value of hides is the quality of the take-off. In the trade the removal of hides is the work of specialists, while in the country, skinning is only an incident in the general work of the farmer, or local butcher. For these reasons the hide removed by the trade is generally superior to the country hide, not only in the take-off but as well in the salting and packing. The difference in quality is indicated by the classification of hides as "Packers" and "Country."

An outline of the essentials to the marketing of good quality hides may be of some interest.

The loss in hide values through branding is very great, and it has been suggested that the animal be branded in the neck or shoulder, areas of the hide less valuable than the flank. Often the brand is so deeply burned as to show on the reverse side of the hide. If some method of marking other than branding could be made practicable, it would result in a very marked appreciation in the value of our animal production of hides.

In bleeding, it is better to cut in a direct line with the centre of the lower lip and the point of the brisket, rather than across the throat, as the latter method renders the hide above the shoulders practically useless. The tail-bone, horns and the top of the skull, which are often left on the hide, should be removed. After removal, the hide should be laid flat, salted, and left twenty-four hours and again salted before rolling. Where hides are rolled immediately after salting, heating occurs, and this causes the hair to decay, resulting ultimately in destruction of the grain in the leather. Deacons, or hides from immature calves which are subjected to sun drying, lose practically all their natural oil; it would be profitable to treat these in the same way as the larger hides, special attention being paid to the removal of all meat, so that the hide may be preserved as well as possible.

H. S. ARKELL,
Live-Stock Commissioner.

Where clover hay is not available for cattle and timothy is fed, a little oilcake added to the ration helps balance it. Even at five dollars a hundred it may pay to feed this concentrate.

Causes of Sterility in Breeding Cattle.

One of the most annoying problems in live-stock breeding to-day, particularly in pure-bred herds, is sterility, or more broadly speaking the failure of the cow herd to breed regularly and produce a normal crop of calves. Sterility, of course, means the inability of the animal to reproduce at all, and this trouble frequently manifests itself, but accompanying it are numerous other less serious disturbances of the reproductive machinery which cause the live-stock man a great deal of annoyance and sometimes keep his receipts below the line where expenses end and profits begin. These problems are unquestionably for veterinary science to solve and to this work our leading veterinarians should devote themselves with increased interest and vigor; but the layman; the breeder of live stock himself, is the nurse, so to speak, and must become acquainted with the fundamentals of bovine sexual hygiene, and know how to observe the simple rules of sanitation if he hopes to make a success of breeding live stock under present day conditions.

Seized with the importance of this question of genital diseases in cattle "The Farmer's Advocate" asked W. W. Williams, D. V. M., of Utica, N. Y., to spend a day at Weldwood Farm and there hold a clinic, in order that the Editors of this paper might become fully acquainted with the problems met with in live-stock breeding. There with the stable as a laboratory, and with a herd of over 50 cattle of all ages a very profitable and interesting day was spent in consultation. Dr. Williams confines his practice to diseases of breeding cattle; he is recognized in the United States as one of the leading authorities, and has under his professional supervision about 30 of the leading pure-bred herds in the Eastern States. The discussion with Dr. Williams was, in parts, rather technical, but we shall endeavor for the benefit of readers, to transcribe the matter in language intelligible to all.

THE FEMALE ORGANS OF REPRODUCTION.

In order that the text of this article may be followed with the minimum of hardship and the maximum of interest it would, no doubt, be well to describe briefly the reproductive mechanism of the cow and locate the organs most frequently involved in common genital diseases. The vulva is the outmost organ and leading from this to the uterus is a passage called the vagina. The uterus or womb is where the foetus or young spends the formative months of its life prior to birth and during the gestation period the foetus is wrapped in an envelope known as the placenta and commonly spoken of at time of parturition as the "after-birth" because it is expelled after the birth of the young. This sac may be considered a product peculiar to pregnancy rather than a reproductive organ. The cervix is the organ connecting the vagina and uterus, the cervical canal being the opening or entrance to the uterus or foetal chamber. Leading upward from the uterus to the ovaries are the fallopian tubes through the passages in which (the oviducts) the eggs or ova (products of the ovaries) journey downward to the uterus. The female sexual product is elaborated in the ovaries just as the spermatozoa or sperm is elaborated in the testicles of the male.

CLOSING OF THE CERVIX.

One of the first points to come up for discussion was that of "opening" cows or heifers prior to breeding. This consists in dilating or enlarging the cervical canal, or entrance to the uterus. Several cows in the Weldwood herd have been operated upon by veterinarians, but the results have never been sufficiently conclusive to either commend or condemn the practice. On examination Dr. Williams found the cervix of some cows previously operated on to correct a supposed closure, indurated or hardened and inflamed. This condition of the cervix, he intimated, was due to unskillful treatment and very likely to militate against future conceptions. Nevertheless, the cervix may be diseased, as in cases of cervicitis, but in such instances treatment rather than dilating or opening is advised.

The whole reproductive apparatus of the cow is

subject to many ills and each organ has its own peculiar enemies to combat. Sometimes more than one organ may be infected and only by a thorough acquaintance with the genital organs in a normal and diseased condition is the veterinarian able to diagnose and treat. The time should be drawing to an end when live-stock breeders are obliged to resort to all kinds of quack methods and subject their valuable animals to unskillful treatment. Dr. Williams has classified his examinations of the genital organs of 2,500 cows and tabulated the results. His statement, while somewhat technical, will give stockmen a good idea of where the various diseases locate themselves, and let some light in on this problem of sterility.

EXAMINATIONS OF 2,500 COWS CLASSIFIED.

The principal causes of sterility are included in the following groups. As many of the animals examined, presented disease in more than one part of the genital apparatus, they are thus counted under one or more of the groups respectively. Of the 2,500 cows examined, from which this summary is derived, 1,221, or 48.8 per cent. gave evidence of disease of the genital organs. The following percentages are therefore based on the total number of cows found diseased, namely, 1,221.

CERVICITIS.—This trouble includes various disease conditions of the neck of the uterus and in this group there were 388 cows or 31.75 per cent. Of these there were associated with disease of the placenta (including abortions) 106, or 36.6 per cent. and with disease of the oviducts, 43 or 10.3 per cent.

ENDOMETRITIS AND PYROMETRITIS.—This is principally a superficial inflammation of the endometrium or lining membrane of the uterus. In this group were 354 cows or 29 per cent. Of these there were associated with retained placenta, abortion and premature birth, 61 or 33.7 per cent.

UTERINE TUMORS, METRITIS AND PARAMETRITIS.—These include conditions of various natures causing, principally, severe changes in the uterine walls. In this group were 66 cows or 5.4 per cent. Associated with the foregoing diseases were: (a) Retained placentas, abortions, etc.,—21 or 31.9 per cent.; (b) Endometritis and Pyrometritis,—14 or 21.2 per cent.

DISEASE OF OVIDUCTS.—In this group showing disease of the oviducts were 187 cows or 15.46 per cent. and associated with this were: (a) Retained placenta, abortion, etc.,—48 or 25.7 per cent.; (b) Cervicitis,—42 or 23.5 per cent.

OVARIAN DISEASE.—This abnormal condition of the ovaries may be divided into two general groups. Where the ovarian tissue proper was affected there were 249 cows or 20.2 per cent., and where the corpus luteum or yellow body was affected there were 198 cows or 16.23 per cent. With group 1 where the tissue proper was affected there was associated cystic degeneration of the ovaries in 189 cows or 76 per cent., and this constitutes 15.48 per cent. of the 1,221 diseased cows.

Also with the second group where the corpus luteum or yellow body was affected there was associated: (a) Retained placenta, abortions, 52 or 26.3 per cent; (b) Cervicitis, 44 or 21.1 per cent. (Twenty-five per cent. of group 1 is included in group 2.)

PLACENTITIS.—This group includes premature births, abortions, and retained placenta or afterbirth; in it were 454 cows or 37.2 per cent. This group does not constitute an immediate cause of sterility, but there is a very close relation between this group and the ones listed previously which affect seriously the fertility of the animal. Of this group 254 or 56.8 per cent. have given physical evidence of disease of the organs and from this group are derived a large percentage of the more badly diseased animals.

DR. WILLIAMS' COMMENT ON THE VARIOUS GROUPS.

I consider sterility due to cervicitis as the more common form and a slight inflammation in this region (the neck of the uterus,) commonly prevents conception. Contrary to a popular belief among the laity that much of the sterility is due to a closure of the cervical canal

and that it must be opened, I have found only one case of complete closure and this animal was born so. A considerable number of animals were almost closed, but this was due to an inflammation of the part and upon this condition the opening process has little beneficial value. Indeed, it has been found that most of such work done by unskilled methods, causes actual harm to the animal by reason of injuring and further increasing the inflammation of the parts. Treatment of disease of the cervix as of other delicate organs, should be done only by those thoroughly equipped by their education and training.

The actual sterility resulting from endometritis and pyrometritis is quite small, considering the large number of cases in which they occur. Most of these cases recover and in those cases in which conception does not again occur, the actual reason for the sterility is likely to lie in the cervix, oviducts or ovaries.

The next group containing uterine tumors and deeper inflammations of the uterine walls are constituted by a class of animals in which the changes are chronic and the loss is practically 10 per cent., in fact, this group contains a large part of the incurable uterine conditions.

Of the more permanent sterility, disease of the oviduct is probably the most important cause. I would estimate that incurable sterility in this group reaches a mark of 45 to 60 per cent. and in many herds the actual loss is 75 to 100 per cent. of the diseased animals, or even about that percentage of the total herd. With this condition present it is always inadvisable to resort to uterine douches and ovarian manipulations, as any inflammation of the oviducts is thereby accelerated and recovery precluded.

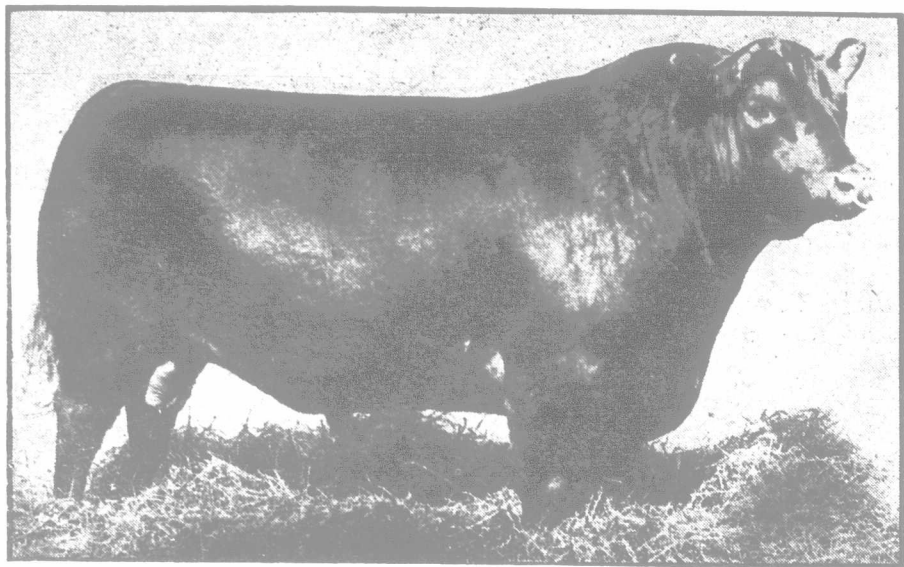
Ovarian disease is divided into two about equal groups as regards their importance. You will note in the tabulations that cystic degeneration of the ovaries was present in about 15 per cent. of the total cases of sterility. Out of this group of 189 cases, it has not been possible to determine the actual number of recoveries but I would estimate this as being at least 80 per cent. It is the cause, I would estimate of 12 to 15 per cent. of the total absolute sterility.

Of the disease affecting the corpus luteum or yellow body (the corpus luteum should be formed periodically in the ovary) there occurs a certain percentage in conjunction with an infection of the oviduct and this runs at about 70 per cent. of the total corpus luteum disease. This group handled with care gives a large percentage of recovery, but otherwise under unskilled treatment and manipulations causes a great deal of loss to the owner of cattle.

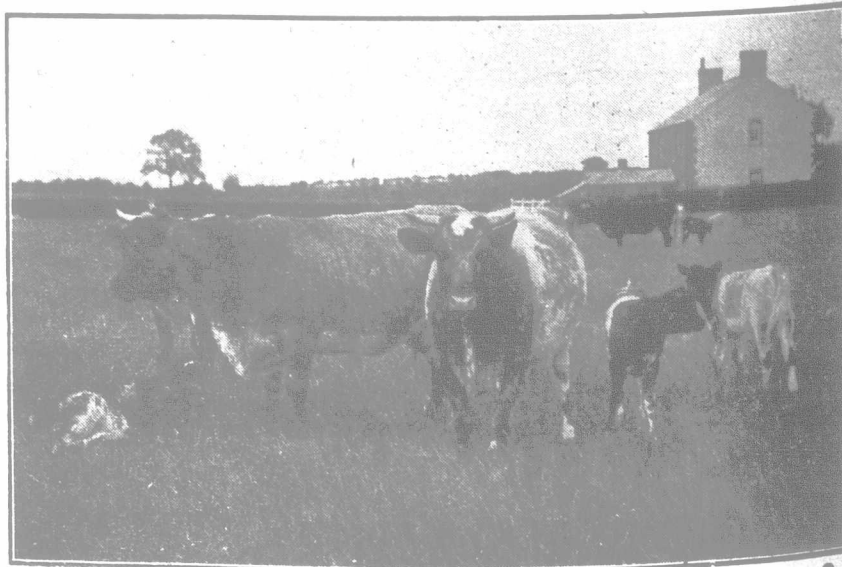
In relation to the effect that abortion and retained afterbirth have upon the breeding capacity of the animals concerned, I believe that this is indicated strongly in the accompanying tabulation. Proper care of these cases increases very materially the percentage of recovery. I believe that much benefit would be derived if breeders generally would require more and more efficient control of the inflammations following parturition. It has been my experience that a large percentage of the losses have been due to neglect of treatment and that in the herds which have been put under careful supervision, the losses materially decrease.

SEXUAL HYGIENE.

Dr. Williams stresses sexual hygiene and says if reasonable precautions are taken to isolate and treat diseased animals when evidences of infection are first given the stubborn cases of sterility would be greatly lessened in number. Considerable emphasis is placed on the rearing of calves and an effort should be made to raise animals with strong constitutional vigor. "The calf's health during the first few months," said Dr. Williams, "is a very strong factor governing its future breeding efficiency." Sexual hygiene and rearing the calves properly are two phases of live-stock husbandry which breeders should stress more than they do. In connection with the former, a sharp watch should be kept for unnatural discharges and where such occur the



Evenest of Bleaton.
An excellent type of Aberdeen-Annis bull.



Shorthorns in an English Setting.

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vagina should be douched with a one-quarter to one-half of one per cent. Lugol's solution. This can be obtained at practically any drug store and is strongly recommended for this work. Dr. Williams, however, does not advise douching the vagina any more than is necessary for the first 10 to 15 days after parturition. At this time the organs are tender and very susceptible to infection. Nevertheless, abnormal discharges suggest treatment, in which case the Lugol's solution is advised and it is well when breeding suspicious females to douch the sheath of the bull with the Lugol's solution before and after service. When a cow, subject to abnormal discharges, is to be bred, the vagina should be douched before service only with the solution mentioned. Abnormal discharges, retained afterbirths, scours in the calf herd and calf pneumonia are all indications of serious genital disorders in the breeding herd requiring attention and skilful treatment. Dr. Williams does not consider contagious abortion as the one great plague and cause of poor calf crops, but looks upon it as one out of many of the genital diseases which are causing abortions and sterility.

THE FARM.

Mixed Farming in Western Ontario.

The results of another farm survey have just been made public by the Department of Farm Management, Ontario Agricultural College. This survey covers some 329 farms in the south part of Dufferin County, north part of Peel, and the east part of Wellington County, where mixed or general farming is being conducted. We are told by the Department of Farm Management that the district under survey is typical as regards soil, climate, crops and live stock of the mixed-farming districts of Western Ontario, and represents farming conditions in the Counties of Simcoe, Dufferin, North Peel, North Halton, North Huron, Wellington, Grey and Bruce. It was desired to secure reliable information with regard to mixed farming as a commercial enterprise, and to have this information based on conditions as they exist on the average farm. It was also desired to determine the factors that have the greatest influence in raising or lowering farm profits by comparing methods employed on a successful and unsuccessful farm, as well as to give suggestions as to the most profitable organization for the mixed farm. The period covered was the year ending April 30, 1919. The labor income of the farmer is really the first direct object of the survey, in as much as it is possible to gauge fairly accurately the success or failure of a farmer by the labor income which he secures. Most readers are, no doubt, familiar by this time with this term and know that the labor income is really the net revenue of the farm for the year, minus the interest on the total capital invested; that is to say, all expenses for the year are deducted from the sum total of all farm receipts, the balance being the earnings of both the farmer himself and the capital he has invested in the farm. In this survey, interest at five per cent. on the capital was deducted from this balance, and the amount remaining was the amount earned by the farmer through his labor and managing ability. This amount then is called the labor income. Complete records were secured from only 268 of the 329 farms. These farms ranged in size from 45 to 555 acres, and included, all told, 30,000 acres of crops, 41,000 acres of tillable land and 50,000 acres of land of all kinds. For purposes of study and analysis the

largest farms, averaging 366 acres in size, had only 29 per cent. of their capital used in this manner. The larger farms have a smaller cost of operation in proportion to the business done, and in addition can use both man and horse labor with greater efficiency than can the smaller farms. Because of larger fields or larger implements that were used on the large farms, the operators of these farms averaged 57 acres of crop per man, as compared with only 39 acres of crop per man on the small farms. Similarly, where one horse did the necessary work on 18 acres of crops on the small farms, the work on 22 acres of crops was done by one horse on the larger farms. Not only was this the case, but this extra work per man and per horse was done without sacrificing crop yields, and the column headed crop index, in Table 1, shows that there was no steady increase or decrease of crop yield as the size of farm became larger.

The column headed "labor income on best farms" points out very clearly that there are farmers on all sizes of farms who are successful because of the methods used in their farming operations, sometimes in spite of handicaps due to the small farm. Thus, in group 3, where the six best of the 46 farms averaging 110 acres in size made labor incomes averaging \$1,770, we find that this amount exceeds the average labor income of the 10 largest farms, averaging 366 acres, by nearly \$100, although the three best farms among these large ones averaged \$2,670. Thus it becomes clearly evident that a man may have a large farm but conduct his business so poorly and use such inefficient methods that he will be working at a loss. Summing up the matter

with the number of pure-bred bulls seems to indicate that the more general use of good bulls offers the soundest solution of better returns for feed." That this is true is shown by a comparison of the farms using grade bulls with the farms using pure-bred bulls for more than ten years. Where grade bulls were used, live stock on 64 per cent. of the farms did not return market price for their feed, while the live stock returned more than \$10 profit per animal over the cost of feed on only 24 per cent. of these farms. Where pure-bred bulls had been used for more than ten years, more than twice as many farms returned over \$10 profit per animal above the cost of feed, as in the case of farms using grade bulls, while only half as many farms possessed live stock that did not pay market price for feed. Out of 223 farms used in this calculation there were 138 using pure-bred bulls and only 85 still using grades, indicating that the majority of farmers realized from long experience what actual figures show clearly.

The comparative effect on labor income of good live stock and good yields is also shown. Forty-five farms having poor crops and poor live stock had labor incomes averaging \$393. On 13 other farms where the only difference was the combination of good crops and poor live stock, the labor income was \$343. On 35 farms where the crops were only average, but where the live stock instead of being poor was average also, the labor income was \$938, while a combination of good live stock in addition to the good crops showed an average labor income on 29 farms of \$1,733. In other words, from a labor income of \$393 where both crops and live stock were poor, an increase in the quality of the crops means

Table II.
EFFECT OF GOOD LIVE STOCK ON FARM PROFITS.

Quality of Live Stock	No. of Farms	Cost of Feed Per Animal Unit	Receipts Per Animal Unit	Per Cent. of Farms Using Pure-bred Bulls	Labor Income
Below 81% of average	49	\$64	\$ 59	31%	\$ 422
81-90%	45	68	66	46%	750
91-100%	52	75	74	55%	862
101-110%	48	83	84	60%	974
111-120%	37	82	90	58%	1181
Over 120% of average	37	86	101	65%	1658

the Department of Farm Management says that these figures clearly show that a farm of 150 to 200 acres gives the farmer all the opportunity there is in the mixed-farming business, and that with a farm of this size he can make the maximum profits.

Part of the report is devoted to a comparison of good and poor methods of farming; thus the effect of high crop yields on farm profits is shown to be very marked. The yields of different crops for the district during the year 1918 were as follows: wheat, 25 bushels; oats, 36 bushels; barley, 33 bushels; mixed grain, 36 bushels; potatoes, 100 bags; and hay, .9 ton. The farms were divided into groups according as they secured yields above or below these average yields, and their labor incomes noted. Farms that secured yields below 81 per cent. of these averages spent \$344 for hired labor and secured labor incomes of \$506. One man cared for 47 acres of crops. Farms which secured yields 10 per cent. or less above the average spent \$441 for labor and secured labor incomes of \$956. The best group of 35 farms with crop yields more than 20 per cent. above the average secured labor incomes of \$1,331. Only \$404 was spent for hired labor, and only 45 acres were looked after by one man, so that apparently the good result was secured by doing very thoroughly what work was done. The effect of good crops on the labor income is thus very noticeable, especially since the average hay yields more than 20 per cent. above the average made more than double the labor-income of farms

an addition of \$450 to the labor income. Where live stock instead of crops was improved an addition of \$731 was secured, while \$1,340 additional was secured when both crops and live stock were improved. Commenting on this condition, the report says: "We are safe in assuming, therefore, that as the live stock is the market for most of the farm crops, it is rather poor economy to go to great expense growing high yields of crops if the price received by marketing them through the live stock is low on account of unprofitable live stock. Improvement in crop yields and in live stock thus go hand in hand, or, better still, with live-stock improvement leading."

In the district surveyed potatoes are a very important crop, and all the farms of about 100 acres in size, about 120 in number, were grouped according to the number of acres in potatoes, in order to study the effect of farm profits of growing different acreages. Where one acre of potatoes was grown the average labor income from 31 farms was \$670, while on 21 other farms where an average of six acres of potatoes was grown, the labor income was \$929, with corresponding decreases in labor income as the acreage in potatoes decreased. Where three acres or more of potatoes were grown per farm, somewhat larger labor costs were incurred and the number of crop acres per man decreased somewhat, but, in the words of the report, "the net result was to add from \$40 to \$60 per acre clear profit to the business for each additional acre grown."

Table I.
SUMMARY ANALYSIS OF FARM BUSINESS ON 268 MIXED FARMS IN WESTERN ONTARIO.

Tillable Acres	No. of Farms	Average Actual Size	Average Acres of Crops	Average Labor Income	Average Labor Income on Best Farms		Total Capital	Capital in Real Estate	Capital in Buildings	Capital in Machinery	Per Cent. of Total Capital in Bldgs. and Mach'y	Acres of Crops Per Man	Acres of Crops Per Horse	Crop Index
					Number	Labor Income								
Under 76 ac.	29	98 ac.	52	\$ 498	5	\$1534	\$ 8061	\$ 5320	\$2687	\$ 700	42	39	18	94
76-90 ac.	60	102 ac.	66	818	10	1758	10096	6625	3147	806	39	43	18	103
91-110 ac.	46	110 ac.	73	802	6	1770	10819	7422	3102	815	36	47	20	97
111-135 ac.	37	163 ac.	94	1018	6	1965	14910	9999	3728	1024	32	48	20	107
136-160 ac.	38	178 ac.	104	948	6	1926	15450	10600	4054	964	32	49	20	97
160-185 ac.	32	205 ac.	118	1213	5	2475	18152	11906	5013	1214	34	54	22	98
185-225 ac.	16	229 ac.	140	1339	4	2585	20593	14394	5584	1237	33	60	24	96
Over 225 ac.	10	366 ac.	290	1678	3	2670	27141	19600	6415	1451	29	57	22	102
Average 124 ac.	268	152 ac.	90	937										

farms were divided into groups, depending upon the number of tillable acres which they contained. Thus it was possible to arrive at a labor income, which a number of farms of each size would average for their owner, and the following table sets forth these figures. The same thing is shown in Table 1 that has been shown in every survey so far conducted, namely, that as the size of the farm increases so also does the labor income of the farmer increase. The large farms have the greater proportion of their capital devoted to land and live stock which are the revenue-producing parts of the farm business. This point is very important, because anyone knows that the most successful business is usually secured by using capital to the very best advantage. The smallest farms had 42 per cent. of their capital tied up in buildings and machinery, while the

having yields more than 20 per cent. below the average. The extra time and expense put on the land was amply repaid in larger profits. Table 2 shows the effect of repaid in larger profits. Table 2 shows the effect of good live stock on farm profits, and indicates not only the labor income of each group of farms divided according to the quality of live stock, but the average cost of feed and the average receipts per animal unit in each group, and the percentage of farmers in each group using pure-bred bulls. Commenting on this table, the report says: "Undoubtedly the small returns from groups 1, 2 and 3 are in part due to poor feeding from keeping down the receipts per animal, but it must be noticed that in these three groups none of the average receipts are equal to the average feed fed. We are forced to conclude, therefore, that feed is not the only solution for better live stock. The column dealing

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

Where all Methods have Failed.

EDITOR "THE FARMER'S ADVOCATE":
In your valuable paper, some time ago, I saw where you invited young people to write and give an account of their meetings. I have read with interest the accounts of the young people's associations, and, being a leader of one, I have applied all the ways and hints given by the other leaders in their meetings, but have been unsuccessful.

We have quite a few young people here, and on

social evenings we have a full house, but on regular meeting nights very few turn out, and quite a few who agree to take part on certain nights never show up. We hold our meetings once a week, which, in my mind, is not a bit too often. Being interested in young people's movements, I have pushed as hard as I can, but, as I said before, without success.

Now, what I would like is a little assistance from those who have succeeded in keeping the young people interested and together in a Young People's Association. Our folk seem to be quite at home on a social evening, but on a regular night are shy and so backward that they won't even come out. I have been trying to get everyone to go together, but find it is hard to get games (outdoors) in which boys and girls will co-operate and play. If someone can help the situation, or give us a hint on how to remedy matters, we will be more than pleased, and will be doing what some of us think is "the impossible."

Thanking you for the valuable space which this takes.

Middlesex Co.

R. W. K.

Note.—Who can help R. W. K. out? We would suggest that perhaps meetings once a week are too frequent for the rest if not for R. W. K. Perhaps R. W. K. has been too willing to do all the work and the others have been too willing to let him. How have you other folk overcome this common difficulty?—EDIT.

THE DAIRY.

The Vitamines of Milk.

The following paragraphs are from a bulletin on the food value of milk, issued by the Connecticut Agricultural Experiment Station.

Butter-fat is a constituent of milk which has a unique value in the dietary. If a young rat is fed on a ration adequate in all respects except that the fat is furnished by lard, or vegetable oils like olive oil, it will grow normally for a period of about 80 days, then suddenly it declines in weight and soon dies. Such animals frequently suffer from sore eyes and in many cases develop large ulcers on the eyeball. A small amount of butter fat added to the diet causes an immediate recovery of health, gain in weight and prompt restoration of the eyes to their normal condition. This marvellous effect is due to the presence in the butter-fat of something of, as yet, unknown nature, which for the time being is called the fat-soluble vitamine. The presence or absence of this substance in any foodstuff can be detected only by feeding young animals.

Recently it has been reported from some parts of Europe that many children have been afflicted with a disease called zepophthalmia, which is characterized by the development of ulcers on the eyeball. This condition is strikingly like that exhibited by rats fed on rations deficient in the butter-fat vitamine, and is probably due to the same cause, for these zepophthalmic children who had been fed almost entirely on skim-milk and cereals, were promptly cured by whole milk or cod liver oil. It is still unproven that this butter-fat vitamine is essential for adults. We have maintained mature rats for many months in good condition on diets containing no known source of this substance, and as yet they have shown no signs of malnutrition. For the normal growth and development of the young, however, it is absolutely essential.

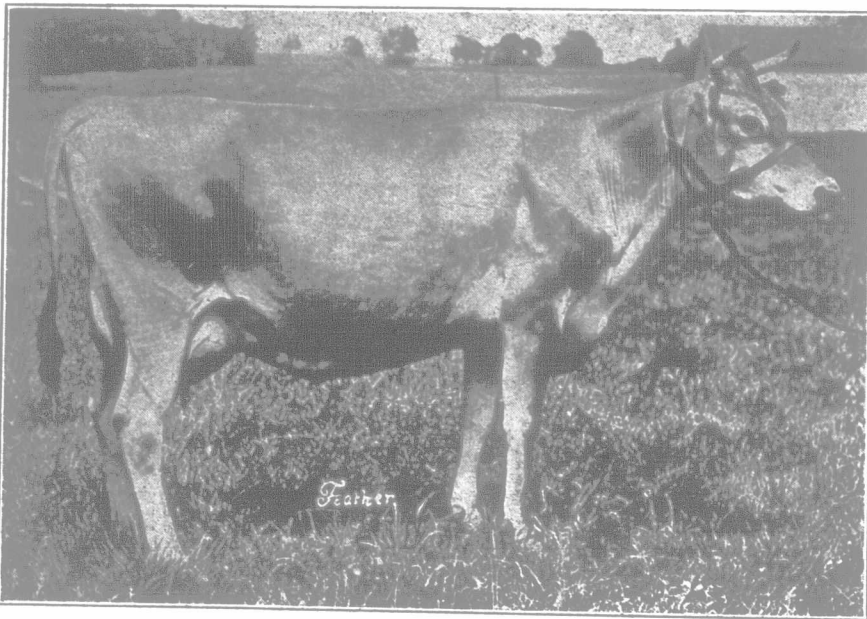
Just what these vitamines are has not been discovered yet, but at least three types exist, namely the fat-soluble or "A" vitamine; the water-soluble, "B", and the antiscorbutic, "C" vitamine. Milk contains some of the antiscorbutic vitamine which prevents scurvy, though less than do some of the vegetable and fruit juices, notably orange juice. This vitamine is sensitive to heat, hence children fed on pasteurized or boiled milk are more susceptible to infantile scurvy than are those fed on unheated milk, unless the scurvy-preventing vitamine is given them in some fruit or vegetable juice in which it is abundant, as regards the relation of the fat-soluble vitamine to nutrition, it is only necessary to add that this vitamine is quite resistant to heat, for we have passed live steam through melted butter-fat for two and one-half hours without destroying its potency. The third type of vitamine, known as the water-soluble vitamine, is also present in milk. Without an adequate supply of this food accessory in the diet, life cannot be maintained. An animal which is fed on a ration containing no known source of this vitamine dies within a short time. If, however, when apparently dying, a very little of this food accessory is given, it recovers with surprising rapidity. This may be given in the form of milk, yeast, commercial wheat embryo, or any other natural food-stuffs.

That the water-soluble vitamine is something apart from and independent of the fat or protein of the milk is shown by the results of our experiments. For many years we used the product obtained by evaporating to dryness, milk freed from fat and protein, as a source of the water-soluble vitamine in the diets fed to our experimental animals. This product which we have called "protein-free milk" is just as efficient as a source of water-soluble vitamine as is the whole milk. Contrary to what appears to be generally believed, the water-soluble vitamine is resistant to heat. "Protein-free milk" prepared by evaporating at a temperature not far below that of boiling water is just as efficient as a source of vitamine as is an equivalent quantity of fresh, unheated milk. Even boiling for several hours does not destroy this vitamine.

By what means this vitamine exerts its marvellously beneficial influence is still unknown. The rapid gains in weight following its use are always accompanied by a very great increase in the amount of food eaten, the weekly food intake frequently being doubled and sometimes even quadrupled when a small amount of vitamine-containing food is given to an animal declining on a food free from water-soluble vitamine. The vitamine may act simply as a stimulant to a jaded appetite, and the better growth may be due solely to the increased food intake; or it may supply one or more essential factors needed to complete an inadequate diet, and the effect of adding the vitamine may be analogous to that obtained by adding a missing amino-acid, or a sufficient supply of some inorganic element which was present in too small an amount to permit of normal nutrition. When we know more about the chemical nature of the vitamines, we may be able to discover just what part they take in the processes of nutrition.

Professor Hopkins of England reported some experiments in which he obtained very striking results by feeding, daily, small quantities of fresh milk to rats which were on a diet supposedly free from water-soluble vitamine. From his data the conclusion was drawn that milk is very rich in this type of food accessory. In some recent attempts to duplicate his results, we found it necessary to use much larger quantities of milk than he did in order to get comparable results. Undiluted milk contains all the vitamine necessary for the young animal, but in feeding babies it is the practice to dilute cow's milk with water and to reinforce the mixture with milk sugar. By this procedure the vitamine content of the original milk is so far reduced that the bottle-fed baby may get enough of this essential food factor only when it takes a liberal quantity of the food. Whenever appetite fails, the food intake and consequently the vitamine intake are reduced. The effect of this is to further reduce the appetite because the amount of food eaten depends on the vitamine content of the diet. It is thus evident that under such circumstances the child goes from bad to worse and the endless troubles so familiar to mothers ensue.

In feeding young animals trouble is rarely encountered when the food is right. On the other hand very slight defects in the food lead to countless difficulties.



Jap's Mertha Lass.

A New York State Jersey with a record of 15,616 pounds milk and 303 pounds fat.

Milk Business Thriving in Leeds County.

EDITOR "THE FARMER'S ADVOCATE":

Not having seen any report from Leeds County in your instructive journal, I thought perhaps a few lines might interest your many readers. Far and near, at this date, sugar making is dragging along with a small run of sap, maple syrup is selling around \$3 per gallon, and meets with ready sale as sugar is so high in price. In some localities the roads are almost impassable. We have been having all sorts of bad weather, with snow, rain and high winds. April, so far, has been very rough. Seeding will be later than usual; as it looks now, it will be May before there is anything done on the land. As a rule the farmers are pretty well supplied with hay, and cattle generally are coming through the hard winter in fine condition. About all the milk in this part of Leeds County is going to the condensery at Brockville, where they are now receiving about 100 tons per day, and paying \$56 per ton for March milk testing 3.4 per cent. The writer had the privilege a short time ago of being shown through this big plant. They employ about 120 hands, have 875 patrons, and one has only to be shown around to see the cleanliness in which the product is handled and put up ready for consumption. Each lot, before it is put out, is subjected to a climatic test to insure its keeping qualities in all parts of the world. The old saying that it is "an ill wind that blows nobody good" is working out well for the automobile agents in this locality, for there is a keen demand for one-ton trucks for hauling milk to this big plant. Individual milk wagons, which, a short time ago were to be seen on all country roads at this time of the year, are a scarce article, as nearly all the cheese factories are out of business and motor trucks have

taken the place and help to fill the pocket of the Oil King, John D. Rockefeller, and also have made a short cut of the hog industry in this part. I see that some writers are talking of advertising Canada for tourist traffic. The writer has often wondered why it was that a great many American tourists come over here to motor in the mud and dust, leaving such fine roads at home—it surely must be the climate, or the people that attracts them.

Leeds Co., Ontario.

D. F. ARMSTRONG.

Reasons for Weighing and Testing Milk.

The following reasons why the weighing and testing of milk is of advantage, are given in circular 19 of the Dairy Branch of the Ontario Department of Agriculture:

1. Because no way is known whereby the real value of a cow may be determined without an actual test. The most convenient and satisfactory test now known is the use of scales and the Babcock test for determining the weight of the milk each day and the percentage of butter-fat in the milk. The use of the milk scales without a milk-fat determination does not give the whole facts, neither does a milk-fat determination without the use of scales throw much light upon the real worth of a cow, especially for butter-making. Both quantity and quality of milk need to be considered.

2. The record of a single year is not always a fair indication of the real capacity of a cow, since some unusually favorable or unfavorable factor may cause the yield to be higher or lower than normal. The record of a dairy herd should be taken as a guide rather than an absolute rule to be followed in selecting cows to be retained in the dairy, or with which to raise heifer calves, and in the use of this record, account should be taken of any disturbing factor which might influence the results. Without a record, however, an estimate of the value of a dairy cow is in most cases little more than a guess.

3. It is not entirely a question of the prices obtained for dairy products which determines a profit, but it also depends largely upon the amount of milk available from the individual cow over and above the cost of production. With high-producing herds the dairyman is, to some extent, independent of market prices.

4. The milk of the individual cows may vary within considerable limits from day to day.

5. Recent sales of dairy cows show that with records available for inspection, cows sell for a much higher price.

6. Records promptly inform the owner which cows are "off their feed." Warning is thus given of approaching illness, and serious trouble may be averted.

7. Daily milk records will enable you to make more profit out of the cows you already have. The figures of yield in black and white are a guide to the most advantageous feeding of each cow, as well as a potent stimulus to regularity, thoroughness, and care in every operation from feeding to milking. The milkers also become interested, and are

stimulated to perform their part in the very best manner.

8. Records train one's sense of observation. The man who studies his cows soon finds out that while feed and expenses are higher, his cows can be made to produce more and his farm improve.

9. Many men have been able through keeping records of their cows to double the average yield per cow.

10. Keeping records confirms or dispels suspicions as to there being some poor cows in the herd. It shows any cows that are failing to produce profits. It gives definite knowledge about every cow in the herd, and such knowledge pays.

11. Herds exist where the profit from the best cow is equal to the profit from the combined effort of six poor cows. In such a case a man has all the labor of feeding, milking and caring for the six poor cows when the one good cow is making the profit. Records thus assist in building up a highly profitable herd.

12. Every dairyman has observed that some cows in his herd are better producers than others, but it is not probable that anyone who has not kept records for each cow realizes fully the bearing that these differences have upon the profits returned from the herd.

13. It is believed that the best methods of maintaining and improving the dairy herd is to ascertain, by weighing and testing the milk, the real good cows. Discard those that after a fair trial prove to be surely unprofitable, and raise heifer calves from the very best of the profitable cows, particularly those of good constitution, using pure-bred sires strong in the blood of good producers. The importance of pure-bred sires having ancestry of good milking strain is sometimes overlooked, but results have shown that the sire is of as much, if not of more importance than the dam.

14. The record form is not difficult to use and trouble required is a spruce which a pail can thus be easily washed in some convenient place should be deducted about \$5) with allowed for. The of the month giving of butter-fat is all taken from each jar, to which has a tablet, which same month, when the milk for that the total weight test for the same butter-fat produced. Night's milk, which should be cooled as drawn from the cold water. Crucial to a temperature separator, by cold water and utensils. Application of Agricultural which to keep re-

Parturient Calves.

Milk fever is following parturition and investigation. In fact, the veterinarian discusses the disease, and while it has been discovered effects a cure can be made by a man who owns a farm, or a man who has a good idea of the conditions and treatment. The gross condition is not as serious as others, but conditions, except disease following rarely the second.

Symptoms are or shortly follow six to forty-eight in some cases that present the yield to the same in cows during certainly are called "Parturient."

These facts still the cause and symptoms usually no feet, whisking glistening appearance indifference to the pulse in the but soon become temperature is complications— but on account in using it. The loses the power present to cause symptoms increase other cases slow and lies or falls again. This becomes unbalanced soon becomes positions, either outstretched, or

If paralysis will be turned the flank. If then let go the positions. This is a contracture neck, but if the side the head some cases the becomes well devoid of sensation. In fact, she a Respiration is less noisy, (ca

Preventive investigation, natures, it has to prevent a largely dependent practically full. Where nature cows that are cases of the calf to not remove a This leaves the sufficient is r

APRIL 29, 1920

14. The record of the yield of milk in its simplest form is not difficult to keep, and the small amount of time and trouble involved is well repaid. All that is required is a spring balance (costing about \$1.50) to which a pail can be hung. The milk of each cow can thus be easily weighed, and should then be noted on a sheet of paper ruled for the purpose, and fastened up in some convenient position. The weight of the pail should be deducted, but balances can be obtained (cost about \$5) with dial on which the weight of the pail is allowed for. The addition of these weights at the end of the month gives the total milk. If the percentage of butter-fat is also desired, then a small sample can be taken from each milking and put in a composite sample jar, to which has been added a corrosive sublimate tablet, which sample can be tested at the end of the month, when the average percentage of butter-fat in the milk for that period is thus obtained. Multiplying the total weight of milk for the month by the average test for the same period shows the total pounds of butter-fat produced by the cow for that length of time. Night's milk, which is to be sent to cheese factories, should be cooled to a temperature of 65 degrees as soon as drawn from the cow, by placing the cans in a tank of cold water. Cream for creameries should be cooled to a temperature of 55 degrees as soon as it comes from the separator, by placing the cream cans in a tank of cold water and ice. Use a brush for washing all dairy utensils. Apply to the Dairy Branch, Ontario Department of Agriculture, Toronto, for blank forms upon which to keep record of the production of your cows.

Parturient Paresis—Commonly Called "Milk Fever."

Milk fever is a disease peculiar to cows at or shortly following parturition. It has been a subject for study and investigation by veterinarians for many generations. In fact, the very earliest works on veterinary science discuss the disease. Notwithstanding these facts, the causes and nature of the disease is not well understood, and while effective methods of treatment have been discovered, the manner in which such treatment effects a cure cannot be satisfactorily explained. Every man who owns a cow, whether he be a dairyman, a farmer, or a man living in town, should have an intelligent idea of the conditions under which it occurs, the symptoms and treatment. Cows that are heavy milkers or in gross condition, or both, are more liable to an attack than others, but cases are met with under nearly all conditions, except that there are no cases on record of the disease following the birth of the first calf, and very rarely the second.

Symptoms may be noticed shortly before, during, or shortly following parturition, usually from about six to forty-eight hours after the birth of the calf, but in some cases not until several days. In fact, cases that present the typical symptoms of the disease, and yield to the same treatment, are occasionally noticed in cows during any stage of the lactation period. These certainly are cases of "Paresis" but cannot be called "Parturient," as they occur months after parturition. These facts still further tend to confuse matters as to the cause and nature of the disease. The first symptoms usually noticed are an uneasiness, stamping of the feet, whisking the tail, a staggering gait, a dilation and glistening appearance of the pupils of the eyes, and an indifference to the calf and surrounding conditions. The pulse in the early stages is usually full and frequent, but soon becomes weaker though more frequent. The temperature is below normal and continues so unless complications set in, hence "Milk fever" is a misnomer, but on account of its common use we may be justified in using it. In the early stages of the disease the patient loses the power of swallowing, but no symptoms are present to cause this condition to be suspected. The symptoms increase in severity, sometimes rapidly, in other cases slowly. The cow loses control of her muscles and lies or falls down. She may or may not be able to regain her feet, but if she should she will soon go down again. This may occur a few times, but she eventually becomes unable to rise, and partial or complete paralysis soon becomes evident. She will now assume one of two positions, either lying flat on her side with head and limbs outstretched, or sitting up on her sternum, (breast bone). If paralysis be well advanced or complete, the neck will be turned backwards with the muzzle resting on the flank. If the head and neck be straightened and then let go they will immediately return to their former positions. This tends to give the impression that there is a contraction of the muscles of that side of the neck, but if the patient be turned to rest on the other side the head will take the same relative position. In some cases there is well-marked delirium before coma becomes well marked. When coma is complete she is devoid of sensation and practically also of motion. In fact, she appears as dead, except that she breathes. Respiration is sometimes normal, but usually more or less noisy, (called stertorous).

Preventive Treatment.—After many years of careful investigation, study and ineffective use of drugs of many natures, it has been discovered that a full udder tends to prevent an attack. Hence, preventive measures largely depend upon allowing the udder to remain practically full for three or four days after parturition. Where nature is allowed to take its course, even with cows that are in high condition and heavy milkers, cases of the disease are few. Hence it is well to allow the calf to nurse the dam for three or four days, and not remove any milk in any other way in the meantime. This leaves the udder practically full all the time, but sufficient is removed frequently to avoid udder trouble.

When, from any cause this cannot be done, the attendant should, as far as possible, stimulate nature by milking a little frequently. In the meantime the cow should be fed lightly. After three, or better four, days the cow can be fed to produce large quantities of milk and used in the normal way. While this treatment is usually successful in preventing the disease, it occasionally fails.

Curative Treatment.—As stated, "in the very early stages the cow loses the power of swallowing;" hence no attempt must be made to give anything by the mouth—this is imperative—as some of it will almost certainly enter the larynx and pass down to the bronchial tubes and cause death or mechanical bronchitis—which usually ends fatally. We have stated that "a full udder tends to prevent the disease." In like manner, a distended udder tends to cure. The best method of distension is by inflating with pure oxygen gas, or sterilized air. The latter, being much less expensive, more easily introduced, and giving practically as good results, is usually used. Cylinders containing compressed oxygen gas and apparatus for inflation can be purchased from wholesale druggists. Outfits for sterilizing and introducing it into the quarters can be purchased at little cost from dealers in veterinary instruments. If the symptoms be noticed before the cow goes down, inflation is easier and the patient recovers without developing paralysis. In all cases the udder should be well washed with an antiseptic, such as a five per cent. solution of one of the coal-tar antiseptics. If down, a rubber sheet or canvas should be placed under it to prevent contact with litter, etc. All milk should be drawn, as its presence complicates inflation. The syphon of the outfit is then disinfected and introduced into a teat. It is well to inflate the under quarters first, as partial recovery is sometimes so rapid that the cow regains sufficiently to sit up before inflation is completed. By working the rubber bulk or metal pump of the outfit, the quarter is inflated by the introduction of all the air it will contain. It is then good practice to tie a tape tightly around the teat to prevent escape of air. The other quarters are treated the same. It is good

to be used during the winter of 1920-21 for demonstration purposes at the dairy conventions, for educational work in the dairy schools, for conferences of graders from the different provinces, etc. Full details regarding the contest may be secured from J. A. Ruddick, Dairy and Cold Storage Commissioner, Ottawa.

Holsteins on Test.

From March 16th to 31st, the official test reports of 62 cows and heifers were received and accepted in the Record of Merit. The mature class of 25 is headed by Pietje Inka Pontiac with 30.56 lbs. butter from 620 lbs. milk and 57.90 lbs. butter in fourteen days. Pontiac Lady Waldorf follows a close second with 30.55 lbs. from 602.9 lbs. milk and 124.98 lbs. butter in thirty days. Lola Francy Keyes is third with 28.34 lbs. butter. The outstanding record of this report is that of Woodland Banostine Colantha, a senior four-year-old, with 35.01 lbs. butter from 709.1 lbs. milk. Woodland Banostine Cora, a 1/8 sister of the former cow has 29.68 lbs. butter from 55.32 lbs. milk. Countess DeBoer 2nd is third with 25.29 lbs. butter. In the junior four-year-old class Elmcrest Fairy Posch has 24.09 lbs. butter from 467.2 lbs. milk, followed by Colantha Pledge Queen with 22.54 lbs. butter. The senior three-year-old class is headed by Goldie Keyes Camille with 23.16 lbs. butter, followed by Princess Korndyke Fayne with 23.12 lbs., and Edith De Kol of Elmcrest with 21.16 lbs. The junior three-year-old class of six is headed by Artis Melba FINDERNE with 22.02 lbs. butter from 547.7 lbs. milk, followed by Laningdale Alice Abenovitch with 20.73 lbs., and Teake Ormsby Korndyke third with 20.22 lbs. In the senior two-year-old class Bonnie Burr of Crystal Spring 2nd made 19.13 lbs. butter from 407.4 lbs. milk, while De Kol Mercedes Queen is second with 16.13 lbs., and Alberta Brookbank Segis third with 15.43 lbs. butter from 349.5 lbs. milk. Countess Korndyke DeBoer in the junior two-year-old class made 15.48 lbs. butter from 32.99 lbs. milk, followed by Ena De Kol Hengerveld with 14.45 lbs. in seven days and 28.27 lbs. in fourteen days.

During the month of March the semi-official records of nineteen cows were received and accepted. In the mature class Duchess of Connaught made 627.50 lbs. butter from 15,184 lbs. milk and Mary Junior has 490 lbs. butter from 12,090 lbs. milk. Three are reported in the four-year class of which Nettie Tensen Hengerveld is high with 627.50 lbs. butter from 15,882 lbs. milk, followed by Thorndale Wayae Beryl with 603.75 lbs from 13,873 lbs. milk. In the three-year class Rosebud Mutual De Kol, an Alberta cow, is high with 887.50 lbs. butter from 17,387 lbs. milk, and Pride Princess of Chesterville is second with 473.75 lbs. from 11,829 lbs. milk. The high record of this report is that of Colony Favorit McKinley, a two-year-old, who produced for the year 1,052.50 lbs. butter and 2,1795 lbs. milk. Pioneer Albino Mechthilde is second with 696.25 lbs.

butter from 14,254 lbs. milk, and Pioneer Snowstorm Hartog third with 681.25 lbs. butter from 14,949 lbs. milk. In comparing the semi-official record of Colony Favorit McKinley with that of her strictly official record only a slight difference will be noted. The semi-official record for the year being 1,052.50 lbs. butter from 21,795 lbs. of milk, while the strictly official record was 1,060.95 lbs. butter from 21,570 lbs. of milk, the slight difference being partly due to the fact that the semi-official test started slightly sooner than did the official.

The above example should be a point in favor of semi-official long term tests, which when properly carried out are nearly as accurate and less costly to the breeder.

HORTICULTURE.

Onion Raising in Brief Form.

EDITOR "THE FARMER'S ADVOCATE":

For successful onion cultivation the ground should be plowed in the fall and again in the spring. The ground should be well manured after plowing in spring. The manure must be well rotted and the ground well pulverized, and the rows should be from twelve to fourteen inches apart. Seed should be sown from the fifteenth to the twentieth of April. When the onions come up they should be cultivated about every second day, and weeded once or twice a week.

Ashes or salt should be sprinkled on the ground to prevent worms from killing the young onions, and this should be done before a rain. When onions are nearly full grown they should be rolled to prevent thick necks, and when large enough to harvest they should be pulled and laid in rows on the ground to dry. When dry, they should be topped and twisted at the neck. They should be put in a shed and left until thoroughly cured before marketing.

Leeds Co., Ont.

WALTER MANHARD.



When Its Apple Blossom Time in the Orchard.

practice to then massage the udder well every half hour until the animal regains her feet, which is usually in about an hour. If she be not on her feet in at most four hours, repeat the inflation. The tapes should not be left on the teats longer than one hour. The cow should be fed lightly for three or four days after treatment. Nothing should be drawn from the udder for twenty-four hours after inflation, after which a little milk, enough to prevent udder trouble, should be drawn frequently for the next twenty-four hours, after which she should be used as other milking cows. Inflation of the udder by the use of an ordinary bicycle pump to which is attached a little rubber tubing with a teat syphon, gives as good immediate results as either gas or sterilized air, but there is great danger of udder trouble following, as the air may be contaminated. WHIP.

Dominion Educational Butter-scoring Contest.

During 1919 an educational butter-scoring contest was conducted under the auspices of the Dairy and Cold Storage Branch of the Dominion Department of Agriculture. This proved so successful that it has been decided to continue the work during the coming season. According to the general rules, it is requested that four creameries in each province send by express one 14-lb. box of butter to the Dairy Commissioner, the same to arrive before the 20th of each month from May till October. The butter will be scored on its arrival and placed in cold storage for rescoreing by the same and placed at intervals throughout the season. The percentages of salt and moisture will be determined in each sample, and the reports will be sent to the contestants rescoreings and other tests will be sent to the contestants and to every creamery in Canada. The butter is paid for at market price on receipt of the proper invoices, and the express and storage charges are also paid for by the Dominion Dairy Branch. These samples will

Dehydration Versus Canning.

EDITOR "THE FARMER'S ADVOCATE":

I should like to discuss briefly the question of dehydration as presented in an article entitled "A Dry Subject" by Allan McDiarmid, in your issue of April 8. It seems to me that this article although dealing with an important subject is somewhat misleading.

The writer of the article has placed dehydration and canning side by side and has endeavored to show that the former should be used and that the latter should be discarded. Although much is yet to be determined regarding these two methods of food preservation, there are certain points regarding them which seem to be fairly clear.

(1) Dehydration has the advantage of smaller manufacturing cost, smaller transportation charges and hence a cheaper article of food.

(2) Canning has developed into a large industry principally because it has been the most successful method of preserving the natural odors and flavors of perishable fruits and vegetables.

(3) Most fruits and vegetables are eaten principally to vary the diet and to please the appetite. Except in the case of potatoes, ripe beans and ripe peas, the question of food value, other than mineral matter, is considered very little. Therefore any process which fails to preserve flavor and color in the natural condition, fails in its object.

In the writer's experience, having carried on several tests and having examined a number of samples from leading concerns, dehydration has not yet produced foods with the full natural flavor and odor. For instance, green beans which are prized for their delicious flavor when dehydrated were tasteless. The manufacturers really admitted this when they advocated cooking these beans with bacon. To do that is to miss the point. In that case, the beans are eaten for their bulk and not for their flavor.

The writer of "A Dry Subject" has referred to dehydrated tomatoes and green peas. If he can produce samples of these articles for me which will have 25 per cent. of the natural flavor and odor that canned tomatoes or beans will have, I shall be greatly interested as I have failed to find dehydrated articles reaching even that standard.

In conclusion, I wish to say that in discussing dehydration the proper attitude would seem to be that dehydration occupies a different field from canning and should really go hand in hand with canning. That is, that while dehydration may be advisable in the case of certain coarser vegetables such as potatoes, carrots, onions, and beets, yet canning is really the undisputed leader for preserving the delicate flavors of fruits such as strawberries, raspberries, peaches and pears, and green vegetables such as peas, beans and tomatoes.

Hort. Experiment Station. P. E. CULVERHOUSE.
Vinland, Ont. By-Products' Investigator.

POULTRY.

Getting Layers for Next Winter.

Why should we produce winter layers? Because there is an increasing demand, not only at home but abroad, for poultry and poultry products. What has caused this great demand? There are several reasons which, when taken collectively, are very convincing why such a shortage should exist in poultry and, of necessity, poultry products.

First, because Canadians are eating more eggs every year. Second, because there is a greater export demand for Canadian eggs and poultry to meet the demands in foreign countries—the latter having been depleted of their laying stock during the war. Thirdly, because the high prices of feeds and the comparatively low prices of market poultry during the third and fourth years of the war, meant that a great many laying hens

were killed off. Fourthly, because not sufficient attention had been given to the hatching of early chicks for winter layers. Consequently, the poultrymen found their returns were not sufficient to meet their expenses, and the increase in poultry raising has been very slow to what it might have been, had there been sufficient profits realized out of the poultry industry.

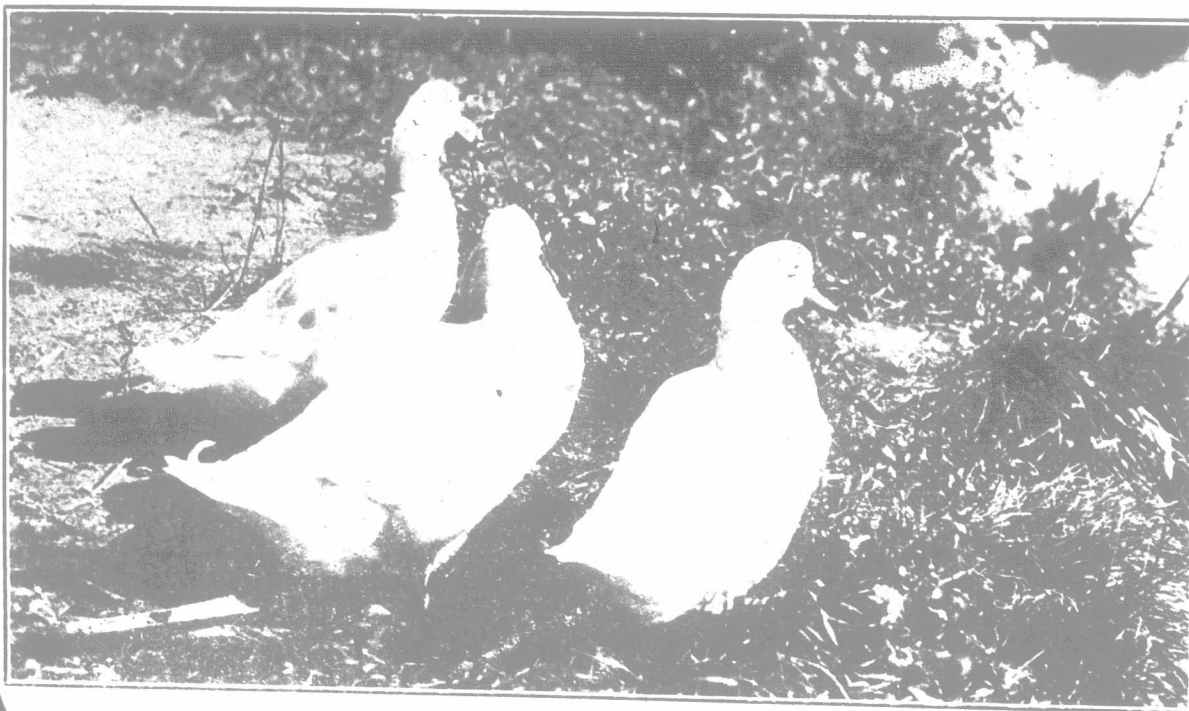
While it is not intended to mislead anyone into the fact that big money can be made out of poultry and their products with the prevailing high price of feeds, yet this can be said, that your returns may be increased very materially by producing winter layers. The following results, which were obtained on the Experimental Farm, Nappan, from five of the best winter layers, also five of the lowest, from October 1st, 1919 to March 31st, 1920, will bear this out.

The five best birds laid 413 eggs at a total cost of \$8.21. The total value of eggs laid and sold for eating was \$23.78, leaving a profit of \$15.57. The five poorest laid a total of 34 eggs at a cost of \$8.10 with a total value of \$1.99, making a loss of \$6.11 for the six months. Figuring on a basis of 100 hens like the first five, you have a profit of \$312 against a loss of \$122 from the latter. In computing the above, only the actual food consumed is taken into consideration—labor and interest on investment neglected. Now it can readily be seen that the winter layer is by far the more profitable hen to have more especially when the high cost of feed is taken into consideration.

In order to produce profitable winter layers, we must select eggs for hatching from not only our most healthy and vigorous birds, but from our best laying strain. Hatch these preferably about the first of April and not later than the last of April. When the chicks are hatched great care must be taken that the baby chicks do not get stunted, otherwise they will not be as good as later hatched birds at maturity. Keep brooders and brooder house clean, light and free from dampness and draught. Give them plenty of wholesome chick foods, such as baby chick scratch grain, baby chick grit, oyster shell, charcoal and sprouted grains. Keep an even temperature at all times during the early stages, for that is the most critical time in the development of the winter layer. Keep them growing well throughout the summer. Do not overcrowd your house. Feed plenty of good growing feeds, such as grain mixture of 200 lbs. cracked corn, 200 wheat, 100 of oats, together with a dry mash mixture of 100 lbs. bran, 100 corn meal, 100 crushed oats, 100 shorts and 20 lbs. of beef scraps, keeping at the same time plenty of grit, oyster shell and charcoal where they can have access to it.

During September, select your most promising pullets from the flock and get them into their winter quarters in order that they may become accustomed to their new surroundings. For winter quarters the house or pens should be light, free from draught or dampness and have plenty of fresh air. A good winter ration for the grain mixture is 200 lbs. corn, 200 wheat, 100 oats, and 100 of barley and dry mash, 200 lbs. screenings, 100 bran, 100 shorts, 100 cornmeal and 20 of beef scraps. Hens should always have plenty of grit, oyster shell and charcoal before them and in this way you can easily double your poultry profits.—Experimental Farms Note by W. W. Baird, Superintendent, Experimental Farm, Nappan, N. S.

During the twelve months ending February, Canada exported \$507,091,471 worth of goods to Great Britain and imported goods to the value of only \$106,605,527 leaving a favorable balance of trade of over \$400,000,000. During the same period Canada imported dutiable goods valued at \$649,076,632 and free goods valued at \$344,793,468, or a total of \$993,870,100, upon which duty amounting to \$177,766,266, or an average of 27 per cent. on dutiable and 17 per cent. on all goods was collected.



A Trio of Fat Ones Contemplating a Swim.

THE APIARY.

Methods for Hiving Swarms.

EDITOR "THE FARMER'S ADVOCATE":

A large number of beekeepers believe that a natural swarm has much more energy in the production of either comb or extracted honey than a colony whose efforts to swarm have been checked or balked. Sometimes swarms that have been thwarted will begin to sulk and then the problem is how to get them to work. While perhaps the great majority of beekeepers will find it an advantage to use preventive measures, believing that the bees will cast their first swarms in spite of them, there are those who hold that they can secure more honey by letting the bees satisfy their natural desires by swarming once—that is to say, the parent colony and the swarm together will produce more honey than if they had been kept in one hive. While this is, of course, a debatable question, it is a matter that should receive careful consideration, for no one method or set of methods will work with all beekeepers and in all localities.

For the purpose of the present discussion, it will be assumed that it is an advantage to manipulate the colonies so that they will cast a swarm, after which repressive measures will be applied on the parent colony. Some of the advocates of the one-swarm scheme find that the artificial plan of shaking is quite satisfactory, while others believe it is better to let bees have their own way, so far as the first swarm is concerned.

HIVING A SWARM WITH A CLIPPED QUEEN.

Where the plan of forcing the swarm ahead of time by brushing or shaking is not practiced, clipping has come to be almost universal among comb-honey producers for when the queen's wings are clipped, or they are prevented from leaving the hive by the use of alley traps, or entrance-guards, a great amount of labor will be saved.

It will be assumed that all queens in the apiary have their wings clipped. A swarm comes forth. After the bees are nearly all out, the queen will be found in all probability, hopping around in the grass near the entrance, vainly endeavoring to fly with the rest of the bees. She should be caged, and the cage slipped into a pocket or some cool place, temporarily. The super or supers in which the bees have already started work should be set on the ground near the hive. The brood-chamber should now be removed, just as it is, to an entirely new location. In its place on the old stand a hive containing frames of foundation or empty combs should be set and on top of this a queen-excluding honey-board. Some prefer having only starters of foundation. The supers, placed on the ground temporarily, are now put on the new hive containing these frames of foundation or combs. The caged queen is laid in front of the entrance.

All this may be done when the bees are in the air, and it will not be long before they discover that the queen is not with them, when they will return pell-mell to their old location and rush into the new hive. After they are well started going in, the queen may be released, when she will go with them.

The work already begun in the supers will be pushed on and completed with more vim and energy than before, because, as stated already, a new swarm works with new energy. If only frames containing starters have been given them, what honey does come in is forced into the supers, for the bees have no other place to store it, at least until foundation below has been drawn out; but as soon as this takes place it is occupied immediately by the queen.

The old hive-containing frames of brood and queen-cells now in another location may cast a second or third swarm, but if queen-cells are cut out, even second swarming may, to a very great extent, be checked.

This method of handling swarms where natural swarming is allowed, commends itself, especially to the women folk, who are generally at home. All they have to do is to hunt up the clipped queen, cage her, and then put an empty hive containing frames of foundation in place of the old one. As it might not be practicable for the women to carry the old hive to another location, they can simply drag it over to one side, and change the entrance so that it will face the rear. When the "man of the house" returns, he can lift the supers from the old stand on to the new one, then take the old brood-nest over to another location. This may be done any time within a day, or, when preferred, the old hive can be left alongside the new one, providing the entrance is reversed.

If two or more swarms come out at the same time, and one of them has a virgin queen, all the bees will be likely to unite with the one having the queen; then, of course, this plan of bees returning will come to naught. But in a well-regulated apiary of Italian bees there will be few such occurrences.

York Co., Ontario.

MAX BOAG.

If you want a community hall and athletic grounds for your community, why not take advantage of assistance offered by the Ontario Government. Grants are only made to municipalities, however, and local organizations, such as women's institutes or farmer's clubs should not proceed with their plans, expecting to get Government assistance, until they have looked into the Act and consulted the Ontario Department of Agriculture.

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FARM

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FARM BULLETIN.

End of Legislative Session Not Yet in Sight.

The session of the Ontario Legislature that convened in Toronto on March 9, and was expected to prorogue sometime between April 20 and May 1, will probably not end until May 15 at least. It will be remembered that several weeks were taken up at the first of the session by the debate on the address. For the last two or three weeks the Legislature has been getting down to real work, but contentious measures, such as the temperance question, and several reforms sought by the labor group in the House, have given rise to considerable discussion, so that the actual number of bills disposed of is rather less than the work done by the Legislature would seem to warrant. There are still a great many bills to be put through the second and third stages, and many others have yet to go before the select standing committees of the House. This means that such bills cannot be put through the committee of the whole House or given the third readings before they have been discussed by the proper select standing committee. In addition, there is the Budget debate, which is barely started and may occupy considerable time, although there would seem no particular reason why it should. Beside those factors there is the fact that not a cent of money has yet been voted up to the present time, and this we understand to be most unusual. The supplementary estimates have been tabled but not passed. The "further supplementaries," to cover unforeseen expenditures until the 31st of October should be down in a few days, while the main estimates for the fiscal year beginning November 1, 1920, which are usually brought forward at the last of the session, and will represent the ideas of the new Government, may and very likely will, create considerable discussion before they are passed. The Government seems to be bringing forward the most contentious measures now, so that once these are disposed of, the remainder of the work to be done, except for the voting of the money, should be carried forward very rapidly. Even at the best, however, May 15 seems the earliest possible date of prorogation.

The most contentious item discussed last week was the McCreary resolution that the House request the Federal Government to authorize a referendum under the Canada Temperance Act, as regards the importation of intoxicating liquors in the Province of Ontario. M. M. MacBride opened the debate, which was continued from the week previous. Mr. MacBride is a well-known labor man, and though a good speaker and Mayor of the City of Brantford, and professing to have strong ideas on the temperance question, he seemed to have some difficulty in making himself clear. He thought the Province could clear private cellars of stocks of liquor, as well as they forced the hotel men to clean out their stocks. He further declared that the money which the Province had made out of the operation of the Ontario License Board was tainted money, and represented a serious backward step. If we take the profit out of the business, importers will stop flooding the Province with liquor, which should be sold for use rather than for profit. The Provincial Board of Health now has more drastic powers than would be required to meet the situation if the Province were to act within its own rights rather than try to take advantage of federal laws. The O. T. A. is badly in need of amendments, since at present it is the most difficult of all acts to enforce. The Legislature should exercise the courage of its convictions and remedy these faults. The speaker believed to some extent in the rights of the minority, and pointed out that at the last referendum there was a minority of 1,700,000 voters, who must be recognized to some extent. Too much moral uplift is bound to bring about a reaction, and fifty out of sixty-seven Massachusetts towns were instanced which voted wet after being dry for many years. The referendum clause in the Canada Temperance Act was the result of the fine political hand of the Hon. Newton Wesley Rowell, who hopes to ride to power on the support of the temperance people. The Sandy and McCreary resolutions are a double-barreled gun, and if passed will have the biggest back-kick of any political gun ever fired. Prohibition is certainly a plank in the U. F. O. platform, and for this reason the Government should bring in a progressive Government temperance measure. They should go to the country with the referendum, and if they are prepared to spend money on the referendum, should also face the people squarely with the issue. Concluding his rather amazing medley of ideas, the speaker said he would support the Brackin amendment.

The speech on the debate last week was made by Honorable Mr. Raney, Attorney-General, who, in an exceptionally clever manner, refuted practically every argument that had been advanced by opposition to the resolution. It has seemed rather remarkable that temperance itself has not been so much under discussion. Whether prohibition is better than temperance is not discussed to any extent, and whether either one is right or wrong is seldom argued. The arguments centred about the political treatment of the present situation as it has developed out of the referendum of October 20, 1919, and in view of the character of the old Ontario Temperance Act. In addition to the McCreary resolution, there are two amendments before the House, one of which was presented by the Conservatives and urges that the Government should take full responsibility for any measure brought forward. The other is a so-called Brackin amendment which is a Liberal one, and calls for proof that the Canada Temperance Act

applies to the Province of Ontario before a referendum is requested. So far as the Act being applicable to Ontario is concerned, the Attorney-General said that in the opinion of the law officers of his own Department there was no doubt of its applicability. Letters were quoted from Hon. Mr. Rowell, who fathered the Bill in the Dominion House, stating that it was the intention of the Government to make the Act applicable to Ontario, and that the condition in Ontario whereby native wines are not under prohibition, was expressly provided for in Section 154 of the Act. The contentious clause in the Canada Temperance Act provides that a referendum may be taken in any province "where there is in force a law prohibiting the sale of intoxicating liquors for beverage purposes," and it is contended that because native wines are allowed to be sold in Ontario, this clause does not apply. A telegram was read from the Minister of Justice, Ottawa, stating that in his opinion the Act did apply, and the Attorney-General in supporting the resolution stated that he felt sure he was upon solid and safe ground in this matter. So far as the Conservative amendment is concerned, asking for the acceptance by the Government of full responsibility, Mr. Raney thought it was childish to say that one would not vote upon a private member's resolution, when he would have voted for it if brought down as a Government measure. Moreover, a resolution introduced by Sir James Whitney, in 1912, and other statements by the late W. J. Hanna, in 1915, when he was Provincial Secretary, pointed clearly to the fact that the Conservative Government had not considered the prohibition of the importation of liquor into the Province of Ontario for private use as within provincial jurisdiction. Mr. Raney is none too popular in the House, and as a result was heckled considerably during the debate. Notwithstanding this he made as clever a speech as has been delivered this session. What the outcome of the debate will be no one can say with certainty, but it looks somewhat as though the McCreary resolution would pass. If it does and the liquor interests challenge the legality of a referendum under the Canada Temperance Act, it will be up to them to prove the illegality and not up to the Government to re-enforce the law by a decision of the court.

During the week a Bill was introduced by Hon. Mr. Drury, making optional in municipalities the gradual lowering of taxation on improvements, and substituting therefor taxation on land values only. The Bill will provide that upon a petition of ten per cent. of the ratepayers the council must submit a by-law to this effect, and if carried by the people the council must ratify it. The Bill provides that the change in taxation must be made gradually, and that no more than twenty-five per cent. of the taxes on improvements can be taken off in any one year. Another Bill introduced by the Premier provides for the extension of the T. and N. O. Railway to James Bay, but it was made quite clear that the Government has no intention of extending this road at the present time, because of the condition of the money market. The Bill to lift the moratorium, as established by The Mortgage and Purchaser's Relief Act, 1915, was discussed in committee of the whole House, but was finally sent back to a select standing committee for further discussion as to the time when the moratorium should be lifted. It was thought that July, 1920, was too soon and at any rate a bad time of year to call upon individuals for arrears in payments.

The Bill respecting veterinary practice was given its third reading on Friday, but not without a little flurry caused by a request from J. C. Brown, North Middlesex, that the Bill be sent back to the committee of the whole House for further discussion. Mr. Brown's request was prompted by the lamentations of a correspondence school in his riding that feared serious injury if the Act were passed. In as much as it was the actions of such correspondence schools which the Bill was aimed to curb, it was passed without change.

The Trade in Small Bulk Seeds.

EDITOR "THE FARMER'S ADVOCATE":
The farmers who were fortunate enough to have clover of any kind last year and wise enough to save it for seed are now congratulating themselves on their good fortune, while many of their neighbors who had for the same opportunity, but who let the clover go for pasture or perhaps let it go back into the ground, are now shrugging their shoulders when they inquire the price of seeds. High-priced clover seed was predicted last summer early in the season, and warnings were given by closer observers that at the very best there was likely to be a short crop of red clover as there was a scarcity throughout the world, and that other clovers would be high in sympathy with red clover advances. This warning was taken by a number of new growers in Eastern Ontario and they have profited by it considerably, as they now have seed enough of their own to sow and some have considerable to sell at the high prices prevailing.

From last year's experience, no doubt a large number of farmers will save seed this year if the season should prove at all favorable for seed production, and should prove at all favorable, but it will also be wise to see that the piece sowed for seed is as free as possible of the different kinds of weeds, of which there are altogether too many seen growing in so many meadows.

It would be well this season for those farmers who are intending to seed down with a view of seed production another year to be very careful of the quality of the stock they buy. The general purity of the higher grades

is very noticeable this year as put out by the wholesale trade. With such a demand from the U. S. for seeds and the comparative ignoring of seed samples charged with campions by the U. S. buyers, Ontario dealers have been able to dispose of their low-grade seeds at very high prices. Consequently the dirty piece of alsike seed hasn't been discriminated against so severely as on former occasions. This usual demand has even encouraged farmers to thresh their hay that was late in being cut and where alsike had a chance to mature its seed.

As the season advances it is found that there are a large number of small lots of red clover being threshed this spring varying from two bushels to fifteen bushels, which is depressing the trade in red clover to a large extent. Wholesale houses are not buying. Consequently in these seed-producing districts quantities of red clover seed will be sold by one farmer to another, which will have a tendency to depress the prices all around. Many farmers have delayed buying their seeds because the prices are so very high and a late seeding time is also having a depressing effect. It is to be hoped that the area seeded will be a normal one at least. Good clover seed is a cheap fertilizer at any price.

Ottawa, Ont.

T. G. RAYNOR.

To Prove Influence of Pure-Bred Sires.

The live-stock committees of the Canadian National Exhibition met in Toronto on April 21, to arrange for and decide upon the prize list for the 1920 exhibition. Practically twenty-five per cent. was added to the classes for horses, beef cattle and dairy cattle, so that now practically \$11,000 are to be given for cattle alone. Arrangements were made for four classes to demonstrate the value of the pure-bred sire. The Provincial Government is providing \$600 in prize money, which will be distributed as follows: In two dairy classes and two beef classes, grade dams with offspring by pure-bred sires may be entered; \$150 in prize money will be given for each class. These classes are to be judged on the basis of improvement shown by the offspring over the dam. The breeding is to be certified by the agricultural representative of the county from which the entries come, and the judging is to be done by the team of junior farmers winning the championship for the Province, associated with a competent dairy and beef judge in each instance. Thus the team of three boys from Oxford County, who won the Union Stock Yards Trophy some weeks ago, will judge these four classes at the Canadian National Exhibition, in August, together with an older and more experienced judge in each of the beef and dairy classes.

A New Board of Health for Live Stock.

We are informed from Ottawa that the committee which has been appointed to consider and draft a policy for the eradication of disease amongst commercial live stock, will meet in Ottawa on the 5th and 6th of May next. On this committee the producers will be represented by the President of the Western Canada Live-Stock Union, Mr. Hutton; the President of the Canadian Council of Agriculture, R. W. E. Burnaby; the President of the Eastern Canada Live-Stock Union; and the President of the National Dairy Council, E. H. Stone. The packers will be represented by O. W. Waller, E. C. Fox, Frank Matthews, and S. E. Todd. The Department will be represented by the Deputy Minister, the Live-Stock Commissioner, the Assistant Live-Stock Commissioner, and the Chief Inspector, Meat and Canned Foods Act.

Protect Yourself by Renewing Promptly.

The subscription price of most publications has already been advanced, and the publishers of the other periodicals and newspapers are seriously considering taking the same step, owing to the unprecedented rise in the cost of white paper, and wages paid to printers and others.

If your subscription to The Farmer's Advocate and Home Magazine is not already paid in advance do not delay. Send your \$1.50 at once, and the date shown on your subscription label will be advanced one year.

Former Leader of Ontario Liberals Dies at Edmonton.

Honorable A. G. MacKay, formerly a member of the Ross Government in Ontario and leader of the Liberal opposition in the Province from 1907 to 1911, died at Edmonton on Sunday last from pneumonia. Hon. Mr. MacKay went West in 1912 and at once became interested in Alberta politics. He was elected to the Legislature of that Province in 1913 and in 1918 was given the portfolio of Municipal Affairs which cabinet position he held until his death.

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Toronto Produce.

Receipts of live stock at the Union Stock Yards, Toronto, on Monday, April 26, numbered 201 cars, 2,929 cattle, 1,943 calves, 4,136 hogs, 144 sheep and lambs. It was a slow market. Butcher cattle were 50 cents lower than last Monday's top. Four steers averaging 1,190 lbs. each sold for \$15.50 each; the best load of 24 head, averaging 1,005 lbs., sold at \$14. Top cows were \$11 to \$12; best bulls were \$11 to \$12. Calves were \$1 to \$2 lower; tops, \$18. Sheep and lambs were steady. Fed and watered hogs sold for \$20.75 to \$21. Packers were cancelling shipping orders on account of the possibility of a strike.

Breadstuffs.

Manitoba Wheat.—No. 1 northern \$2.80; No. 2 northern, \$2.77; No. 3, northern, \$2.73.
 Manitoba Oats.—No. 2 C. W., \$1.05 1/2; No. 3 C. W., \$1.02 1/2; extra No. 1, \$1.02 1/2; No. 1 feed, \$1.01 1/2; No. 2 feed, 99 1/2 c.
 Manitoba Barley.—No. 3 C. W., \$1.75; No. 4 C. W., \$1.57 1/2; rejected, \$1.48 1/2.
 Ontario Wheat.—F. o. b., shipping points, according to freight; No. 1 winter, \$2 to \$2.01; No. 2 winter, \$1.98 to \$2; No. 3 winter, \$1.92 to \$1.93; No. 1 spring, \$2.02 to \$2.03; No. 2 spring, \$1.98 to \$2.01; No. 3 spring, \$1.95 to \$2.01.
 American Corn.—Prompt shipment, No. 3 yellow, nominal, \$2.05, nominal.
 Ontario Oats.—No. 3 white, \$1.05 to \$1.07; according to freight.
 Barley.—Malting, \$1.83 to \$1.85.
 Buckwheat.—No. 2, \$1.75 to \$1.80.
 Peas.—No. 2, \$3.
 Rye.—No. 2, nominal; No. 3, \$2.10 to \$2.15.
 Ontario Flour.—In the jute bags, prompt shipment, Government standard, \$10.50, Montreal and Toronto.
 Hay.—Track, Toronto, No. 1, \$30 to \$31; mixed, \$25. Straw—Car lots, \$16 to \$17.
 Millfeed.—Car lots, delivered Montreal freights, bags included: Bran—per ton, \$51; shorts, \$58; good feed flour, per bag, \$3.75 to \$4.

Farm Produce.

Butter.—Butter showed a firming tendency, though prices did not vary much, fresh-made creamery pound prints, being quoted at 68c. to 69c.; fresh solids at 65c. to 67c. per lb.; cut solids, 61c. to 64c. per lb.; and best dairy at 55c. to 60c. per lb.
 Eggs.—Eggs advanced slightly, selling at 51c. per dozen, wholesale.
 Cheese.—The market was quoted as steady, new large selling at 28c. per lb.; and old large, 32c. per lb.
 Poultry.—Receipts continued to be very light, and prices kept stationary. Poultry prices being paid to producer: Chickens, per lb., alive, 30c.; dressed, 35c.; chickens, milk-fed, per lb., alive, 35c.; dressed, 40c. Ducks, per lb., alive, 40c.; dressed, 40c. Hens, under 4 lbs., per lb., alive, 30c. per lb.; dressed, 30c.; hens, from 4 and 5 lbs., per lb., alive, 35c.; dressed, 32c.; hens, over 5 lbs., per lb., alive, 38c.; dressed, 35c. Turkeys, per lb., alive, 40c.; dressed, 45c. Guinea hens, per pair, alive, \$1.25; dressed, \$1.50.

Hides and Skins.

Hides, f. o. b. country points—Beef hides, flat cure, heavy, 22c. to 25c.; light, 25c. to 27c.; green hides, heavy, 20c. to 22c.; light, 24c. to 26c.; deacon or bob calf, \$2.50 to \$3; horse hides, country take-off, \$8 to \$10; No. 2, \$8 to \$9; No. 1 sheep skins, \$2.75 to \$3.75; yearling lambs, \$1.75 to \$2.50; horse hair, farmer's stock, 40c. to 42c.
 City Hides.—City butcher hides, green, flats, 25c.; calf skins, green flats, 50c.; veal kip, 30c.; horse hides, city take-off, \$8 to \$10.
 Tallow.—City rendered, solids in barrels, 15c. to 17c.; country solids in barrels, No. 1, 12c. to 15c.; cakes No. 1, 15c. to 17c.

Seed Quotations.

Wholesale merchants quote the following prices for seeds at country points: Alsike, No. 1, fancy, per bushel, \$36 to \$37; No. 1, per bushel, \$35 to \$36; No. 2, per bushel, \$32 to \$33; No. 3, per bushel, \$29 to \$30. Red clover, No. 1, fancy, per bushel, \$36 to \$37; No. 1, ordinary, per bushel, \$34 to \$35; No. 2, per bushel, \$31 to \$32; No. 3, per bushel, \$29 to \$30.

sweet clover; No. 1, fancy, per bushel, \$22 to \$24; choice, per bushel, \$18 to \$20.

Seeds Retail.

Dealers quote clover and other seeds as follows:
 Red clover, No. 1, per bushel, \$48; No. 2, per bushel, \$45.60; Alsike, No. 1, per bushel, \$49.20; No. 2, per bushel, \$46.20; Alfalfa, No. 1, per bushel, \$39; No. 2, per bushel, \$37.20; Canadian, per bushel, \$48. Sweet clover, best, per bushel, \$29.40. Timothy, No. 1, per bushel, \$11.28; No. 2, per bushel, \$10.32.

Wholesale Fruits and Vegetables.

The fruit and vegetable wholesales are just about cleaned out of goods—as they have not been able to get much in since the strike and subsequent embargo were declared. Two cars of fresh vegetables which one of the firms managed to get in by sending one member of the firm to Chicago, finding such a ready market they were practically sold in a day. There was very little change in fruit prices during the past week—but potatoes advanced and were very firm.
 Apples.—Western, \$4 to \$5.50 per box; Ontario's, \$6 to \$12 per bbl., and \$2.75 to \$3.50 per box; Nova Scotians, \$3 to \$7 per bbl.
 Beans.—Dried white hand-picked \$5 per bushel.
 Cabbage.—New, Louisiana, \$9 to \$9.50 per case.
 Carrots.—\$1.50 to \$2 per bag.
 Celery.—Florida, \$8.50 to \$9 per case.
 Lettuce.—Leaf, 30c. to 50c. per dozen; extra large, 85c. per dozen; Cal. Iceberg, \$10 to \$10.50 per case.
 Onions.—\$8 to \$10 per cwt. Cal., \$11 per 112 lbs.; green, 40c. to 50c. per dozen bunches; \$5 to \$5.25 per bag.
 Parsnips.—\$2.50 to \$2.75 per bag.
 Potatoes.—\$5.50 to \$5.75 per bag.
 Turnips.—\$1.10 to \$1.25 per bag.

Last Week's Receipts and Sales.

A considerable advance in hog values and heavy cattle receipts of good quality featured the market at Toronto last week. The offering of cattle was in the neighborhood of 7,800, and by Wednesday prices declined. Some exceptionally good cattle were included in the receipts. Four heavy cattle averaging 1,340 lbs. topped the market on Wednesday at \$15.75 per cwt.; a straight load of 28 cattle, averaging 1,490 lbs., brought \$15.35 per cwt.; and a load of 18, averaging 1,250 lbs. each, sold at \$15. The bulk of steers weighing from 1,000 to 1,200 lbs. sold from \$13.50 to \$14.50; handy-weight steers and heifers were in demand. Baby beef sold from \$14 to \$15.

In spite of the packers' efforts to buy cheaply, hogs advanced from 25 to 50 cents per cwt. Packers tried to buy hogs at \$20.25 on Wednesday, but the commission men claimed that the buyers were willing to pay more at country points than on the market, and held firm. The result was that most of the tickets were marked up at \$20.85. A few decks, however, went to outside buyers at \$21.
 Choice calves averaged from \$21 to \$22 per cwt., in spite of the fact that 4,000 calves were offered. The sheep and lamb trade was stronger but the receipts were light. Spring lambs sold up to \$18 each; yearlings to \$22 per cwt., and ewes at \$17 per cwt.

Chicago.

Cattle.—Beef steers, \$11 to \$12.20; calf trade a big dollar decline, mostly \$13, compared with a week ago, beef steers, mostly \$1 to \$1.50 lower; butcher stock, 50c. to \$1 lower; canners and cutters, 25c. to 50c. lower; calves, \$2.50 lower; feeders, unevenly low.
 Hogs.—Tops, \$15.25; bulk, light, \$15 to \$15.25; bulk, 200 lbs., up \$15.35 to \$14.25; good many held off the market at owner's request; pigs, steady.
 Sheep.—Compared with a week ago, woolled lambs, 25c. to 50c. lower; shorn lambs, 25c. to 50c.; sheep steady.

Market Reports Miscarried

The full report of the live-stock markets and comment, which appears weekly on this page, failed to arrive this week, and we were obliged to omit it.

Buffalo.

Cattle.—Cattle market showed the heaviest break last week experienced here in many a day—shipping steers, of which there was a very liberal number going off from \$2.50 to \$3, as compared with the normal time of two weeks ago—at the beginning of the railway strike. The strike had the effect of upsetting the entire live-stock and meat trade. Train loads of dressed beef were forwarded to the eastern densely-populated cities, to prevent a food famine and, with the quick settling of the strike, this beef accumulated and the result has been that the trade has been glutted, resulting in live cattle showing the heaviest declines for many months. On the local market was a brief period of exorbitant prices, during the strike, at which time handy steers on the medium order sold on an excited market at \$16, prices considered from \$2 to \$3 above the trade prices up to the strike time. With the opening of freight traffic, however, cattle were rushed to market, both in the west and east and killers left no opportunity to apply the knife clear to the hilt, resulting in the lowest levels for good weight steers for a long time past. Butchering cattle have also suffered in values, but not to the extent as the higher-priced grades. A medium and common class of cattle, bought largely by the smaller killers, have shown the least declines. Best shipping steers were quoted at from \$12.50 to \$13, as against \$14 to \$15.50 a short while back. A very bad milk cow and springer trade prevailed, and stocker and feeder demand was very light.
 Shipping Steers, Canadians.—Best heavy, \$11.50 to \$12; fair to good, \$10.50 to \$11; medium weight, \$10.75 to \$11; common and plain \$10 to \$10.50.
 Butchering Steers.—Yearlings, fair to prime, \$12.50 to \$13; choice heavy, \$11.50 to \$12; best handy, \$12 to \$12.50; fair to good, \$11 to \$11.50; light and common \$9 to \$10.
 Cows and Heifers.—Heavy heifers, \$10 to \$10.50; best butchering heifers, \$9.50 to \$10; good butcher heifers, \$9 to \$9.25; fair butchering heifers, \$7.75 to \$8.50; light, common, \$6 to \$7; very fancy fat cows, \$10 to \$10.50; best heavy fat cows, \$9 to \$9.50; medium to good, \$7.50 to \$8.50; cutters, \$5.50 to \$6.00; canners, good, \$4.50 to \$5.
 Bulls.—Best heavy, \$9.75 to \$10.25; good butchering, \$8.50 to \$9; sausage, \$8 to \$8.50; light bulls, \$7 to \$8.
 Stockers and Feeders.—Best feeders, \$9.50 to \$10; common to fair, \$8 to \$9; best stockers, \$8 to \$8.50; fair to good, \$7.75 to \$8.25; common, \$6 to \$7.
 Milkers and Springers.—Good to best, small lots, \$110 to \$135; in carloads, \$90 to \$100; medium to good, small lots, \$85 to \$100; in carloads, \$75 to \$85.
 Hogs.—Receipts, as a result of an embargo on shipments, account of the strike, continued to run very light the first half of last week, but after Wednesday the runs were more liberal and prices showed some heavy declines. Monday light hogs sold at \$19, and by Wednesday the good handy grades were selling up to \$19.50, while mediums and heavies were ranged from \$17 to \$18. Thursday prices dropped \$1 to \$1.75, and the next day showed a further decline of \$1.50 to \$2.25. Friday heavy hogs ranged from \$15.25 to \$16, and the general market for good handy grades, including pigs, was \$16.25. Roughs brought around \$13, and stags \$8 to \$10. Last week's receipts were 18,900 head, being against 4,567 head for the week before, and 22,800 head for the same week a year ago.
 Sheep and Lambs.—Last week opened with wool lambs selling up to \$23, and clipped lambs reached up to \$21.50. These prices were out of line compared with other points, and as a result prices were lower the balance of the week. Thursday and Friday best woolled lambs sold at \$21.50 and \$22, and top for clips was \$20. Cull shorn lambs sold the latter part of the week from \$16.50 down. Sheep were steady all week. Top for shorn wethers was \$14.50, and best clipped ewes ranged from \$13 to \$13.50. Receipts last week, 15,600 head; the previous week, 2,466 head, and 16,100 head a year ago.
 Calves.—Market was good on the opening day of the last week, but before the week was out prices showed a drop of \$5.50. The week opened with best veals selling at \$22.50 and culls ranged from \$17 down; Tuesday's top was \$21; Wednesday none sold above \$19; Thursday's top was \$18, and Friday the general market for choice veals was \$17, with culls selling downward from \$13. For the

week receipts reached 9,100 head, as compared with 2,769 head for the week before and 6,900 head for the same week a year ago.

Montreal.

Horses.—There seems to be something of a shortage of horses in the local market, judging from the reports in the papers to the effect that there are not sufficient horses for street cleaning purposes. At any rate, prices showed little change, quotations being still \$250 to \$300 for heavy draft horses, weighing 1,500 to 1,600 lbs. each; \$200 to \$250 for light draft, weighing 1,400 to 1,500; \$125 to \$175 for light horses; \$75 to \$100 for culls, and \$175 to \$250 each for good saddle and carriage animals.
 Dressed Hogs and Provisions.—In spite of the reported decline in prices of various products, dressed hogs were firm in price, with city-dressed abattoir hogs selling at 29 1/2 to 30c. per lb., and country-dressed light weights at 27 1/2 c. Hams and bacon were steady; light hams selling at 38c. to 40c. per lb., and heavies at 36c. to 37c. per lb. Ordinary breakfast bacon sold at 43c. to 44c., and Windsor select bacon at 53c. to 54c. Lard was rather lower at 26c. to 29c., according to package.
 Poultry.—Trading is almost entirely in cold storage stock, this being quoted at 53c. to 54c. per lb. for turkeys, and 38c. to 40c. per lb. for chickens.
 Potatoes.—In spite of something in the nature of an agitation concerning unfair practices, the price of potatoes was exceedingly strong, being well above that of the previous week. Quebec white stock was \$5.25 per bag of 90 lbs., carloads, extra, and \$5.75 in smaller lots, ex-store.
 Maple Products.—Supplies are none too large, and with all grades of sugar bringing high prices, maple sugar sold readily at 32c. to 35c. per lb. Maple syrup was firm at \$3.25 per gallon tin.
 Eggs.—Prices showed a further advance, and fresh eggs were quoted at 52c. per doz. It was said that 46c. and 47c. was being paid f.o.b. shipping points.
 Grain.—Lower prices have developed on most grains, and oats were quoted lower at \$1.19 1/2 per bushel for No. 2 Canadian Western, \$1.16 1/2 for No. 2, and for extra No. 1 feed; \$1.15 1/2 for No. 1 feed; and \$1.13 1/2 for No. 2 feed, ex-store.
 Butter.—Sales of finest fresh-made creamery were reported at 60c. to 61c. per lb., while held goods brought 59 1/2 c. to 60c., lower grades being available at 56c. to 58c. per lb.
 Cheese.—Some business was reported taking place at 26c. to 27c. per lb. for export, small cheese being quoted at 27c. to 28c.
 Flour.—Prices have been on the firm side of late, and Manitoba spring wheat flour was quoted at \$13.40 per bbl. in jute bags, ex-track, Montreal freights, and to city bakers, with 10c. more for smaller lots, and 10c. off in all cases for spot cash. Ontario winter wheat flour was quoted at \$11.30 to \$11.40 per bbl., in new cotton bags. White corn flour was firm, at \$10.90 in small lots for shipment to the country, in jute bags.
 Millfeed.—Bran was still quoted by millers at \$51.25 and shorts at \$58.25 per ton, in bags, ex-track, with 25c. off for cash, jobbing prices being about \$3.50 above those mentioned for bran, and \$6.50 above for shorts. When sold with flour, bran was quoted at \$50 and shorts at \$58, in mixed car lots.
 Hay.—Baled hay was steady, being \$33 to \$34 per ton for No. 2 timothy, \$31 to \$32 for No. 3 timothy, and \$29 to \$30 for clover and clover mixed, ex-track.
 Hayseed.—The market was steady and seed was in good demand, with timothy at 17 1/2 c. to 20c. per lb.; red clover, 65c. to 77c.; alsike, 68c. to 78c.; sweet clover, 40c. to 45c.; and alfalfa, 58c. to 60c. per lb.
 Hides and Skins.—No change took place in the market during the week. Steer and cow hides were still 28c. per lb., bulls 22c., calf skins 63c. to 65c., graded kips 30c. per lb. Sheep skins were \$4 each, clips 50c. each, and horse hides, \$10 each.

Victory Bonds.

Following were the values of Victory Bonds on the Toronto market, Saturday, April 24: Victory Bonds maturing 1922, 99 to 100; Victory Bonds maturing 1923, 98 3/4 to 99 3/4; Victory Bonds maturing 1927, 99 1/2 to 100 1/2; Victory Bonds maturing 1933, 100 1/2 to 101 1/2; Victory Bonds maturing 1937, 102 to 103.



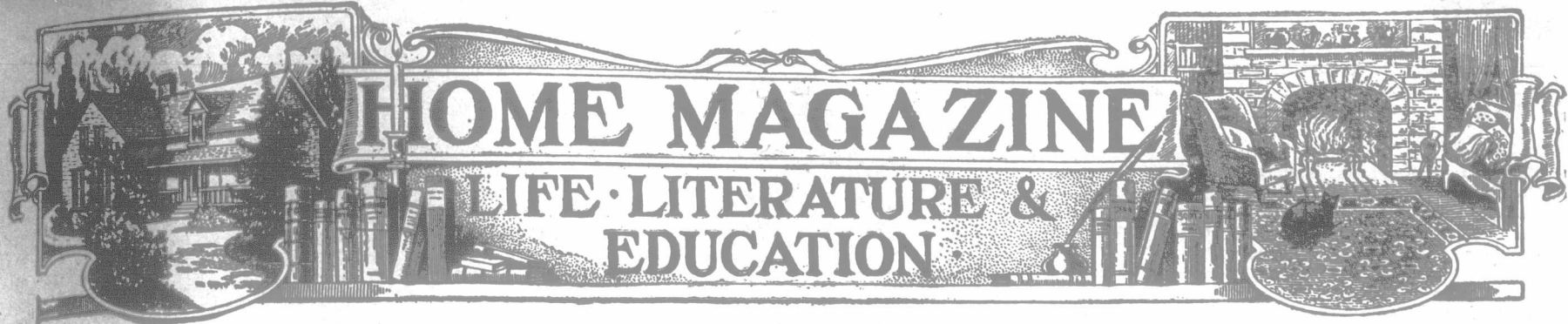
Gypsy Love

All the roads of all the us to wander in Star-gold nights and a month set close Mayin' time and play for the squandered Hand in hand down a and west and so

The Model

(A paper by Mrs. at a meeting of the Institute, Grey Co., Dear Friends.—The world is rather a small very big meaning, I mean than many us look into the different meanings and see how society, and those who in contact, if we are high calling. That model women? What together here this for the good of social and well being Surely it is, if it is not The word model is thing to show the something to be cop term. Fourth, something. Let us deal in the order just something to show Then a woman, to must be very careful she conducts herself the speed she goes, Yes, if she is to be a generation she must speed limit, because always attained on And where she goes, be careful of the "Show me your country you what you are." Second: Something What a responsibility that are worthy to often do we do the Samaritan, pouring wine, binding up the fallen and the down we speak a word of we more ready to tighter still and pass Third and fourth: worthy of imitation think of ourselves be of it you mothers—may come to some children. Children and they learn the quite as readily as Think of the response she walks the day watched and imitated and they by their example lives on her she herself is dead. So dear friends member that we a so that when angry brush them away of joy and happiness smile that won't spot in our hearts word, and a kind need. May we extend the glad heart may there never, jealousy or hate, "grouch committed our Salem Woman

APRIL 29, 1920



Gypsy Love Song.

All the roads of all the world were given us to wander in—
 Star-gold nights and sun-gold days, and month set close to month.
 Mayn' time and playin' time a-plenty for the squanderin'—
 Hand in hand down all the roads—east and west and south.

Hark! Beyond the harbor-bar the wide seas call the Romany;
 Out upon the long highway the hawthorn blossoms sweet,
 Let glorious toil—we take the spoil of careless days and nights as free,
 Whate'er betides, Love's pattern guides our ever-wanderin' feet.
 Mabel Wilson, in "Success."

The Model Women.

(A paper by Mrs. C. F. Kramer, read at a meeting of the Salem Women's Institute, Grey Co., Ont.):
 Dear Friends.—The word model in itself is rather a small word but with a very big meaning, perhaps a mightier meaning than many of us realize, so let us look into the different phases of its meanings and see how dangerous it is to society, and those with whom we come in contact, if we are not living up to our high calling. That is to say, are we model women? Why are we gathered together here this afternoon? Is it not for the good of society, to advance the social and well being of our community? Surely it is, if it is not, then it ought to be.

The word model means, first: Something to show the mode or way. Second, something to be copied. Third, a pattern. Fourth, something worthy of imitation. Let us deal with the meanings in the order just given. The first is something to show the mode or way. Then a woman, to be a model woman, must be very careful of the way in which she conducts herself, the way she goes, the speed she goes, and where she goes. Yes, if she is to be a model to the rising generation she must be careful of the speed limit, because the highest speed is always attained on the downward road. And where she goes,—yes a woman must be careful of the company she keeps. "Show me your company and I will tell you what you are."

Second: Something to be copied. What a responsibility! Are we living lives that are worthy to be copied? How often do we do the work of the good Samaritan, pouring in the oil and the wine, binding up the wounds, lifting the fallen and the downcast? How often do we speak a word of kindness? Or are we more ready to draw our tight skirts tighter still and pass by on the other side?

Third and fourth: A pattern, something worthy of imitation. How often do we think of ourselves being imitated? Think of it you mothers—think of it you who may come to some extent in contact with children. Children are great imitators and they learn the bad or the vulgar quite as readily as they do the good. Think of the responsibility of a mother as she walks the daily path of life to be watched and imitated by her children and they by their children, so that her example lives on long generations after she herself is dead.

So dear friends in closing, let us remember that we are living model lives, so that when angry passions rise, we may brush them away and let the sunlight of joy and happiness come in, put on a smile that won't rub off, have a warm spot in our hearts for everybody, a kind word, and a kindly deed for those in need. May we be always ready to extend the glad hand of fellowship, and may there never, never, be a trace of jealousy or hate, or as one might say, a "grouch committee" in connection with our Salem Woman's Institute.

Your Health.

"MEDICUS."

Proteins As Building Stones.

PROTEINS (meat, eggs, fish, curds, etc.) are very complex substances and in the process of digestion are broken down into very simple substances—the amino acids. The body then takes these amino acids and re-arranges them, joins them together in a different way and forms the body proteins—chiefly muscle. For this reason the amino acids are called building stones. Since they are built up chiefly into muscle you can readily understand why the growing child requires more protein (meat, eggs, fish, curds, etc.) proportionately than his father. "Dad" requires only enough protein to replace the muscle used up or worn out by work, while "Sonnie" requires proteins not only for "wear and tear" of muscle, but also to make more and larger muscles.

And now, mother, meat will not spoil son's disposition. It will not make him quarrelsome, ready to fight or pull sister's hair. If it should happen that his disposition is not the sunniest remember there is such a thing as heredity (especially on the father's side). The Eskimos, who live on meat and blubber, are the most peaceful people in the world. They do not require lawyers or judges, neither do they know any of the problems that occasionally develop after you have lived with your mother-in-law or vice versa. Surely this ideal community life could not exist if meat had any serious influence in making you quarrelsome.

During the summer I was at Harvard one of the problems studied at Carnegie Nutritional Laboratory was the effect of certain amino acids or building stones on growth. They took white mice of the same age, sex, color, litter and weight and fed them a definite amount of carbohy-

drates and fats. Then they would add to this certain amino acids or building stones, and watch the effect on the growth curve of the animals fed on the diet of carbohydrates and fats, and then compare the growth of animals fed on the same diet plus an amino acid. It was found that when lysine, an amino acid, was added, the mice were long and thin, while tryptophane, another amino acid, produced short, pudgy mice. So they could produce mice of any size or shape they wanted,—either thin, skinny ones, or short, pudgy chaps. It is of interest to know that the farmer knows something about food chemistry. Skim-milk, which is rich in lysine, will stimulate growth,

therefore is of especial value for the bacon hog, while corn, which is rich in tryptophane will fatten. The farmer can tell you all about the effects of these foods on hogs. If we can apply similar reasoning to the child we would advocate the more liberal use of milk to stimulate growth because it contains the building stone, lysine.

Meat is one of the most expensive articles of the diet. Beans contain more protein than beefsteak, and are therefore a cheap substitute. Peas also furnish a high percentage of protein. Cereals, e. g., oatmeal, bread, are additional sources of protein. Bread is spoken of as "the staff of life" because it contains proteins, carbohydrates, with a small percentage of fat,—the three main constituents of a diet. We make up the deficiency of fats by putting butter on our bread.

The Children's Poem.

A Penny to Spend.

Say, shall it be a golliwog? or shall it be a train?
 Or shall it be a saucy ship to sail the mighty main?
 A woolly lamb, a fluffy chick, a top, a ball of string,
 A box of colored crayons, or a trumpet—that's the thing?
 A soldier, or a motor-car, a barley-sugar stick?
 With such a lot to choose from, you can't make your mind up quick.
 Or do you think they'd sell to me a penny Zeppelin?
 I think of heaps of things I'd like when only I begin.
 There's apples, too, and gingerbread, and tarts, and monkey nuts;

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 a stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.

Using One's "Head."

THE city women to-day seem to be divided into two classes: those who are driving madly ahead in every extravagance, buying anything pretty that suits their fancy, regardless of cost; and those who are economizing as they never thought of doing before the War. For still the shadow of the War hangs heavily.

With the latter class, no doubt, the vast majority of country women affiliate themselves. And it is to their credit if they do so, willingly and gladly. There is much truth in the remark made by a far-seeing man the other day: "If people would stop buying things they can do without, limiting their expenditure to absolute necessities, things would become stabilized much sooner. The sky-rocketing of prices would have to stop. The trouble is now that we are importing so much more than we are exporting. No wonder the value of our money is down."

Well, all that is neither here nor there with the most of us, so far as actual practice goes,—we are doing with just as little as we can anyway, without discounting the good of our bodies and souls. My object in writing this paper is to tell you a few of the ideas worked out by some women I know who are using their heads in the matter, and managing to look just about as well as other people with comparatively little expenditure.

In the first place every one of these women is doing her own sewing; patterns are so easily followed nowadays that there is no difficulty about that. Just here, may I drop in a little interpolation. Will those of you who order patterns from our paper be sure not only to read the directions, but also to read over your order carefully before you send it, to see that everything is right? This will save much delay and trouble. Sometimes, it is true, mistakes occur on our side—as can readily be understood when one remembers that every pattern is mailed by the girls in the manufactory in New York (to whom we forward the orders) where many thousands of patterns are sent out in a day. But much more frequently delays occur through careless orders. Sometimes no address at all is given. Sometimes the money is omitted. Occasionally, when waist or bust measure alone is called for, both waist and bust are given—and that means that the girl must search about in her pattern book until she finds that especial design. One such "hunt" would not matter much, but when the same necessity arises very many times in a day much delay is caused. Then a number of people order patterns we do not carry at all. So often has this been done that we have been obliged to add a note to the directions at the head of the Fashion column. Of course the great majority of those who order do so very carefully. All the trouble is caused by the few who do not "use their heads" in the matter. Now this isn't personal. I don't know the name of a single blunderer.

To return: I told you last year about the girl who masqueraded her old buckskin Oxfords as very respectable "patent leather" by coating them twice with colorite. This little lady uses her head about as well as anyone I know. On my last visit to her she showed me with glee woollen combinations that she is



Gathering Dandelions.

I'd rather like a penknife, with a blade that really cuts,
 It takes a deal of planning out—more than you'd think, my friend
 One hasn't got a penny every day, you know, to spend!

The library law adopted in 1919 by the new Republic of Czecho-Slovakia leads the world, as far as library legislation is concerned. It provides for the compulsory establishment of libraries by every municipality and their maintenance on a financial basis considerably in advance of that provided by any other library law in the world.

FOUNDED 1866
 ed 9,100 head, as head for the week for the same week
 real.
 ms to be something in the local market, reports in the papers are not sufficient for the purposes. At a little change, \$250 to \$300 for weighing 1,500 to \$250 for light to 1,500; \$125 to \$75 to \$100 for \$250 each for good animals.
 Provisions.—In spite of the prices of various were firm in price, hams selling at lb., and country- at 27 1/2c. Hams light hams selling and heavies at 30c. ary breakfast bacon and Windsor select Lard was rather according to package. is almost entirely in is being quoted at or turkeys, and 38c. ckens.
 of something in the n concerning unfair of potatoes was ex- g well above that of Quebec white stock 90 lbs., carloads, ex- smaller lots, ex-store. Supplies are none all grades of sugar maple sugar sold 5c. per lb. Maple 25 per gallon tin. ved a further ad- were quoted at 52c. that 40c. and 47c. shipping points. ces have developed oats were quoted r bushel for No. 2 \$1.16 1/2 for No. 2, eed; \$1.15 1/2 for No. 2 for No. 2 feed, ex- finest fresh-made d at 60c. to 61c. oods brought 50 1/2c. being available at
 business was reported to 27c. per lb. for being quoted at 27c.
 e been on the firm itoba spring wheat \$13.40 per bbl., in Montreal freights, with 10c. more for off in all cases for winter wheat flour to \$11.40 per bbl.
 White corn flour small lots for ship- in jute bags. as still quoted by shorts at \$58.25 per k, with 25c. off for being about \$3.50 ned for bran, and s. When sold with d at \$50 and shorts ots.
 as steady, being \$33 o. 2 timothy, \$31 to ay, and \$29 to \$30 mixed, ex-track. ket was steady and mand, with timothy lb.; red clover, 65c. 78c.; sweet clover, 11a, 58c. to 60c. per
 —No change took during the week. were still 28c. per skins 63c. to 65c. r lb. Sheep skins 0c. each, and horse
Bonds.
 values of Victory market, Saturday, nds maturing 1922, nds maturing 1923, y Bonds maturing Victory Bonds ma- to 101 1/2; Victory 102 to 103.

making now in some spare time to have them ready for next winter. She is making them out of the good parts of her brother's old undershirts. The shreds still left will be made into braided rugs. She also showed me an evening-gown made by judicious mingling of an old one with some new silk, and another dress made by mingling an old cloth suit with an old silk dress of the same color, a touch of trimming being afforded by featherstitching with some fine yarn unravelled from the leg of an old military "sock." The evening dress cost \$7.50, the silk and cloth dress nothing at all. The same girl wanted a Chesterfield to put by the fireplace. Chesterfields cost anywhere from \$125 to \$275,—out of the question. So she got her brother to make a framework out of an old piano box and she padded the framework herself and covered it with heavy cretonne. It "fills the bill" perfectly.

Another woman has made a very handsome serge dress out of an old serge suit, buying nothing new except a bit of material for a vest; while yet another has had a three-quarter length top coat made from her old suit, a long-waisted effect with stitched-on skirt. Countless numbers are dyeing old cotton and light-colored crepe de chine dresses and making them into "new" ones, and tinting old silk waists to serve as underslips for new Georgette blouses. If you buy a new Georgette waist, beaded or embroidered, you pay \$25 for it (for a good one that will wear); if you do the beading or embroidery at home the cost will be about one-third of that. Trace a pattern on tissue paper first, being sure to have the two halves exactly the same. Of course, everyone knows about making old waists into corset covers and old skirts into petticoats, but even yet not everyone knows that old straw hats may be made look "amaist as weel's the new" by coloring them with colorite. Old flowers may be tinted with artists' tube paint diluted with turpentine. Indeed this very morning I saw a girl starting off with a paint brush and a bunch of faded blue "poppies," she was going to tint them with water color and applique them on a blue straw hat with long strands of sand-colored yarn, to make them lie flat against the crown of the hat.

Now I'm going to do a bit of boasting on my own account. I have managed three *coups* this spring that have really given me some satisfaction. By shortening the skirt of a before-the-war navy blue suit and putting in a sand-colored vest (embroidered with a bit of darning silk) to make the coat big enough, I have achieved a suit that will still give much service. My second *coup* was in the matter of watch-glasses. Possibly because the rim is worn, my watch simply refused to hold the crystal well, and threatened to make me keep on buying new ones at the rate of two a month. This was too expensive, and at the last fixing it occurred to me that I could glue the glass down; two or three tiny drops of seccateen did the job perfectly. Seccateen will truly stick "anything" and is always on hand in convenient form; stick a pin down the top of the tube and just enough will come out. I have a fancy for daily "tubs", and found that a very provoking corn was proving expensive in the way of corn-pads; every bath meant a new pad, and there are very few in a box nowadays. I thought of seccateen. The wet pad was dried, put on in the morning with seccateen and the problem was solved.

Coming to chiropody suggests shoes, and I am reminded of an economical woman who has found that by gluing a bit of an old kid glove on the inside of her house-shoes, over a hole, she can really wear them "out" without sacrificing stockings. When her heels need straightening she gets rubber heel pads at Woolworths and does the work herself, first prying off the worn layers of leather.

It might be a good thing for all of us to practise "using our heads" more than we do. By just stopping to think, one can often ferret a way to exercise real economy—whether in clothing, cookery, house-furnishing, or any of the other little problems that come up in the course of a day or a week. Of course, there comes a time when everything usable has been used up in one way or another, and it is necessary to buy new. But there is a good deal of satisfaction in knowing that things have been used up.

"Using one's head" is a good practice to establish anyhow. The more we practise it the more capable we become, the more we gain the power to make things happen as our wisdom tells us they should happen. The more we try it in little things, the more we see the possibilities of accomplishing by the same way, in bigger things. Don't you think that is true?

JUNIA.

Dandelions Recipes.

Dandelion Soup.—One cup cooked dandelion, 1 tablespoon butter, 1 tablespoon flour, 1 cup milk, salt and pepper, yolk of a hard-boiled egg. Rub the flour and butter together and cook, adding the milk very gradually. When it has thickened into a nice white sauce add the cooked dandelion, the seasoning, and more milk to make of right consistency. Just before serving put on top the yolk of the egg which has been put through a sieve.

Dandelion Timbales.—Two beaten eggs, 1½ cup milk, 2 tablespoons melted butter, ¼ teaspoon salt, ¼ teaspoon pepper, 1 teaspoon onion juice, 1 cup cooked greens. Mix in order given, turn into buttered moulds, place in a pan of hot water and bake in a moderate oven until firm. Turn out of moulds and serve very hot with tomato sauce.

Tomato Sauce.—One tablespoon butter, 1 tablespoon flour, 1 cup strained tomatoes, 1 teaspoon onion juice, salt and pepper. Rub butter and flour together and cook, adding the liquid very gradually. Season and serve at once.

Dandelions and Rice.—Season 1 pint boiled rice with salt, butter and paprika. Add 1 beaten egg and fill buttered moulds or patty-pans with the mixture. Set in a pan of hot water, cover with greased paper and bake until the rice is firm. Form a mould of chopped cooked greens (very hot and well-seasoned with butter, pepper and salt) on a hot platter, arrange the rice moulds as a border and sprinkle them with grated cheese.—Serve with hot tomato sauce.

Dandelion Jelly Salad.—Two tablespoons gelatin, ¼ cup cold water, 2 cups hot water, 4 tablespoons sugar, ½ teaspoon celery salt, 1 teaspoon onion juice, 1 hard-boiled egg, 5 tablespoons vinegar, 1 teaspoon salt, ¼ teaspoon paprika or a dash of Cayenne, 1 small onion sliced thin, 1 canned red pepper (if you have it) minced fine, 1 cup inner tender leaves of dandelion (the blanched ones are best). Soak the gelatin in the cold water until soft, then dissolve it in the hot water. Add all the other ingredients except the egg and mix well. Cut the white of the egg in rings and arrange around the edge of a mould that has been rinsed with cold water. Pour the mixture into the mould and chill until the jelly is firm. Turn out of the mould, garnish with fresh dandelion leaves and serve with good thick salad dressing.

Dandelions as Food.

NEAR the surface of the ground the dandelion root is topped by a crown from which the leaves radiate. The flavor of this crown is exceedingly good; even if the leaves are old the crown is edible. For this reason the dandelion plants should always be cut out, when needed for greens (not pulled) in order that the crown may be obtained. Unless the outside leaves are tender they should be discarded; if they have grown very quickly, however, they will be tender enough to use.

The roots should be carefully removed, and the leaves and crowns thoroughly washed. They may then be boiled with the water that adhered from the last rinsing—possibly a little more—in a tightly covered vessel. If you object to the slightly bitter taste, first tie the leaves loosely in a piece of cheesecloth, plunge into boiling water and let boil 5 minutes, then remove, plunge into cold water, and drain. Next put to cook with a little boiling water. Cook 15 or 20 minutes, drain, cut fine with a sharp knife and re-heat, adding salt, pepper and butter to taste. Serve very hot on hot buttered toast. Remember that any greens, to be good, must be well-drained, well-seasoned, and served very hot.

Dandelions and all sorts of greens may be canned. Cook, place in sterilized

jars, place a slice of bacon on top for flavor, fill up with boiling water and proceed as usual, in a canner or wash-boiler, using the three-day method, one hour each day,—or boil for 1½ hours the first day. Store in a cool, very dark place to prevent the greens from fading. The 3-day method is the surest. If a five-pound pressure canner is used, one period of one hour is generally sufficient to kill the destructive organism.

This is the method given by A. R. Mann, Director of the Extension Service of Cornell University at the beginning of the War, when food conservation first became a matter of vital interest. But the use of greens is not merely a war makeshift. Greens of all kinds are a very valuable addition to the daily menu, and, if cooked right and served very hot are delicious as well as health-giving. Among so-called "weeds" that may be cooked for greens are: lambs' quarters, pigweed, young curly dock, young mustard shoots, purslane and young horseradish leaves. Greens that may be grown in the garden:—Swiss chard, spinach, Chinese cabbage (sow in July), and lettuce. Lettuce, water-cress, garden-cress, green onions, celery, blanched endive and dandelion are raw foods that should be used every day if they can be procured. Served with salad-dressing, with or without the addition of other salad materials (e.g. tomato jelly, green peas, chopped beets, asparagus, potato, etc.) they are very delicious, and they are rich in vitamins, as you should remember by this time.

Letter of Thanks.

I wish to thank the readers of "Ingle Nook" for the information sent regarding the making of wool comforters. I had never even heard of the tendency of the wool to work through the covering. I am sure to know of the boiling process to prevent this will be invaluable to me. We will appreciate "The Farmer's Advocate" all the more in providing such a medium where helpful ideas may be exchanged.

Stormont Co., Ont. FARMER'S WIFE.

Removing Stains.

For M. P., Peterboro Co., Ont.
We do not think you could possibly remove tea stains from grey georgette crepe yourself. Try a professional cleaner.

Will "Another Farmer's Wife" Please Answer.

Dear Junia.—In the issue of "The Farmer's Advocate" dated April 8th, there is a letter from "Another Farmer's Wife", Elgin, Co., on Wool Comforters and in concluding her letter she says, "If Farmer's Wife has not the wool of her own she can buy it ready for use done up in bundles similar to cotton balls". Will "Another Farmer's Wife" kindly inform me as to where I can purchase the bundles as I am very anxious to make several of those wool comforters.

Respectfully yours,
Oxford Co., Ont. A. M.

Furnishing Query.

Dear Junia.—My livingroom paper is plain oatmeal tan and my woodwork is painted to match. I have to get a rug for my floor. I intended filling the tack holes with crack filler and giving it four coats of paint. When I went to the hardware to buy the paint they said not to paint it; it should be stained. The floor can be stained. Please tell me would it be right to have painted wood and a stained floor. My furniture is mahogany and willow. I would like to have a portable oil lamp and they are oak. Could I have an oak lamp on a mahogany table, or would it be best to get the large burner nickel lamp?

Kent Co., Ont. OLD SUBSCRIBER.
It will be perfectly all right to have painted woodwork with a stained floor. Could you not give the oak of the lamp a coat of mahogany stain, to have it like the table? Or if you are afraid to try that you might get the nickel lamp and, if possible, set it in an art pottery jar that it will fit. This is often done nowadays with lamps that are not especially artistic. Of course the pottery jar must be absolutely so. Probably you will have to wait until you go to some city before you can find one.

Victrola Queries.

Dear Junia.—I would like to get a good comic record for victrola. One that is not "silly", most of them are. We have "No News, or What Killed the Dog." It is a good one, if you should be asked for the name of one.

I would also like to know a name of a soft-tone steel point for victrola. We use fiber-points which are most satisfactory if one has clippers to sharpen them with. These clippers are not expensive.

Carleton Co., Ont. M. D. Y.
A record that is bright and pretty is "The Owl and the Pussycat." (Pathe). The "Cohen" series is listed as comic. Why don't you get the firm from which you got your victrola to send you a monthly catalogue? A friend who has a victrola and many records, says she simply asks for "medium" and "soft" steel points. She also has a few "sapphire" points.

Song for "C. W."

Several have sent copies of the song asked for by "C. W." These have been forwarded, hence no more will be necessary.

The Scrap Bag.

A Kitchen Convenience.

Fasten a towel rack of the right length at the end of your kitchen table. You will find it a very handy place to hang the tea towels when at work.

Use for Old Linoleum.

If there is a piece of old floor linoleum that is still good, it can be used for the top of the kitchen table, fastened on securely with gilt-headed tacks. Keep a couple of bits of board on the table to set hot pans on. Some people like zinc sheeting for the top of the kitchen table but it should be fastened down very securely.

Unexpected Guests.

If unexpected guests arrive and there is no cake in the house, don't get in a flurry. Make some "cinnamon toast," as follows. Cut slices of bread about one-fourth inch thick and remove all the crusts. Cut the large slices into small squares and toast—carefully. Next spread with butter and sprinkle plentifully with sugar and cinnamon. Return to the oven until the sugar and cinnamon have melted into the buttered toast, and serve very hot. "Cinnamon toast," when nicely made, looks quite delectable and takes the place of cake very nicely. In England it is very popular for "afternoon tea."

Using the Crusts.

Crusts left after making cinnamon toast or sandwiches may be used as follows, in "crumb bread." Dry the crusts and all crumbs thoroughly, grind in the food-chopper. Mix together 4 cups hot water, ½ cup molasses, 2 teaspoons salt, 2 tablespoons shortening. When cool add one yeast cake mixed in 1 cup lukewarm water, 3 cups dried bread crumbs, 2 cups graham flour, and enough white flour to make a very stiff dough. Let rise, work down, place at once in tins, let rise again and bake.

The Windrow

The price of fuel is bringing back the use of sailing ships. A "motor-clipper," half as fast again as the old clipper-ship, and with a carrying capacity twice as great, is predicted.

The ten largest cities in the world by population when the last official returns were made were—London, New York, Paris, Tokyo, Chicago, Berlin, Vienna, Petrograd, Philadelphia, Moscow.

The teacher was quoting wise saws to the class and getting their opinion about them. She said: "A discreet silence is better than the truth spoken without charity." Can any boy give a practical interpretation of that maxim? Some-what to her consternation, a freckle-faced lad made this homely application: "If you see a cockroach on the table, don't say anything about it."—The Outlook.

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Rev. 21:1.

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APRIL 29, 1920

Hope's Quiet Hour.

A New Earth.

I saw a new heaven and a new earth.—
Rev. 21:1.

St. John was a "Seer" and I am only a very ordinary person. He saw a new "heaven", but I can only see the new "earth" at present. God is constantly fulfilling His promise to make all things new. We see that with our bodily eyes, as we look out at the world in its spring dress. The grass is new—it has never been here before. The leaves are perfectly new, and so are the flowers. The spring streams are new every moment. So is the sunshine. It is not only new every morning, but every moment. I am sitting in a south window, and the spring sunshine is pouring in. Can I be warmed by the rays which streamed into the room an hour ago? "It is of the Lord's mercies that we are not consumed, because His compassions fail not. They are new every morning." The love of the Father is embracing us all the time. It would be small comfort to us to know that He loved us yesterday, if He did not love us to-day.

So it is with the dearest treasure of earth—the love of our friends. Every day that love comes to us fresh and new, keeping our hearts warm and glad. It comes to us, year after year, strengthening us to work and endure by its apparent unchangeableness. We lean confidently on a friend who has never failed us. And yet this love, which seems so old, is really new every morning—as new as the air which we breathe. It would be a sorrow instead of a joy if an old friend, who loved me yesterday, did not love me to-day.

And God's love must be new every morning if it is to be the strength and joy of our lives. It must be fresh and spontaneous as a mother's morning kiss, which wakes a happy child to the glory of a new and unclouded day.

It is the love of God which transforms the old earth and the old duties. His love is the sunshine which glorifies everything it touches, making common things sacred. Long ago one of our readers wrote and told me that her little child, looking at a rainbow, said that it must be "God's stair-carpet hung up to dry." That was a beautiful thought. The bow in the clouds, which seems to link earth and heaven, is like the ladder Jacob saw in his dream—the carpet of fair colors beneath the feet of angel messengers to God's children. Those people who only see the "old" earth may talk in materialistic fashion about the colors being caused by the sunshine lighting up the raindrops. That is only the outside wrapping of one of God's love-gifts to His children. We can look through the familiar visible rainbow, and see in it the fulfilment of God's ancient promise made with "every living creature" and renewed "for perpetual generations." The bow in the cloud is a sacramental "token of a covenant" between the Father and His children. His love is new to me as it was new, long ago, to Noah. As we look at it we think of the mighty angel who came down from heaven, clothed with a cloud and crowned with a rainbow.—Rev. 10:1. Our eyes (the eyes of the soul) are lifted to Him Who sits upon the Throne. We could not face His glory, any more than we can face the blinding glory of the sun, if it were not that we look through that rainbow of lovely emerald color which softens the light.—Rev. 4:3. We see the glory of God in the face of Jesus Christ. The divine light, shining through a human soul of crystal clearness, gladdens us with beauty without blinding us with glory.

The Son of Man is one with the Father, and His love to sinners shines out in every word and act. Therefore, we are sure of the Father's unfailing mercies which are new every morning.

Our Brother has lifted the veil which makes earthly things look old and commonplace, and has revealed the new and shining treasures which are every day laid in our hands by our Father. When the Risen Jesus walked along a public road with two heart-sick men, new joy transfigured life and that common road became a glorious King's Highway.

If He walks with us, the familiar roads and common rooms become new and wonderful. On that same Easter Day the Master sat at the evening meal in a humble home. He took up the tasteless Passover bread and blessed it. His friends received that plain and common food from His hands and it was instantly glorified. The common supper became to them the Lord's Supper. The bread was a renewed token of His love and the plain fare became a satisfying feast.

So, at every meal, we may remember that our Brother sits at the head of the table to bless the food. We receive it from His hand—for food must come to us from God, no man can make a grain of wheat, a potato, or any other kind of food. If we remember that He is with us, our table-talk can never be degraded into ill-natural gossip or fault-finding. He has blessed the food we eat and the plain fare has become a sacred feast.

We have to breathe new air constantly if the body is to be kept in health, and the soul's continual dependence on God is also a necessity of life. It is the breath of God which gives and preserves soul-life. As the body can't breathe enough in a day to last a week, so we are told to pray "without ceasing." We must breathe without ceasing in order to maintain our physical life, but we can breathe for many hours without remembering we are breathing. So, also, the soul can lean back on God in the midst of engrossing work, without consciously thinking about Him.

"Prayer is the Christian's vital breath,
The Christian's native air—"

It is the life which is hidden with Christ in God which gives us needed power for daily work. As the blood pours out from the heart, carrying warmth and life and healing to every part of the body, so the Life of Christ is secretly flowing through all the members of His Body, bringing health and healing. No one can see the life in a body, but it is easy to see the difference between a living body and one that is dead. So it is easy to see that the Church is alive, in spite of many weaknesses and sins. Christ is not only the Head of the Church, which is His body, He is also the Heart. He is continually pouring through each member a cleansing tide of Life—new every moment.

A few days ago a little grand-niece of mine was giving a good-night hug to her mother. Suddenly she said: "You are like the Virgin Mary with Christ in her arms. Where is the Virgin Mary now?" She is not five years old yet, but the remembrance of Christ is able to glorify for her an everyday embrace. It becomes a sacramental mystery. Perhaps the child dimly understands the truth of our Lord's saying that one who does the Will of God is His brother and sister and mother. He entered a human family that all men might become members of that holy family by being united with Him. And so family life becomes something new and sacred. Our relatives are God's gift to us. They are Christ's brothers and sisters, too. In our ordinary work for them we are serving Him.

As I wrote those words one of my relatives came in with a cup of tea for me, saying: "I have brought you this, at the risk of interrupting your flow of eloquence." Like a flash I remembered the supper at Emmaus, and I took the cup as a gift from the hands of my Elder Brother.

Life is always new and interesting when everything that comes to us is accepted as a love-token from God. A sheaf of Easter cards came in this morning—some of them from readers of our "Quiet Hour." While thanking you for your remembrance of me, I also thank Him.

Frances Ridley Havergal, in one of her poems, speaks of taking pain from the hand of the Lord Jesus. One can hardly do that without thanking Him for the gift which is intended to make a "patient" (I like that word) more and more like the victorious sufferer on the Cross.

One of our readers sent an Easter box of "pussy-willows," with the message: "Just a little breath of spring for your patients"—a message from God to remind the shut-in that the sadness of Good Friday led swiftly to the joy of Easter, that the deadness of winter must give way before the new life of the spring-time, that the troubles of earth will be



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HEINTZMAN & CO. GRAND PIANO

One sees it written in the face of our picture as this father realizes how completely this Heintzman & Co. piano measures up to the expectations of the daughter, on whom a generous sum has been expended for a musical education—a piano that has been the choice of Calve, Nordica, Melba, Tetrassini and many other world-famed artists.

"Surpassed in beauty of tone and delicacy of touch any piano I have used anywhere, and I have travelled the world over."—De Pachmann.

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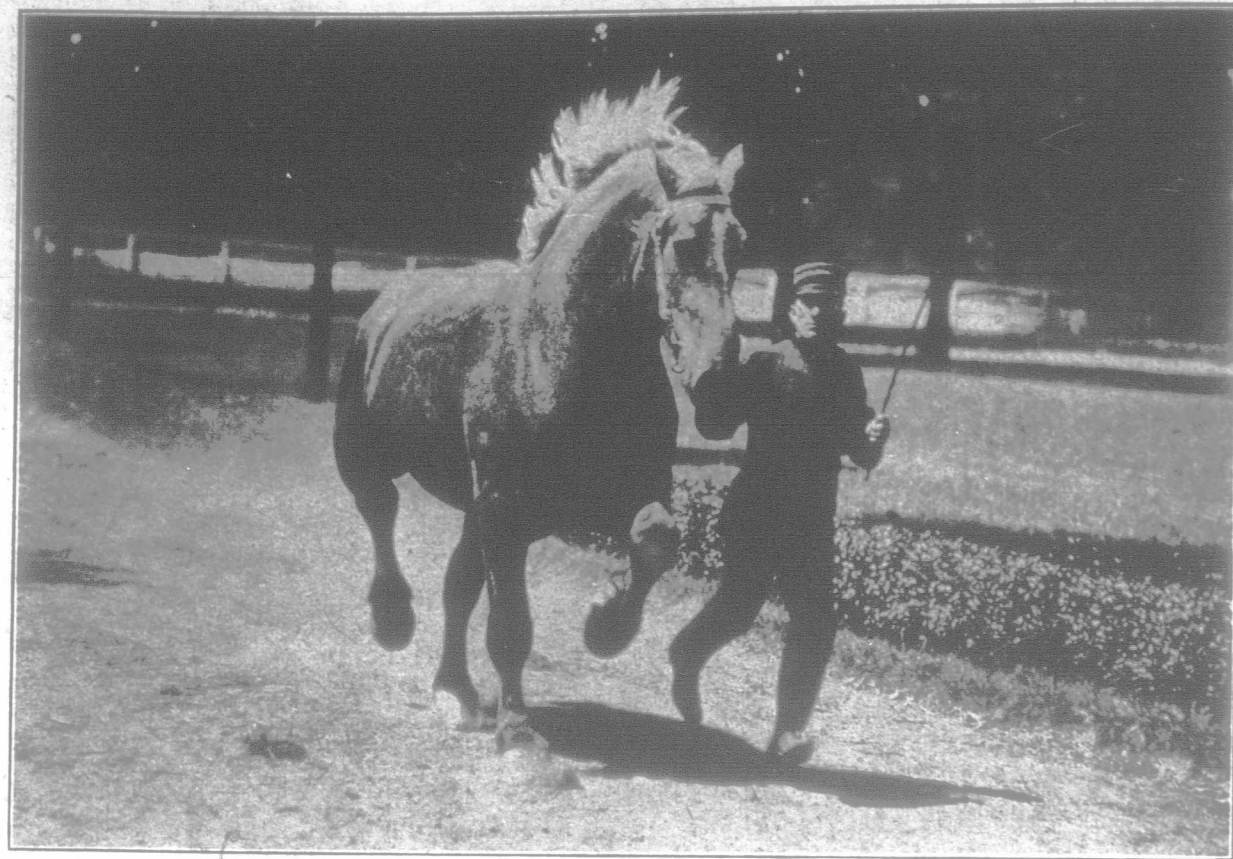
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takes away fatigue, and is absolutely
harmless, as a daily beverage - TRY**

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B576



One of Our Splendid Percheron Stallions on Parade

Get Ready Now to Breed the Right Kind of Big Draft Horses

Open-minded horsemen everywhere, in Canada and United States, are adopting the Percheron as the horse which best meets the modern market demand for big, strong, trappy drafters. On the city streets and on the farm we must have horses that will move loads; this cannot be done efficiently and profitably with slender, washy, small-bodied horses. When big drafters with good feet and legs cannot be obtained, a motor truck is purchased, and the market for a team of horses is gone.

Motor trucks are not pressing good draft horses off the streets, they are simply filling the gap until transportation companies can get good horses to do their work. A poor horse is a money-loser for farmer or city man.

Get into Percherons—they will satisfy that desire you have for a big, strong, trappy, drafty team, and when you want to sell them there will always be plenty of buyers anxious to take them off your hands at a satisfactory price.

The day of the light drafter is past. Breed big horses of good quality—they always sell readily. The Percheron meets all requirements of the market—size, style, action, endurance and pleasant disposition. Get into Percherons—the popular breed.

PERCHERONS

We have at the Western Fair Grounds, London, Ontario, a full stable of big, gray and black Percheron stallions and mares. The stallions weigh from 1,900 to 2,200 pounds, and the mares run from 1,700 to 2,000 pounds. These horses range in age from four to seven years.

We have the class of sires and mares that will produce what the market demands, and we are offering them at prices that will allow their buyers to make money on them.

We have a new importation of stallions and mares, arrived April 3rd, and we want you to see them. We will take pleasure in showing our horses to you, whether you buy or not; but we know we can please you, and if you are in the

G. R. Crouch, Vice-President La Fayette Stock Farm Company of Canada, London, Can.

The Company is composed of J. Crouch, President, G. R. Crouch, Vice-President and Treasurer; R. G. Ioey, Secretary; Directors: Wm. D. and Jas. McCartney.

The La Fayette Stock Farm Co. of Canada Limited

THIS Company is composed of men with a life-long experience in the horse business, and we think we know what Canada requires in the way of big draft stallions and mares.

When men could be hired for as little as 50 cents to one dollar it did not matter a great deal what kind of horses were used. It is different now. A man's time is valuable, and he cannot afford to throw it away by using light, slow-walking horses, and it is unprofitable to keep a large number of horses for a year in order to get through the breeding period, which only lasts for two or three weeks.

Percherons are splendidly adapted to meet present-day requirements on the farm—they are large, strong, and they have a pleasant disposition, and their style commends them to the owners of good horses.



A Pair of Beautiful Percherons—The Kind the Market Demands

market for a good stallion or mare, please visit our stables before purchasing.

Look up our winnings at the Western Fair, London, Ontario; Provincial Fair, Guelph, and Ottawa. The awards will give you some idea of the class of horses we are offering and selling.

All our horses have been Government inspected—you take no chances.

All our stallions are guaranteed satisfactory, sure breeders—if they are not, you do not have to keep them.

WE INVITE CORRESPONDENCE AND WE SOLICIT INSPECTION.

Reliable References:

Last spring the Professor of Animal Husbandry at the Ontario Agricultural College purchased a team of black mares from us, weighing 3,600 pounds. They raised two splendid foals and did their share, and more, of the farm work. Write to the Ontario Agricultural College and ask them what they think of Percherons.

Last fall the Dominion Experimental Farms, Ottawa, purchased some Percheron mares from us for their various farms. They are working them in harness, and will raise foals this spring. Write to the Dominion Experimental Farms, Ottawa, and ask them what they think of Percherons.

Our mares have given satisfaction wherever they have gone, and we have many satisfied customers all over the country. We have stallions and mares in our stables just as good as those which have pleased others. They will please you and make you money.

Get into Percherons—the popular breed.

PERCHERONS

To Stallion Owners:

We especially invite stallion owners and representatives of Horse Breeders' Clubs to inspect our Percheron stallions.

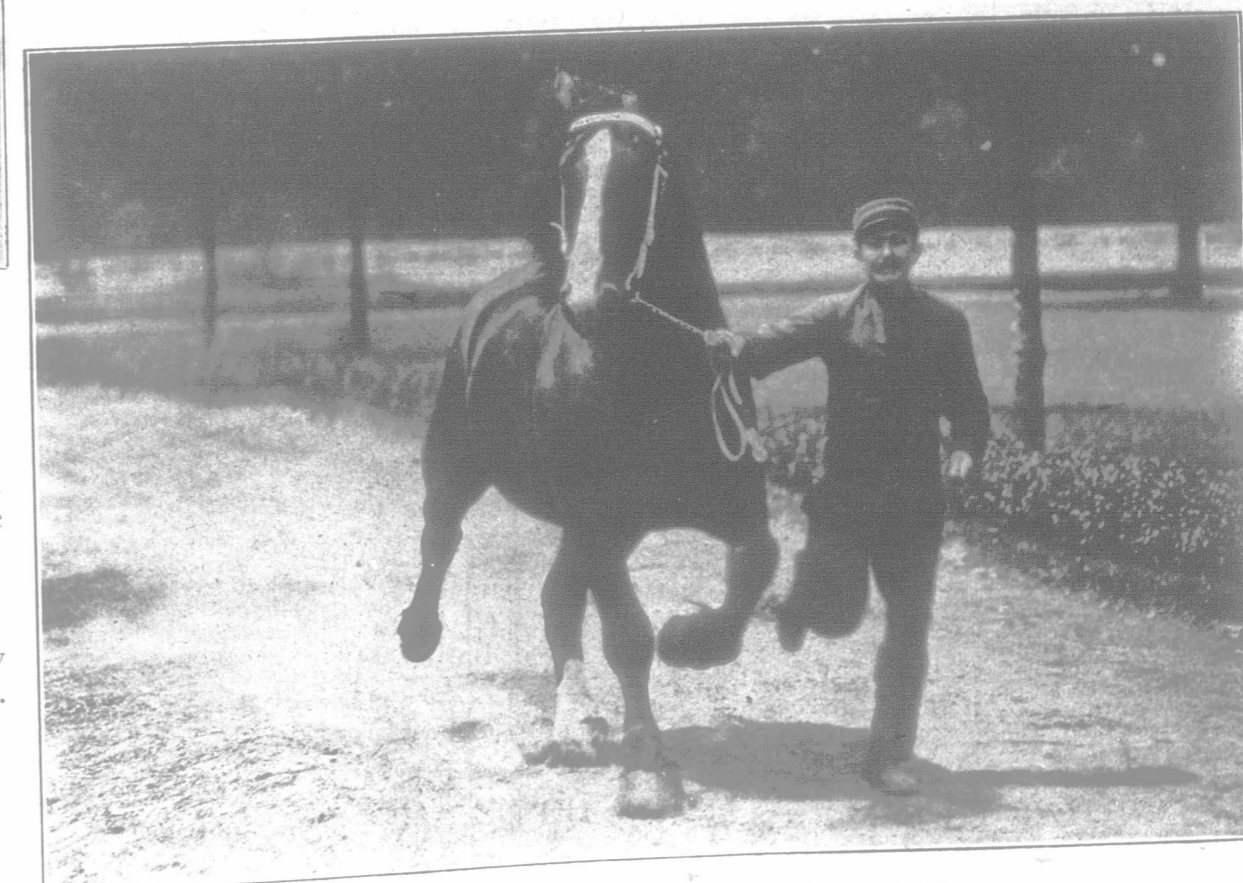
Several of our last year's customers found their horses so popular and their patronage so increased that they came back early this spring and got more horses to handle the business.

There is a latent demand for Percheron breeding in this country, that only needs to be stimulated by the introduction of good Percheron stallions. There should be a Percheron stallion in your locality to awaken this demand.

Why not be the first to introduce some good draft blood into your district? It would be good business on your part and your community would profit.

We have good, big stallions, weighing from 1,900 to 2,200 pounds, that will please you and please your patrons. All our stallions are Government inspected. All our stallions are guaranteed. We sell on time, and with our guarantee you run no risk. There is a growing demand for Percheron breeding.

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4c. for Trial Size Send 4c. in stamps for sample of Colgate's Ribbon Dental Cream, or of Colgate's 1/4c. For 2c. more we will send 3 tiny bottles of Colgate's Pe-fumes to make the famous perfume test.

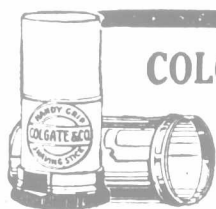
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over soon, and He has prepared a "new heaven" for earth's victors.

We shall discover a new earth, here and now, if we learn the great lesson of life—the lesson of loving. That is our chief business in this world! If we fail in that our life here will be a dead failure, though we may be as rich as any multi-millionaire.

"This life is but a school-time In which we learn to love The friends we see around us, The unseen Friend above." DORA FARNCOMB.

Serial Story

"His Family."

BY ERNEST POOLE.

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CHAPTER XXXIV.—Concluded.

They went on more calmly and took up the items one by one. Deborah finished and was silent.

"Well, father, what's to be done?" she asked.

"I don't know," he answered shortly.

"Somehow or other," Deborah said, "we've got to cut our expenses down."

"I'm afraid that's impossible," Edith rejoined. "I've already cut as much as I can."

"So did I, in my school," said her sister. "And when I thought I had reached the end, I called in an expert. And he showed me ways of saving I had never dreamed of."

"What kind of expert would you advise here?" Edith's small lip curled in scorn.

"Domestic science, naturally—I have a woman who does nothing else. She shows women in their homes just how to make money count the most."

"What women? And what homes? Tenements?"

"Yes, she's one of my teachers."

"Thank you!" said Edith indignantly. "But I don't care to have my children brought down to tenement standards!"

"I didn't mean to have them! But I know she could show you a great many things you can buy for less!"

"I'm afraid I shouldn't agree with her!"

"Why not, Edith?"

"Because she knows only tenement children—nothing of children bred like mine!"

Deborah drew a quick short breath, her brows drew tight and she looked away. She bit her lip, controlled herself.

"Very well, I'll try again. This house is plenty large enough so that by a little crowding we could make room for somebody else. And I know a teacher in one of my schools who'd be only too glad—"

"Take a boarder, you mean?"

"Yes, I do! We've got to do something!"

"No!"

Deborah threw up her hands.

"All right, Edith, I'm through," she said. "Now what do you propose?"

"I can try to do without Hannah again."

"That will be hard on all of us. But I guess you'll have to."

"So it seems."

"But unfortunately that won't be enough."

"Edith's face grew tenser."

"I'm afraid it will have to be just now—I've had about all I can stand for one night!"

"I'm sorry," Deborah answered. For a moment they confronted each other.

And Edith's look said to Deborah plainly, "You're spending thousands, thousands, on those tenement children! You can get money enough for them, but you won't raise a hand to help with mine!"

And as plainly Deborah answered, "My children are starving, shivering, freezing! What do you care about being poor?"

"I'm not so sure about that," said Deborah. "I've got a family, and children, and I've got to buy. There was never a time when I was so hungry."

"I'm not so sure about that," said Edith. "I've got a family, and children, and I've got to buy. There was never a time when I was so hungry."

"I'm not so sure about that," said Deborah. "I've got a family, and children, and I've got to buy. There was never a time when I was so hungry."

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"I'm not so sure about that," said Edith. "I've got a family, and children, and I've got to buy. There was never a time when I was so hungry."

"I'm sorry, Edith," she said again, and this time there were tears in her eyes.

"So am I," said Edith unsteadily, and in a moment she left the room. Deborah stood watching her father.

"I'm ashamed of myself," she said. "Well? Shall we talk it over?"

"No," he replied. "I can manage it somehow, Deborah, and I prefer that you leave it to me."

Roger went into his study and sank grimly into his chair. Yes, it had been pretty bad; it had been ugly, ominous. He took paper and pencil and set to work. How he had come to hate this job of wrestling with figures.

Of the five thousand dollars borrowed in August he had barely a thousand left. The first semi-annual interest was due next week and must be paid. The balance would carry them through March and on well into April. By that time he hoped to be making money, for business was better every week. But what of this nine hundred dollars in debts? Half at least must be paid at once. Lower and lower he sank in his chair. But a few moments later, his blunt heavy visage cleared, and with a little sigh of relief he put away his papers, turned out the lights and went upstairs. The dark house felt friendly and comforting now.

In his room he opened the safe in the corner where his collection of curious rings had lain unnoticed for many months. He drew out a tray, sat down by the light and began to look them over. At first only small inanimate objects, gradually as from tray after tray they glittered duskily up at him, they began to yield their riches as they had so often done before. Spanish, French, Italian, Bohemian, Hungarian, Russian and Arabian, rings small and rings enormous, religious rings and magic rings, poison rings, some black with age for all his careful polishing—again they stole deep into Roger's imagination with suggestions of the many hands that had worn them through the centuries, of women kneeling in old churches, couples in dark crooked streets, adventures, love, hate, jealousy. Youth and fire, dreams and passion.

At last he remembered why he was here. He thought of possible purchasers. He knew so many dealers, but he knew too, that the war had played the devil with them as with everyone else. Still, he thought of several who would find it hard to resist the temptation. He would see them to-morrow, one by one, and get them bidding, haggling. Roger frowned disgustedly.

No help for it, though, and it was a relief. It would bring a truce in his house for a time.

But the truce was brief.

On the afternoon when he sold his collection Roger came home all out of sorts. He had been forced to haggle long; it had been a mean, inglorious day; one of the brightest paths in his life had ended in a pigstie. But at least he had bought some peace in his home! Women, women, women! He shut the door with a slam and went up to his room for a little rest, a little of what he had paid for! On the stairs he passed young Betsy, and he startled the girl by the sudden glare of reproach he bestowed upon her. Savagely he told himself he was no "feminist" that night!

The brief talk he had with Edith was far from reassuring. With no Deborah there to wound her pride, Edith quickly showed herself friendly to her father; but when he advised her to keep her nurse, she at once refused to consider it.

"I want you to," he persisted, with an anxious note in his voice. He had tried life without Hannah here and he did not care to try it again.

"It is already settled, father, I sent her away this morning."

"Then you get her right back!" he exclaimed. But Edith's face grew obstinate.

"I don't care to give Deborah," she replied, "another chance to talk as she did."

Roger looked at her gloomily. "You will, though," he was thinking. "You two have only just begun. Let any little point arise, which a couple of men would settle offhand, and you two will get together and go it! There'll be no living in the house!"

With deepening displeasure he watched the struggle between them go on. Sometimes it seemed to Roger there was not a topic he could bring up which would not in some way bring on a clash. One night in desperation he proposed the theatre.

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Edith, glancing at Deborah. And she had the same answer, again and again, for the requests her children made, if they involved but the smallest expense. "No, dear, I'm afraid we can't afford that," she would say gently, with a sigh. And under this constant pressure, these nightly little thrusts and jabs, Deborah would grow rigid with annoyance and impatience.

"For Heaven's sake, Edith," she burst out, one night when the children had gone to their lessons, "can you think of nothing on earth, except your own little family?" "Here it comes again," thought Roger, scowling into his paper. He heard Edith's curt reply: "No, I can't, not nowadays. Nobody else seems to think of them."

"You mean that I don't!" "Do you?" "Yes! I'm thinking of George! Do you want him killed in the trenches—in a war with Germany or Japan?" "Are you utterly mad?" demanded Edith. "No, I'm awake—my eyes are open! But yours are shut so tight, my dear, you can't see what has happened! You know this war has made us poor and your own life harder, but that's all. The big thing it has done you know nothing about!"

"Suppose you teach me," Edith said, with a prim provoking little smile. Deborah turned on her angrily: "It has shown that all such mothers as you are out of date and have got to change! That we're bound together—all over the world—whether we like it or whether we don't! And that if we want to keep out of war, we've got to do it by coming right out of our own little homes—and thinking, Edith, thinking!"

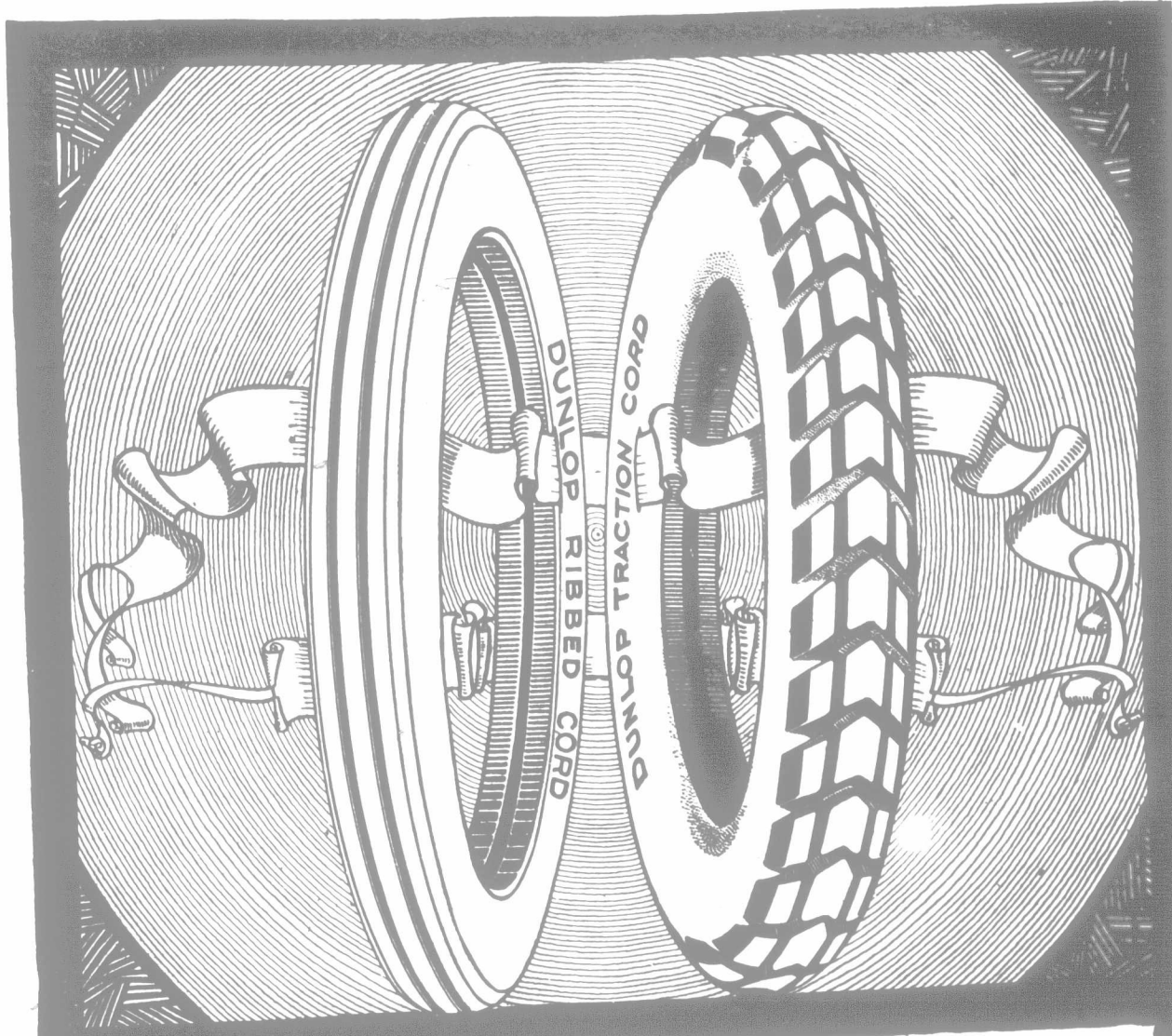
"Votes for women," Edith said. Deborah looked at her, rose with a shrug. "All right, Edith, I give up." "Thank you. I'm not worth it. You'd better go back to your office now and go on with your work of saving the world. And use every hour of your time and every dollar you possess. I'll stay here and look after my children." Deborah had gone into the hall. Roger, buried deep in his paper, heard the heavy street door close. He looked up with a feverish sigh—and saw at the open door of his study George and Betsy standing, curious, solemn, and wide eyed. How long had they been listening?

CHAPTER XXXV.

There came a season of sleet and rain when the smaller children were shut indoors and it was hard to keep them amused. They did not look well, and Edith was worried. She had always dreaded the spring, and to carry her family safely through she had taken them, in former years, to Atlantic City for two weeks. That of course was impossible now. Trouble was bound to come, she thought. And it was not long in coming. Bobby, who was ten years old and went to school with his brother George, caught a wretched cold one day. Edith popped him into bed, but despite her many precautions he gave his cold to Bruce and Tad.

"Suppose I ask Allan Baird to come," Deborah suggested. "He's wonderful with children, you know." Edith curtly accepted his services. She felt he had been sent for to prevent her getting Doctor Lake. But she said nothing. She would wait. Through long hard days and longer nights she slaved upstairs. All Deborah's proffers of aid she declined. She kept Elizabeth home from school to help her with the many meals, the medicines and the endless task of keeping her lively patients in bed. She herself played with them by the hour, while the ache in her head was a torment. At night she was up at the slightest sound. Heavy circles came under her eyes. Within a few days her baby, Bruce, had developed pneumonia.

That evening after dinner, while Deborah was sitting with Roger in the living-room, she heard her sister coming downstairs. She listened acutely, and glancing around she saw that Roger was listening, too. Edith passed the doorway and went on down the hall, where they heard her voice at the telephone. She came back and looked in at the door. "I've called Doctor Lake," she said. "I've just taken Bruce's temperature. It's a hundred and five and two-fifths." Deborah glanced up with a start. "Oh, Edith!" she said softly. Her sister turned and looked at her.



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"I ought to have had him before," she said. "When he comes, please, bring him right up to the room." And she hurried upstairs. "Pshaw!" breathed Roger anxiously. He had seen Bruce an hour ago, and the sight of the tiny boy, so exhausted and so still, had given him a sudden scare. Could it be that this would happen? Roger rose and walked the floor. Edith was right, he told himself, they should have had Lake long before. And they would have, by George, if it had not been for Deborah's interference! He glanced at

her indignantly. Bringing in Baird to save money, eh? Well, it was just about time they stopped saving money on their own flesh and blood! What had Bruce to do with tennent babies? But he had had tennent treatment, just that! Deborah had had her way at last with Edith's children, and one of them might have to pay with its life! Again Roger glared at his silent daughter. And now, even in his excited state, he noticed how still and rigid she was, how unnatural the look she bent on the book held tightly in her hands.

Still Deborah said nothing. She could feel her father's anger. Both he and Edith held her to blame. She felt herself in a position where she could not move a hand. She was stunned, and could not think clearly. A vivid picture was in her mind, vivid as a burning flame which left everything else in darkness. It was of Bruce, one adorable baby, fighting for breath. "What would I do if he were mine?"

When the doctor arrived she took him upstairs and then came down to her father.

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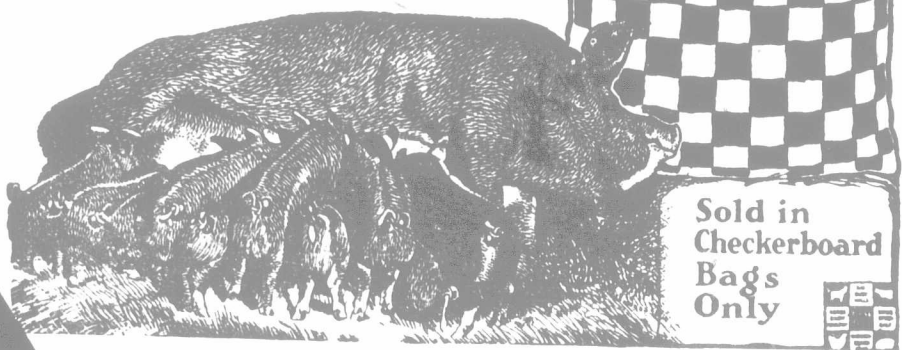
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"Well?" he demanded.

"I don't know. We'll have to wait." and they both sat silent. At last they heard a door open and close and presently steps coming down the stairs. Roger went out into the hall:

"Come right in here, doctor, won't you? I want to hear about this myself."

"Very well, sir." And Lake entered the room, with Edith close behind him. He took no notice of anyone else. "Write this down," he said to her. "And give it to the nurse when she comes." A heavy man of middle age, with curious dark impassive eyes that at times showed an ironic light, Lake was a despot in a world of mothers to whom his word was law. He was busy to-night, with no time to waste, and his low harsh voice now rattled out orders which Edith wrote down in feverish haste—an hourly schedule, night and day. He named a long list of things needed at once. "Night nurse will be here in an hour," he ended. "Day nurse, to-morrow, eight a.m. Get sleep yourself and plenty of it. As it is you're not fit to take care of a cat." Abruptly he turned and left the room. Edith followed. The street door closed, and in a moment after that his motor was off with a muffled roar. Edith came back, picked up her directions and turned to her sister: "Will you go up and sit with Bruce? I'll telephone the druggist," she said.

Deborah went to the sick room. Bruce's small face, peaked and gray in the soft dim light, turned as she entered and came to the bed.

"Well, dear?" she whispered. The small boy's eyes, large and heavy with fever, looked straight into hers.

"Sick," said the baby hoarsely. The next instant he tossed up his hands and went through a spasm, trying to breathe. It passed, he relaxed a little, and again stared solemnly at his aunt. "Sick," he repeated. "Very sick."

Deborah sat silent. The child had another fight for his breath; and this time as he did so, Deborah's body contracted, too. A few moments later Edith came in. Deborah returned downstairs, and for over an hour she sat by herself. Roger was in his study, Betsy and George had gone to bed. The night nurse arrived and was taken upstairs. Still Deborah's mind felt numb and cold. Instinctively again and again it kept groping toward one point: "If I had a baby as sick as that, what would I do? What would I do?"

When the doorbell rang again, she frowned, rose quickly and went to the door. It was Allan.

"Allan—come in here, will you?" she said, and he followed her into the living-room.

"What is it?" he inquired.

"Bruce is worse."

"Oh—I'm sorry. Why didn't Edith let me know?"

"She had Lake to-night," said Deborah. He knitted his brows in annoyance, then smiled.

"Well, I don't mind that," he replied. "I'm rather glad. She'll feel easier now. What did he tell her?"

"He seemed to consider it serious—by the number of things he ordered."

"Two nurses, of course—"

"Yes, day and night." Deborah was silent a moment. "I may be wrong," she continued, "but I still feel sure the child will live. But I know it means a long hard fight. The expense of it all will be heavy."

"Well?"

"Whatever it is, I'll meet it," she said. "Father can't, he has reached the end. But even if he could help still, it wouldn't make much difference in what I've been deciding. Because when I was with Bruce to-night, I saw as clear as I see you now that if I had a child like that—as sick as that—I'd sacrifice anything—everything—schools, tenement children, thousands! I'd use the money which should have been theirs, and the time and the attention! I'd shut them all out, they could starve if they liked! I'd be like Edith—exactly! I'd centre on this one child of mine!"

Deborah turned her eyes to his, stern and gleaming with her pain. And she continued sharply:

"But I don't mean to shut those children out! And so it's clear as day to me that I can't ever marry you! That baby to-night was the finishing stroke!" She made a quick, restless movement. Baird leaned slowly forward. Her hands in her lap were clenched together. He took them both and held them hard.

"No, that isn't clear," he said. "I

can feel it in your hands. This is nerves. This is the child upstairs. This is Edith in the house. This is school, the end of the long winter's strain."

"No, it's what I've decided!"

"But this is the wrong decision," Allan answered steadily.

"It's made!"

"Not yet, it isn't, not to-night. We won't talk of it now, you're in no condition." Deborah's wide sensitive lips began to quiver suddenly:

"We will talk of it now, or never at all I want it settled—done with! I've had enough—it's killing me!"

"No," was Allan's firm reply, "in a few days things will change. Edith's child will be out of danger, your other troubles will clear away!"

"But what of next winter, and the next? What of Edith's children? Can't you see what a load they are on my father? Can't you see he's ageing fast?"

"Suppose he dies," Baird answered. "It will leave them on your hands, you'll have these children, won't you, whether you marry or whether you don't! And so will I! I'm their guardian!"

"That won't be the same," she cried, "as having children of our own—"

"Look into my eyes."

"I'm looking—" Her own eyes were bright with tears.

"Why are you always so afraid of becoming a mother?" Allan asked. In his gruff low voice was a fierce appeal.

"It's this obsession in your mind that you'll be a mother like Edith. And that's absurd! You never will! You say you're afraid of not keeping school the first thing in your life! But you always do and you always will! You're putting it ahead of me now!"

"Yes, I can put it ahead of you! But I couldn't put it ahead of my child!" He winced at this and she noticed it.

"Because you are strong, and the child would be weak! The child would be like Bruce to-night!"

"Are you sure if you marry you must have a child?"

"Yes," she answered huskily, "if I married you I'd want a child. And that want in me would grow and grow until it made both of us wretched. I'm that kind of a woman. That's why my work has succeeded so far—because I've a passion for children! They're not my work, they're my very life!" She bowed her head, her mouth set hard.

"But so are you," she whispered. "And since this is settled, Allan, what do you think? Shall we try to go on—working together side by side—seeing each other every day as we have been doing all these months? Rather hard on both of us, don't you think? I do, I feel that way," she said. Again her features quivered.

"The kind of feeling I have—for you—would make that rather—difficult!"

His grip tightened on her hands.

"I won't give you up," he said. "Later you will change your mind..."

He left the room and went out of the house. Deborah sat rigid. She trembled and tears came. She brushed them angrily away. Struggling to control herself, presently she grew quieter. Frowning, with her clear gray eyes intently staring before her, she did not see her father come into the doorway. He stopped with a jerk at sight of her face.

"What's the matter?" he asked. She started.

"Nothing's the matter. How is Bruce?"

"I don't know. Who went out a few minutes ago?"

"Allan Baird," she answered.

"Oh. You explained to him, of course, about Lake—"

"Yes, he understands," she said. "He won't come here after this—"

Roger looked at her sharply, wondering just what she meant. He hesitated. No, he would wait.

"Good-night," he said, and went upstairs.

(To be continued.)

Bushby was sorely in need of an extra farm hand and advertised.

"What'll ye pay?" questioned an early applicant.

"I'll pay you what you're worth," promptly replied Bushby.

The applicant meditated thoughtfully for a moment, then turning on his heel, decisively announced:

"I'll be durned if I'll work for that!"

Stronger Citizens—How?

The address delivered by Prof. R. M. Washburn, at the Saskatchewan Dairymen's Convention, held recently at Moose Jaw.

It is certainly a compliment to be handed a subject at once so broad, so exact and so vital as that contained in the advertised title of this lecture.

Some would increase the strength and vigor of our citizens by universal military training, others by systematized industrial work; others would lay chief stress upon schools and churches, and yet others would carry out health campaigns. With all of these I have no quarrel for they all have their place. It is for me, however, to confine myself more strictly to the phase of human wellbeing concerning which I am possibly better prepared to speak. That is the question of food in its relation to our wellbeing. In this there are a multitude of phases but the most important at the present time seems to be the more newly discovered relation of food to best growth, both physical and mental, and to certain diseases.

DEFICIENCY DISEASES.

Scurvy has been the dread of sailors, soldiers and explorers since the beginning of recorded history. It can now be wholly prevented or even cured if it has not gone too far.

Beri-Beri, a disease of the Orient, has carried off thousands, probably hundreds of thousands of people, but it, too, now is under control. It is not a contagious disease like tuberculosis and smallpox, but is a condition which naturally follows certain insufficiencies in food.

Xerophthalmia or a certain form of sore eyes which became quite prevalent in Denmark during the latter stages of the war, and other diseases such as porous and weak bone and the like, are now traceable to food deficiencies.

Pellagra, which disease has been a scourge in Southern Europe for centuries, and affected about 65,000 people in the United States in a single year, is traceable in part to a faulty diet.

Some people almost resent the suggestion that there may be something for them to learn in the matter of food, although willing to admit everything with regard to discoveries in aeroplanes, submarines, wireless telegraphy, surgery and the like. It is clear, however, that one of the most important discoveries of the century has recently been made, amply demonstrated and fairly well systematized. The discovery in brief is simply this: That there is a something aside from mere bone building, ash, muscle building protein and energy yielding substances required for general growth and well being; that the young will not grow, but will in fact die if a sufficient quantity of this substance is lacking and that older animals man included, will sicken and die if deprived of these vital substances.

The nature of this substance, or these substances, for there are known to be three or more of them, is as yet poorly known, but it has been fully and completely demonstrated that certain common foods lack wholly or largely in all three of these essentials while others contain liberal amounts.

FOODS THAT ARE DEFICIENT.

Certain good foods are valuable in their places, but insufficient to do all that was formerly expected of them; it is essential, therefore, that we know them in order that while living largely on these substances their weaknesses may be made good by the introduction of others. The foods that are now known to be lacking are the following:

Bolted Flour of:	Muscular portion of:
Wheat	Beef
Barley	Pork
Corn	Mutton
Oats	Poultry
Potatoes (Centres)	Fish
Root Crop	Lard
Dry Peas and Beans	Tallow
Polished Rice	Vegetable Oils
Sugar	Nut Margarine

It will be noted from the above list that the foods that are deficient constitute in their original condition either the stored up starch and sugar of the grains or the muscular portion, or the extracts of the muscular portion of animals. Any combination in any

amount of the foregoing food substances would prove insufficient to maintain life. Something else is essential.

Early explorers of Quebec, when dying of scurvy were advised by the Indians to drink a tea made by steeping the inner bark of the young spruce tree: This they did and lived. British sailors demand their lime juice, thus their common name "Limies."

Ancient sailors, especially Spanish, used to carry to sea with them a vegetable known as "survy grass" which they steeped, drinking the tea and thus warding off the scurvy.

Oriental victims of beri-beri have been cured by consuming or drinking a tea made from the polishings of rice. Essentially the same result has been brought about in this country by drinking a tea made from wheat bran.

The source of these so-called "vitamines" is not a haphazard matter any longer for it has been proven that the substances bear vital and intimate relation to the growing or vegetative portion of green plants and to the germ of seeds, and to foods such as milk and eggs which by nature were produced to be food for growing young. Thus we are prepared to discover the secret.

PROTECTIVE FOODS.

In the following list, arranged to show their relation to the fat soluble A, and the water soluble B and C vitamins and their relation to growth and certain diseases, is shown a long list of common foodstuffs which are now known to be protective or corrective in their nature.

	FOUND IN
INFLUENCES	Milk
GROWTH	Butter
GLANDULAR	Cream Cheese
GLANDULAR	Egg Yolk
DEVELOPMENT	Glandular Tissue
	Cod Liver Oil
	Whale Oil
	Green Leaves
	Honey (Bee Bread)?
XEROPHTHALMIA	
	Cream
GROWTH	Skim-milk
	Egg Yolk
	Glandular Tissue
BERI-BERI	Brain
RICKETS (?)	Fish Roe
	Rice Polish
	Germ of All Seeds
	Wheat Bran
	Yeast
	Skim-milk
GROWTH	Egg White (?)
	Cabbage
	Lettuce
	Spinach
	Apples
SCURVY	Lemons
	Oranges
	Onions
PELLAGRA (?)	Green Peas,
	Beans
	Rhubarb
	Potatoes (Outsides)
	Sprouted Grains

From the above we see that every food ingredient in the protective food group is either something that was produced, like milk and eggs, to be a food for the young, or it was a storage gland or extract thereof of a live growing animal or vegetable.

It is more than probable that other food substances will be added to these lists when more work has been done on the subject, but we now know enough about these foods and their influence to protect us and our children from many ills, and in fact to give our young generation a stimulus to stronger manhood and womanhood than they would probably have developed in any haphazard system.

The best single example of improvement brought about by feeding occurred in the city schools of Seattle, Washington. In that city 23 per cent. of the children were deficient in their studies, neither did they play in a good vigorous manner. Dr. Brown, the school physician, studied their cases, arranged to give the children a glass of whole milk each forenoon and afternoon. This done, in three weeks these children were out to play like normal children, improved rapidly in their studies and continued throughout the year vigorous on the playground and so much improved in their scholarship that the rise in their grade raised the

Important Auction Sale of High-Producing, Pure-Bred and High-Grade HOLSTEINS

Will be held at the "ROYAL" Yards

WOODSTOCK, Tuesday, May 4th, 1920

SALE COMMENCES AT 2 O'CLOCK

Comprising the entire herd of 24 head, cows and heifers, one bull calf (pure-bred) and the herd sire "Colanthus Bonheur Statesman," 3 pure-bred heifers, 4 grade cows, 1 yearling grade heifer. The pure-bred cows are Getqui Hengerveld Keyes 15100, Netherland Dekol Isabella 2nd 13888, Netherland Dekol Isabella 3rd 40524, Bonnie Korndyke 12494, Rose Maid 25120, Scarboro Beauty 24844, Bonnie Belle 31697, Colantha Mercena Dekol 44565, Korndyke Canary Queen 48840, Dumfries Paulina 44395, and Mina Pauline Dekol 14292. These cattle are all in good condition and a number have taken first honors at the leading shows—first prize grade cow at Guelph, 1916; grand champion cow Guelph, 1917; first prize grade cow and two-year-old heifer in 1919. Two cows have each given over 100 lbs. of milk in one day, 728 lbs. in seven days and over 3,000 lbs. in 30 days. Nearly all the cows and heifers of breeding age are bred to freshen in the fall.

Anyone wanting good breeding stock should attend this sale. Visitors are welcome to inspect these cattle at any time. Eight months credit will be given on furnishing approved security.

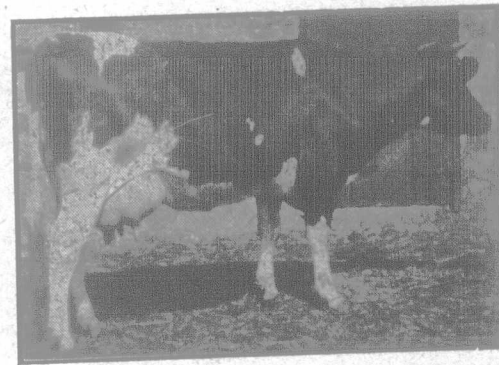
EARL GREER, Proprietor, R. R. No. 3, Woodstock, Ontario
WM. PULLIN, Auctioneer

FARM SOLD

PUBLIC AUCTION SALE

27 Head Pure-bred Holsteins
Waterford, May 5th, 1920

Commencing 12 o'clock



7 cows, milking, 2 to freshen in May; 4 two-year-old heifers, bred to freshen in fall; 3 yearling heifers; 1 yearling bull, 9 heifer calves, 1 bull calf. This stock contains some of the best blood of the breed. Also horses, implements and full equipment of 150 acre farm.

Will meet noon cars at Dundurn Station on Lake Erie and Northern Railway.

For pedigrees and full particulars apply

CHAS. H. VAN LOON :: Waterford, Ontario

LISTER MILKING MACHINE



BRITISH MADE

THE LISTER MILKER has for ten years been in extensive use all over the British Empire. Built by a firm which has been for over 50 years engaged in the manufacture of Farm and Dairy Machinery. In general use in Canada since 1913.

TRIED-TESTED AND APPROVED BY THE CANADIAN FARMER

Don't speculate in a milker. Invest your money in the "Lister." For operating the LISTER MILKER we furnish the world-famed LISTER ENGINE, built in the same factory. Write for Catalogue and Testimonials.

Melotte and Premier Cream Separators
Lister Grinders and Silo Fillers
Avery Farm Tractors

R. A. LISTER AND CO. (Canada) Limited
TORONTO AND WINNIPEG

ORMSTOWN Live Stock Show

OPEN TO ALL CANADA

Ormstown, Que., June 15-16-17-18

\$17,000 offered in prizes

All judging done inside large covered steel Stadium. The Live Stock Dept., Ottawa, are offering large prizes for finished Beef, Sheep and Swine at this Show for the first time. Show opens Tuesday evening June 15th with judging of driving horses. Cattle men do not need to be ready to exhibit until Wednesday.

Neil Sangster, President W. G. McGerrigle, Sec. Treas.

SOUTH NORFOLK SHORTHORN BREEDERS' CONSIGNMENT SALE OF

35 Head of Dual Purpose Registered Shorthorns

On the premises of Mr. Chas. Trinder, Maplehurst Farm, 3 miles south of Simcoe, 1/2 mile west of L.E. & N. Stop (Stickney's), on

May 6th, 1920

The herd consists of 27 females and 8 bulls, all of choice breeding, from families leading from Rose of Sharon, Beauty's Duchess, Nonpareil, Wimples and Rollas. Several of the heifers and calves are sired by Escana Performer =115348=, son of Right Sort (imp.).

SALE AT 1 O'CLOCK

Catalogues can be had on application to the Secretary.

C. A DUNKIN, - - - VITTORIA, ONT.

Prospective buyers met by appointment. WALSH & DEMING, Auctioneers.

AUCTION SALE OF High Grade Cattle

34 Shorthorns and 6 Holsteins

There will be sold by Public Auction at Lot 3, Con. 6, North Dorchester, one mile north of Avon,

TUESDAY, MAY 4th, 1920

Sale commencing at 1 p.m. sharp,

the following:—

40 head of very useful cattle, including six young Holstein cows, 10 high grade Shorthorn cows, 9 yearling Shorthorn steers (650 lbs.), 5 yearling Shorthorn heifers (600 lbs.) 9 Shorthorn calves (heifers and steers) a very promising bunch, 1 registered Shorthorn yearling bull—a nice roan full of quality. All the 34 Shorthorns are by a registered sire and are in good condition. This is a choice herd all raised on the farm of the proprietor.

TERMS—4 months' credit on approved security, 6% per annum off for cash. Decision of auctioneer final.

MURRAY JOHNSON, Proprietor, R. R. No. 1, Mossley, Ont.
SILAS BRADY, AUCTIONEER
Farm is on St. Thomas Branch of C.P.R. near Putnam, Ont.

YOU CAN EARN A Pure-Bred Yorkshire Hog

Boar or Sow, whichever you prefer, by securing the names of 25 New, Yearly subscribers to

The Farmer's Advocate and Home Magazine

The pigs will be of weaning age, and will be shipped to winners as soon as possible after completion of the list.

All you have to do is to collect the sum of \$1.50 from each new subscriber, and send your list and the money to cover at the end of each week by postal note or money order.

Only new subscriptions count, renewals or changes of name will not be credited.

The William Weld Co. Ltd., - London, Ont.

grade of the entire city schools 2 1/2 per cent.

Dr. Brown has not only done a wonderful piece of work for those particular children, but he has set a pace and demonstrated large truths which are now being followed throughout the United States.

Dr. Vrooman in charge of the Rotary Clinic, Vancouver, B. C., is now doing similar excellent work on a group of backward children. I saw them three weeks ago and they looked bright and happy. The teacher reported positive improvements.

THE COST OF CORRECTIVE FOODS.

We cannot adequately assign a value to a substance which is absolutely essential, but since, as has been shown, the growth promoting fat soluble A is found in milk, butter, cheese, eggs, whale oil, cod liver oil, etc., we can analyze the cost of these solids, and likewise since water soluble B, may be found in milk, cream, eggs, glandular tissue, germ of seeds, etc., and likewise water soluble C in milk, eggs and the leafy vegetables and many fruits, we can calculate which of these should be most regularly employed as protective or corrective substances. There are various ways of analyzing foods but the easiest and most direct is to consider them upon the basis of their net substances available to the body. We regularly purchase much refuse. Bone is paid for but not consumed. Water in the meat, eggs and other foods is purchased and consumed, but is not food. When we figure out the refuse that we largely purchase with various forms of food, and figure out also the water contained in these foods and raise the cost figure in proportion to these waste substances we find a rather astounding situation best shown by the table below:

When	Retails at	The Cost per Pound Edible Solids is	And in comparison milk is worth per Canadian Quart
Round Steak	25c. lb.	\$0.81	\$0.25
Hamburger	25c. lb.	.75	.24
Eggs	30c. doz.	.85	.24
Eggs	45c. doz.	1.27	.40
Broiler Chicken	25c. lb.	1.70	.48
Broiler Chicken	50c. lb.	2.38	.66
Fat Fowl	20c. lb.	.80	.25
Fat Fowl	40c. lb.	1.20	.38
Turkey, Fat	40c. lb.	.75	.24
White Fish	20c. lb.	1.44	.44
Oyster, Solids	60c. qt.	3.00	.91
Average Milk	12c. qt.	.38	.12
Average Milk	15c. qt.	.48	.15
Certified Milk	20c. qt.	.64	.20
Ham	40c. lb.	1.04	.34
Ham	30c. lb.	.78	.24
Cheese	40c. lb.	.60	.19
Cheese	30c. lb.	.48	.15

VEGETABLE FOODS.

Omitting the fruits, they being almost entirely water and waste except for vitamins and traces of ash, we can get some insight into the cost of protective foods from the following table of common vegetables:

Food Stuff	Price per Pound	Cost One Pound Vegetable Dry Matter
Potatoes	2 5c.	15.0c.
Cabbage	4 0c.	58.0c.
Squash	4 0c.	15.0c.
Pumpkin	3 0c.	88.0c.
Onion	4 0c.	21 6c.
Lettuce (92% water)	?	?
Spinach (91% water)	?	?

These foods bring bulk and some vitamins, but very little food in general. Milk it is seen, brings vitamins equal to the best, but food also, or viewed the other way, milk brings food as cheap as the best and vitamins also. Whether we take it "going or coming" milk is there.

Milk and all her "children and grandchildren" contain one or more of these vital substances and also contains ash for the building of bone and teeth, protein for the building of muscle and blood and energy for the maintenance of body temperature, and this at less cost than most other substances.

It is most emphatically not meant that an adult should live on milk, or that he should not eat meat, but it is our intention to emphasize the need for milk or some other similar commodity in the dietary of all growing children, and in adults these substances can be procured stronger and at less cost in milk and milk powder than in any other form available.

In the production of stronger citizens we must remember that food is the basis of the body and that man's physical condition must be right before he can develop mentally or morally, wholesomely and safely.

The Influence of Ayrshire Sires.

I have become reminiscent this morning and my mind carries me back to my early boyhood days, and I recall the class of dairy cows in my home community, some were solid red, some red with white bellies and faces, some mottled and some brindled. The latter had upturned horns, but the majority had inturned or crumpled horns. The cow that gave a three-quarter pail of milk in flush was considered a wonderful cow and would be worth at least \$30.00. Suffice it to say the best of them would not give 4,000 lbs. of milk in a season. Their weight would range from 800 to 1,000 lbs.

Fifteen years later I recall a different class of cows, at least 1,000 lbs. heavier in weight, stronger, more vigorous, with upturned horns, red and white in color, and with a larger milk capacity.

Thirty years later,—the old style cow has almost disappeared. She has been supplanted by a strong, vigorous cow of fine type, white and red in color with upturned spreading horns, deep body with well-sprung ribs, shapely udders and good

teats,—a contrast from the shapeless udders and immense tapering teats of the old stock. The weight had increased by 200 to 300 lbs., and the average milk production from 2,000 to 3,000 lbs. per season. What made this change? The universal use of Ayrshire bulls.

The first Ayrshire bull to be brought into the community was "Sir William," bought at 2 weeks old by my late father, for \$30. This was in 1868. What ridicule he had to endure. Prejudice had to be broken down. It was the bane of progress then, and unfortunately, it is still a hindrance to present-day progress. With Scotch determination my father outlined it and ere long saw the fruits of his efforts in improved dairy cows in the community, as this bull was widely used as well as his progeny. A few years later James Macfarlane brought in "Sir Philip," another Ayrshire bull of wonderful strength and prepotency. This bull mated to the progeny of "Sir William" brought wonderful results in cows of strong Ayrshire type, character and increased production.

The community was studded with chee-series—one at almost every cross road—and from less than a 10 lbs. milk average for the season. About this time I was census enumerator in the community, and particularly noted the production of many of these high-grade Ayrshire herds, which ranged from 6,500 to 8,000 lbs. of milk per cow for the season—a good average for those days when summer dairying only was carried on.

I have heard many favorable comments on the class of dairy cattle in this particular community. Frequently I have

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Advertisements heading, such as Situations Wanted, TERMS—Four Each initial count two words. Name Cash must always advertisement inse

WANTED—MAY doing all kinds after pure-bred S hogs if necessary expected. Every Box 98, Farmer's

WANTED.—"D be good milker to Dept. Soldiers well Hospital, Gu

WANT TO HE farm for sale. price. John J. Falls, Wis.

WELL BRED C Males \$6.00 Gleanworth, Ont.

YOUNG FREN starting on a be pleased to re or to correspond give particulars in Frant estate in Fran Advocate, Lond

Day- Strong and vigor Our strains are t and Oldham F. R.L. Reds, Po and Anconas, S for this season. lists. We guar QUEE Linsmore Crecen

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at four 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 advertisement inserted for less than 60 cents.

BRED-TO-LAY SINGLE-COMB WHITE LEGHORN eggs for hatching—Fifteen \$1.75, thirty \$3, nine dozen \$8. Carefully packed. Addison H. Baird, R. 1, New Hamburg, Ont.

BARRED ROCK EGGS—STRONG BONE, excellent layers, fancy barring; \$3 per setting. George Murray, Plattsville, Ont.

BARRED ROCK EGGS—FIFTEEN, \$2.00; thirty, \$2.75; fifty \$5.50; \$10.00 hundred. From well-bred and grand laying hens. Order direct from this advertisement. W. Bennett, Box 43, Kingsville, Ont.

BUFF ORPINGTON EGGS FOR HATCHING, excellent laying strain; \$3 per fifteen. N. Cathcart, Stanley's Corners, Ontario.

BARRED ROCKS—LAYING STRAIN—SETTING \$1.50. Mrs. Berry, 52 Queen Street, Guelph, Ont.

BARRED ROCK HATCHING EGGS, PURE-BRED STRAIN, 15—\$2.00. Woodycrest Farm, Perth, Ontario.

BABY CHICKS, ANCONAS, AND LEGHORNS \$13 per fifty, \$25 per hundred, delivered. Mating list ready, order now. G. A. Douglas, Ilderton, Ont.

BRED-TO-LAY BARRED ROCKS—ONE seventy-five per setting, five dollars per fifty. Henry Hooper, Guelph, Ont., 83 Nottingham St.

BABY CHICKS, HATCHING EGGS—BARRED Rocks, White Rocks, White Wyandottes, Silver Wyandottes, White Leghorns, Rhode Island Reds. Incubator capacity 9,000. Satisfaction guaranteed. Write for price-list. Tay Poultry Farm, Perth, Ont., Box 244.

BARRED ROCKS—OUR STRAIN OF Barred Rocks are noted for laying; as winter layers there is nothing can beat them. Eggs \$2.00 per setting, six dollars for 50, ten dollars for 100. Central Ontario Poultry Yards, Colborne, Ontario.

BARRED ROCKS, MAMMOTH SIZE, AND extra good laying strain. Eggs—\$2 for 15; \$3.50 for 30. Mrs. W. B. Annesser, Tilbury, Ont.

BABY CHICKS GALORE—WHITE LEG- HORNS—Beautifully illustrated free price list. Lond-established business. Bradley Linscott, Leghorn Specialist, "Seven Acres," Brantford.

EGGS FOR HATCHING, FROM BRED-TO- LAY Barred Rocks; two dollars per fifteen. Wm. L. Hills, Wheatley, Ont.

EGGS FROM EXHIBITION STOCK—BUFF Orpingtons, \$3.00 15. Andalusians—Pen 1—\$5.00; 2, \$3.00; 15. Guaranteed hatch. E. E. McCombs, Fenwick, Ont.

EGGS FOR HATCHING AND DAY-OLD chicks. Pure O. A. C. bred-to-lay Barred Rocks and White Leghorns. Eggs—\$10.00 per 100, or \$2.00 per setting. Geo. L. Faull, St. Williams, Ont.

EGGS FOR SALE—PURE-BRED CROWN Rosebud Leghorns, \$3 a setting. Incubator lots reduced. Glen Colledge, Byron.

O. A. C. BRED-TO-LAY SINGLE-COMB Rhode Island Reds—Eggs for hatching, two dollars for fifteen. Harry Hedges, Harrow, Ont.

S.-C. ANCONAS—EGGS FOR HATCHING \$1.50 per 15, or \$8 per hundred. John A. Polard, Dashwood, R. 2, Ont.

PARTRIDGE ROCKS, BUFF LEGHORNS. Hatching eggs \$1.50 per setting. R. H. Crosby, Markham, Ont.

ROSE-COMB RHODE ISLAND RED FROM good winter laying strain. Two dollars for fifteen. Alex. McKinney, Erin, Ont.

S.-C. RHODE ISLAND REDS, GOOD COLOR, selected pen, winter layers. Choice bred-to-lay S.-C. White Leghorns. Eggs \$1.75 per fifteen. W. E. Willson, Aurora, Ont.

WHITE WYANDOTTES—HEAVY LAYING strains my speciality. Eggs \$3 per fifteen, \$5 per thirty. Frank Morrison, Jordan, Ont.

WHITE WYANDOTTE GUELPH CHAM- PIONS 1919. Hatching eggs, \$3 per 15; \$5 per 50. Chicks, 35 cents each. Good type. Heavy layers. R. Trivett, Newmarket.

SUPERIOR BARRED PLYMOUTH ROCK EGGS FOR SALE
From 5 Best Bred-to-Lay Families in both Countries.

Pen No. 1.—Thompson's Imperial Ringlet hens, imported in the eggs, headed by Mr. Cadham's (Kingston, Ont.), Pedigreed Ringlet Cockerels sired by Parks' prize bird, U.S.A., first dam—hen No. 71 laid 70 eggs in 72 days in mid-winter, 260 brown eggs of standard weight in one year. Price, \$5.00.

Pen No. 2.—Parks' Superior Ringlet strain, imported in the eggs. Of all bred-to-lays, Ringlets are supreme. Price \$3.00.

Pen No. 3.—The large, dark bred-to-lay strain of Rileys, imported in the eggs. As show birds, they have won the highest awards in U.S.A. Price, \$4.00.

Pen No. 4.—Thompson's large bred-to-lay strain, imported in the eggs, medium light in color, with quality and utility. Price, \$3.00.

Pen No. 5.—The O.A.C. bred-to-lay strain of Guelph; a hardy handsome fowl, extra good winter layers. Price \$2.00.

15 per setting. Infertile eggs replaced at half price. Pullets or cockerel bred eggs as desired. Express prepaid.

A. H. CROZIER, Box 16, Meadowvale, Ont.

Eggs Wanted Live Hens Wanted

Top prices paid for eggs. We require large quantities of heavy live hens at very top prices. Our specialty is poultry. Get the best market in Western Ontario for your poultry by selling to—

C. A. MANN & CO.,
78 King St., London, Ont.

Questions and Answers.
Miscellaneous.

Fixtures.

A rented a farm from B. B sells the farm and A moves out on the 1st of April.

1. Can he remove a small gate which he put on at his own expense?
2. Can he remove anything fastened on the place?

Ontario L. C.

- Ans.—1. No.
2. Generally speaking, no.

Line Fence.

A, B and C live on adjoining farms, with B's farm in between A and C's. It appears that B's half of the line fence is on high land and A and C's portion on river flats. This spring a freshet took away portions of the line fence on the flats. Is there any law to make B help to build the fence on the river flats, or to exchange part of his fence on high land with them? O. S.

Ans.—We do not know of any law which would force B to assist in building other than his portion of the line fence. While A and C are unfortunate in having their fence destroyed, B may at some time have his portion wrecked by wind-storm. Under the circumstances it would be a neighborly act on the part of B to assist his neighbors.

Mail Carrier.

A rural mail carrier who is working at other jobs a great part of his time hires other men to draw the mail on his route, and the men, not knowing anything about the mail or the names of the people, get the mail all mixed up and we never know where to get our own mail.

1. Is it lawful for a mail carrier to let other men handle or draw the mail?
2. Is he supposed to go around his route when roads are in bad condition, although other people can travel them?
3. Is there any law for a mail carrier telling the public when he takes letters to certain parties?

Ontario E. E.

- Ans.—1. No.
2. Yes.
3. Yes. The matter ought to be reported to the P. O. Inspector for the local Postal Division.

Poor Hatch.

I set two incubators and have kept them at the required heat, but only one chick hatched, although the eggs tested 85 per cent. When I opened the eggs the chicks were nearly matured but dead. I set 15 eggs under a hen and 14 were fertile, but only 3 hatched. What is the cause? T. D.

Ans.—Such poor hatches are unusual. The results suggest this—which is a well-known fact to commercial poultry keepers—because an egg is fertile is no absolute guarantee that it will hatch and one of the most baffling things we have to contend with is how to produce good hatching eggs. There is considerable evidence that this trouble may be inherited, and likewise there is an abundance of evidence that it is influenced by local surroundings such as housing, method of feeding, age of the birds, and so forth. If the incubator was operated correctly, that is if the thermometer is accurate and the bulb kept near the top of an egg. I would consider that the machines should have hatched a reasonable per cent. of the eggs, perhaps anywhere from forty to seventy-five per cent. of the fertile eggs. It would be a mere guess as to what would be the actual trouble but most frequently such conditions arise from faulty temperatures or where the incubator heats unevenly. Apparently these chicks all died the one day. The operator must have had some accident happen that day. If they had died at various times throughout the hatch then it might be considered that the machine heated unevenly or that they were very bad eggs, but where they all died at about the same time it looks as if they had been cooked or frozen. There may be other causes but I think these are the most likely.

2. There were too many eggs set under the hen unless she was set in a very warm place. Early in the season I think it is advisable not to set more than eleven eggs, or thirteen at the most. I fancy that part of the trouble there, was that the eggs did not receive sufficient heat.

W. R. G.

Trespass.

A rents a ranch from B, a straight lease, nothing mentioned about cutting wood on it. B goes in and cuts wood without A's permission. A always keeps a chain and lock on gate; A finds the chain and lock gone.

1. Is B liable for trespassing and cutting wood without A's permission?
2. Is B also liable for taking chain and lock from gate, and to what extent in both cases?
3. Providing it is lawful for B to cut wood, could A do so without B's consent?

Ontario A. D.

Ans.—1 and 3. B is liable, as suggested. 2. It does not necessarily follow that because chain and lock are gone, B took them. We would add that the appropriate action against B would be one for damages for trespass.

Breach of Contract.

A attended an auction sale March 23. In the sale bill it was claimed there was 100 bushels of spring wheat. A's bid was highest and A took 20 bushels. The wheat was put up again and the bid was somewhat less, and B took 10 bushels and C took 50 bushels, and D was to get whatever was left when A, B and C got their quantities. A goes to the proprietor and tells him that he will come the following day and get the 20 bushels of wheat and settle for it, and the proprietor tells A that it will be all right. However, D gets around bright and early the following morning and takes 20 bushels of wheat, and when A arrives about 10.30 the proprietor tells him the wheat is all gone and he cannot do anything for him.

1. What action should A take to recover the wheat?
2. How long a time has A available to take action?

Ontario AN OLD SUBSCRIBER.

Ans.—1. He should place the matter in the hands of a solicitor with instructions to write the proprietor for payment of damages, and that in the event of non-compliance legal proceedings would be taken; and have the solicitor commence suit, if necessary—that is, if the letter does not bring the desired result.

2. Six years; but in a case like the one in question the action should be commenced without undue delay.

Veterinary.

Nymphomania.

Mare is continuously in oestrus. Can her ovaries be successfully removed? M. C.

Ans.—Females affected this way are called nymphomaniacs. It is due to diseased ovaries, for which no medicinal treatment is effective. The ovaries can be removed. Of course, it is rather a serious operation. Few veterinarians have much practice in the operation, but if your veterinarian does not operate, no doubt he can secure the services of one who does. The operation is very rarely performed in this Province. V.

Sale Dates.

- May 4, 1920.—Earl Greer, R. R. 3, Woodstock, Ont.—Holsteins.
- May 4, 1920.—Frank Boyle Estate, Milliken, Ont.—Holsteins.
- May 4, 1920.—Murray Johnson, R. 1, Mossley, Ont.—Shorthorns.
- May 6, 1920.—South Norfolk Short-horn Breeders' Consignment Sale, Simcoe, Ont.
- May 12, 1920.—Elgin Pure-bred Holstein Sale, St. Thomas, Ont.
- May 20, 1920.—Ayrshire Cattle Breeders' Association of New England, consignment sale, Springfield, Mass.
- June 2, 1920.—Can. Aberdeen-Angus Association, Exhibition Grounds, Toronto, Ontario.
- June 3, 1920.—Hood Farm, Inc. Lowell, Mass.—Jerseys.
- June 9, 1920.—International Sale of Milking Shorthorns, Euclid, Minn., U.S.A., R. R. Wheaton and A. E. Palmer.
- June 9, 1920.—Sunnybrook Farms Holstein Dispersal, North Toronto, Ont.
- June 10, 1920.—Second National Ayrshire Sale, Springfield, Mass.
- June 15, 16, 17 and 18, 1920.—Live-Stock Breeders' Association of the District of Beauharnois, Limited, Ormstown, Que.
- June 21, 1920.—David A. Ashworth, Denfield, Ont.—Ayrshires, Horses, Yorkshires, etc.



Baby Happy After His Bath With Cuticura Soap

Nothing more refreshing for baby than a warm bath with Cuticura Soap, especially if his skin is hot, irritated or rashy. After bathing, gently touch any irritation with Cuticura Ointment. They are ideal for all toilet uses.

Soap 25c, Ointment 25c and 50c. Sold throughout the Dominion. Canadian Agent: Lyman, Limited, St. Paul St., Montreal. Cuticura Soap shaves without lather.

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This will save you time and money.
ORDER TO-DAY. WE SHIP PROMPTLY.
Made in Canada—by us—for years.
Beginners assured of success, too. A post card brings our free catalogue, showing advantages in price on our Brooder Hatchers, Radio Hovers, etc.
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Mrs. Killifer desired that the picture be hung to the right of the door; Mr. Killifer wanted it hung to the left. For once the husband proved to be the more insistent of the two, and Henry, the colored man, was summoned to hang the picture according to Mr. Killifer's order. Henry drove in a nail on the left. This done, he also drove one in the wall on the right. "Why are you driving that second nail?" asked Mr. Killifer. "Why, boss, dat's to save me de trouble of bringin' de ladder to-morrow when you come round to do missus' way of thinkin'," said Henry.—"Harper's."

No ID... is on milk... of the best... purpose made... treated... price... TH... MONTR... Canada'... In... The Donalds... at St. John, N... large importa... ferent parts of... importation was... shire cattle an... R. R. Ness &... consignment of... two Clydesdale... colt by "Signe... Ayrshires repr... 1 two-year-old... and 1 two-year... This consigne... sent one of th... has ever left th... personally sele... in Scotland by... February and... Ayrshire auctio... many breeders... The most no... land Victory',... Dalbille, M... secure this gre... finally succee... \$5,000.00. I... July by Mr... breeding. He... ing merit, bo... individual excell... milk records in... the great b... Keystone," an... Jean 5th," th... by "Hobslan... for her first la... testing 3.97 pe... Hobslan sale... land Mendel'... land Victory'... Ness herd per... Another spl... year-old bull... sire, "Nether... breeding and... Star" who ha... America, whi... and 398 lbs... Volunteer" is... large record... "Hobslan... was bought a...

APRIL 29, 1920



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Begin now to plan for a silo before the spring rush is on. It will enable your cows to give 25% more milk on a cheaper ration.

The Ideal Green Feed Silo has been the choice of thousands of Canadian farmers because it is the best silo available. Sound lumber best suited for the purpose is used throughout. The staves are carefully made and finished. They are held together with extra heavy steel hoops. The doors and staves are treated with a specially prepared preservative.

The Ideal Silo lasts a lifetime and at present high prices for butter-fat pays for itself in a short time.

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Empire users consider hand milking as out of date as cradling wheat. The man is an uncertain and costly substitute for the machine at best.

He gets sick—gets tired—gets cross—quits. He is subject to all the ills and faults of humanity. The Empire isn't.

It stays on the job 365 days in the year—year in and year out—is always uniform in action—gentle, soothing to the cows and milks the same way every day.

Empire reliability and correctness of design has established the milking machine. The Empire proved it could be done—not once but all the time. Thousands of users acknowledge this fact and profit by it.

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Also manufacturers of the Separator with the MILLION DOLLAR BOWL TORONTO and MONTREAL

EMPIRE MILKING MACHINES

Gossip.

Canada's Latest Ayrshire Importation.

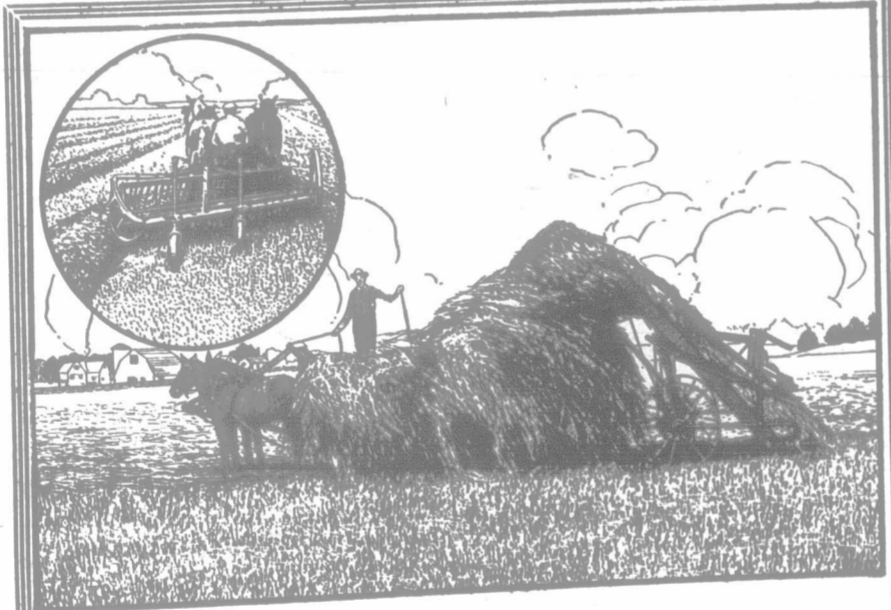
The Donaldson Liner, Cabotia, landed at St. John, N.B., on April 8th, with a large importation of live stock for different parts of Canada. Included in this importation was a consignment of Ayrshire cattle and Clydesdale horses for R. R. Ness & Sons, Howick, Que. The consignment of horses was made up of two Clydesdale fillies and a two-year-old colt by "Signet." The consignment of Ayrshires represented 10 yearling bulls, 1 two-year-old bull, 25 yearling heifers, and 1 two-year-old heifer.

This consignment of Ayrshires represents one of the best importations that has ever left the other side. They were personally selected from the best herds in Scotland by R. R. Ness, who spent February and March visiting the large Ayrshire auction sales, and he also visited many breeders.

The most notable purchase was "Hobsland Victory," from John Mackie, of Dalhousie. Mr. Ness had been trying to secure this great sire for some time, and finally succeeded in landing him at \$5,000.00. He is being retained until July by Mr. Mackie to do a season's breeding. He is an animal of outstanding merit, both from the point of individual excellence, and in respect of the milk records in his pedigree. His sire was the great breeding bull "Netherhall Keystone," and he is out of "Hobsland Jean 5th," the great breeding cow sired by "Hobsland Masterpiece." Her record for her first lactation was 11,250 lbs. milk testing 3.97 per cent. butter-fat. At the Hobsland sale, this year, her calf "Hobsland Mendel" sold for \$9,000.00. "Hobsland Victory" is to be retained in the Ness herd permanently as a herd sire.

Another splendid individual is the two-year-old bull "Kelloch Volunteer." His sire, "Netherton Viceroy" is by the great breeding and show bull "Brae Rising Star" who has seven A. R. daughters in America, which averaged 9,820 lbs. milk and 398 lbs. fat. The dam of "Killoch Volunteer" is a big, strong cow with a large record.

"Hobsland Guide," a yearling bull, was bought at the Hobsland sale. This



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JOHN DEERE-DAIN LEFT HAND SIDE DELIVERY RAKE

This is the most profitable method to employ in harvesting hay—whether you market your hay or feed it. Use the John Deere-Dain Left Hand Rake. It is the only implement that works against the heads of hay, following the mower; places majority of leaves on inside and stems on outside of windrow; makes light and fluffy windrow for air curing and places them on clean stubble; avoids trash when lifting hay, and preserves leaves on the stems in an active condition. This is the rake with the inclined frame; capacity is greatest where the volume of hay is largest—an exclusive Dain feature. Every adjustment is made from the seat.

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This is the most up-to-date and profitable method of harvesting hay. Ask your John Deere dealer about it.

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WELLAND ONTARIO

bull is to be retained also as a herd sire at Burnside. He is by "Hobsland Scotland's Best," whose dam is "Hobsland Jean 5th," by Masterpiece. Her record is 11,250 lbs. milk testing 3.97 per cent. fat. Guide is out of "Hobsland May 3rd," with 9,720 lbs. milk at 3.84 per cent. in her first lactation and 10,540 lbs. milk at 3.98 per cent. in her second lactation. Hobsland Guide and Hobsland Victory are very closely related and should make great sires for the Masterpiece heifers.

Another bull by "Netherton Viceroy" is "Molehouse Military Cross. This is an excellent yearling that is sure to be herd from at the fall shows. The dam of Viceroy has a record of 9,470 lbs. milk at 3.8 per cent. in 294 days. This young bull stood fifth at the Kilmarnock Bull Show in a class of eighty bulls.

"Holehouse Look Out" is also by "Netherton Viceroy." He is an extremely stylish individual and was a year old in March. His dam, "Holehouse Jean Again 3rd," gave 7,250 lbs. milk at 4.07 per cent. as a heifer.

"Bareweys The Goods," was sixth prize bull at the Kilmarnock Show this spring in the same class as "Holehouse Military Cross."

"Sandhill Rambler" by "Barganoch What Care I" stood fourth at the Kilmarnock Show. He is a large, strong individual that would have stood higher in a Canadian ring. His dam's record as a two-year-old was 6,240 lbs. milk at 4.58 per cent. The milk record of dam of sire was 10,530 lbs. at 3.98 per cent. in 280 days.

"Sandhill Optimist" by "Barganoch What Care I" was bought at the Ayr Show. He stood third in the yearling class with fifty-five bulls entered. His dam's record was 7,500 lbs. milk at 3.85 per cent. in her first lactation. His dam of sire gave 10,530 lbs. milk at 3.89 per cent. in 280 days.

Another yearling by "Hobsland Scotland's Best" was bought at the Barr Sale; this is "Hobsland Grand Parade." Milk record of dam was 8,560 lbs. milk at 3.75 per cent. in 46 weeks and 8,070 lbs. milk at 3.77 per cent. in 40 weeks, this was in the first and second lactations. Record of dam of sire was 11,250 lbs. milk at 3.97 per cent.

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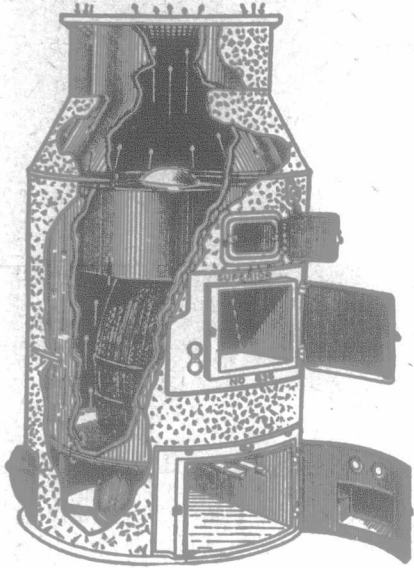
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perfect results. Use guaranteed to give a color to any fabric, men, cotton or mixed, dresses, stockings, skirts, dresses, everything! Material, have dealer "Dye" Color Card.

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The Pilot Superior Pipeless Furnace



Radiated Heat—as transmitted by stove and other inadequate heating arrangements.—The house is warmed in limited spots around the heaters only. The upstairs rooms receive practically no heat. Waste of fuel, discomfort and even sickness results from this method of heating.

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State full particulars of size, make, where can be seen and how to price, to:
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"Thornhill Renewar" by "Netherhall Renown" was bought from A. Cunningham of Stewarton. He is out of "Netherhall Mildred" and his sire is from "Netherhall Kate 25th" of the noted "Netherhall Kate" strain, she gave 10,920 lbs. milk at 4.03 per cent. in 46 weeks.

"Finlayston Eclipse," a March yearling, is by "Bargenoch Silver Knight." The milk record of his dam as a heifer was 7,650 lbs. milk at 4.03 per cent. as a heifer. The milk record of dam of sire was 10,200 lbs. milk at 4.20 per cent. in 41 weeks.

The heifers are a uniform lot and picked from some of the best herds in Scotland, such as Hobsland, Auchenbay, Auchenbrain, Palmerston, Whitehall, Killoch, Holehouse, Auchenclough, Chapelhill, Moorefield and Catlins.

One of the choice ones of the lot is the young heifer "Catlins Pansy 6th." She is by "Hobsland Victory," the new herd sire for Burnside.

Gossip.

Breeders of Aberdeen-Angus cattle should keep in mind the sale of 50 head of carefully selected cattle, to be held under the auspices of the Ontario Aberdeen-Angus Breeders' Association, at Toronto Exhibition grounds, on Wednesday, June 2. James Bowman, Secretary of the Association, has the sale in hand and states that it will be the most select lot of Angus cattle that has been offered to the Ontario public for a long time. A large attendance of breeders and farmers is expected. Western breeders have signified their intention of being present. Well known breeders throughout Ontario are consigning some of their best stuff, and purchasers may rest assured that they will secure a square deal if they patronize this sale.

Holsteins at Unionville.

A select small Holstein herd, belonging to the Estate of the late Frank Boyle, is advertised for sale by public auction elsewhere in these columns. The sale will be held at the farm one and a quarter miles west of Unionville on Tuesday, May 4th, and to enlarge the offering, W. F. Elliott, of Unionville, has consigned six of the best things from his herd. From the catalogue, it will be noted, that Mr. Elliott's entries are much the same breeding as those which comprise the Boyle Estate herd. The sires used in both herds during the past five years have been the same, and probably the most noted of these are the two syndicate bulls, May Sylvia Pontiac Cornucopia and Sir Echo Johanna Cornelius, the former, it will be remembered, was from a daughter of the great May Echo Sylvia and sired by Spring Farm Pontiac Cornucopia, he being a son of K. P. Pontiac Lass, the breed's first 44-lb. cow. There are ten daughters of this sire listed, and he has been bred to many of the older cows in the herd. The remaining cows have been bred to the other sire, Sir Echo Johanna Cornelius, and many of the young calves selling are also got by this sire. This bull is got by King Echo Sylvia Johanna, who is also the sire of the \$106,000 calf, Carnation King Sylvia, and on the dam side, he is from a 32.76-lb. four-year-old daughter of Pietje 22nd Son. Nearly all the older things listed in the sale are daughters of King Pontiac Artis Sylvia. This, it will be remembered, was one of the best breeding sons of King Pontiac Artis Canada, and his dam was the 29.04-lb. cow, Inka Sylvia 6th. This is a select offering in every way, and brings forward some of the best breeding which has been offered in a sale in Canada. At the same time, there will also be offered for sale, subject to a reserved bid, the 175-acre farm belonging to the Boyle Estate. The soil is rich clay loam, and the buildings are in good repair. For catalogues apply to Mrs. Frank Boyle, or W. F. Elliott, Unionville, Ont.

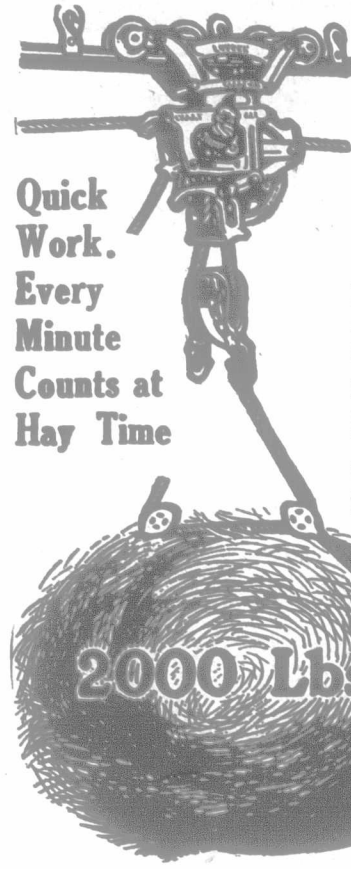
A Family Heirloom.

EDITOR "THE FARMER'S ADVOCATE":
I have been a continuous subscriber to "The Farmer's Advocate" for twenty years. My father, I have reason to believe, was a continuous subscriber for a number of years prior to that time. We are free to admit the "Advocate" is the best agricultural weekly published.
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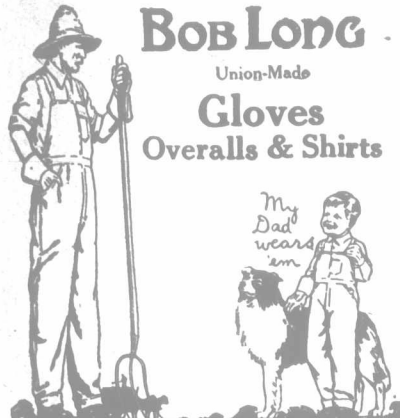
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Young Stock from Widower Peter out of dams
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R. G. LONG & Co., Limited
Winnipeg TORONTO Montreal

BOB LONG BRANDS
Known from Coast to Coast

Gossip.

Wool Market.

To those interested in wool prices, the
following information sent out by the
Canadian Co-operative Wool Growers
Association may be interesting. "The
American wool markets report a strong
demand for fine wool. There have been
a few scattered inquiries and sales of
medium and low medium, of three-eighths
and one-quarter blood wool in the grease,
at comparatively low prices. Buyers
for medium grades at present are limited,
there being only two or three operating
at this time and they are naturally only
buying the best and lowest priced lots.
Large stocks of medium grades are held
by dealers in all the American markets,
and, as the new clip will soon be coming
forth, it is an easy matter for any manu-
facturer to find those who are ready to
sell even the best medium wools of all
grades at low prices. There is, however,
some encouragement in the result of the
United States Government sale. The
upward trend of this sale was a complete
surprise to the trade. Another strong
factor is the upward trend of the British
auction of March 25. While the general
tone of the wool market is improved,
the outlook for medium wool is the chief
topic of discussion and no radical change
in the situation can be expected while
present conditions continue. It is be-
lieved that eventually people will demand
cheaper clothes, and these can be sup-
plied when manufacturers are ready to
use the medium wools. The following
gives some idea of the prices of Canadian
Western range wool. On a scoured
basis, fine staple is from \$1.90 to \$2 per
pound; fine clothing, \$1.75 to \$1.85;
medium staple, \$1.10 to \$1.20; and low
staple, 60 to 65 cents. Ontario and
Eastern wools in the grease are from
65 to 70 cents for fine medium staple,
58 to 60 cents for medium staple, and
36 to 40 cents for low staple.

Elgin County Holstein Breeders' Sale.

Holstein breeders should keep in mind
the consignment sale of the Elgin County
Breeders, to be held at St. Thomas on
May 12. The breeders are consigning
some of their best stuff, and it gives an
opportunity of securing the progeny of
several noted Holstein sires. Laidlaw
Bros. are offering Ourvilla Maple Crest
Lad, that carries 75 per cent. of the same
blood as Woodland Banostine Colantha,
a cow that has just finished a record of
35.01 lbs. of butter from 709.1 lbs. of
milk in seven days, as a four-year-old.
His dam is a daughter of Dutchland
Colantha Sir Abbekerk, with 26.48 lbs.
of butter as a three-year-old. On twice-
a-day milking she made 13,484 lbs. of
milk. From this herd there will also be
three daughters of Maple Crest De Kol
Champion, the sire of Woodland Banostine
Colantha. There are also four daughters
of FINDERNE King May Fayne, whose dam
made a 33.96-lb. record at four years of
age, and whose full sister had a 35.61-lb.
record. N. H. McConkey is putting
seven females in the sale, but only one is
tested. They are a good bunch of cows
carrying the blood of such individuals as
Queen Butter Baroness, Brookbank But-
ter Baron, King Segis Pietertje, and King
Segis. The sire of some of these cows is
from a high-record dam. Neil McGugan
is offering Bonnie Abbekerk, a two-year-
old that has just completed a 16.55-lb.
record; also a full sister to Fairview Posch,
with 29.60 lbs. of butter. J. A. McTavish
is selling his herd sire, whose two nearest
dams averaged 28.97 lbs. of butter in
seven days. He has a daughter that
made 17.54 lbs. of butter in seven days,
and 11,796 lbs. milk at two years of age.
L. H. Lipsit is offering a granddaughter of
Queen Butter Baroness, and a number
of good cows that will freshen about sale
time. A daughter of Paladin Ormsby,
and a daughter of Dutchland Hengerveld
Maplecroft are consigned by Roy Sanders.
In G. M. VanPatter's consignment there
are two young bulls ready for service.
They are fine individuals and of rare
breeding. The dam of one of them is
Netherland Colantha De Kol that has
a 21-lb. record at three years. The dam
of the other one is Woodland Banostine
Cora with a 29.69-lb. record as a senior
four-year-old. These bulls are sired by
Pontiac King De Kol. From the fore-
going, breeders will have an idea of the
quality of blood coursing in the veins of
the individuals offered. Write
many of the individuals offered. Write
for a catalogue, which will give a detailed
description of the various individuals in
the sale.

Lowe's



Learn to Vernicol

It's the easy way
of making things do
by doing them over

When you saw the beautiful
finish on your friend's new
dining room table top, didn't
it make yours look kind of
dingy when you got home?
Didn't it start you scheming
how to get a new one?

Stop scheming. No need of
a new one when with a can
of Vernicol, you can in a jiffy
make your old one look like
new.

First be sure the surface is
clean and grease free. Then
a bit of sandpaper to smooth

off rough spots. Then start
Vernicoling. That's all there
is to it. It will go on like cream.
It's a lot easier than painting,
because the Vernicol itself
smooths up smooth as glass.

Use it on old things to make
them new. Use it on new
things to keep them from get-
ting old. Good for floors too.

Send for circular on Verni-
col. It's full of help hints.

Lowe Brothers' Paint is sold
by the one best dealer in each
town. A point worth remem-
bering.

LOWE BROTHERS, Limited, 263 Sorauren Ave., Toronto, Ont.

Agents: J. A. BROWNLEE & SON,
385 Talbot Street and 121 Dundas Street, London, Ont.

Paints

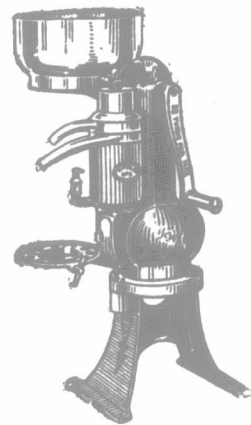
Don't Throw Cattle Profits Away

The feeding, care and milking of cows are all done
to produce profits. Every farmer should see that this
profit is not thrown away by the use of poor-skim-
ming and hard-running separators.

This expensive blunder is continually being made.
It can be prevented by using the

Simplex Separator

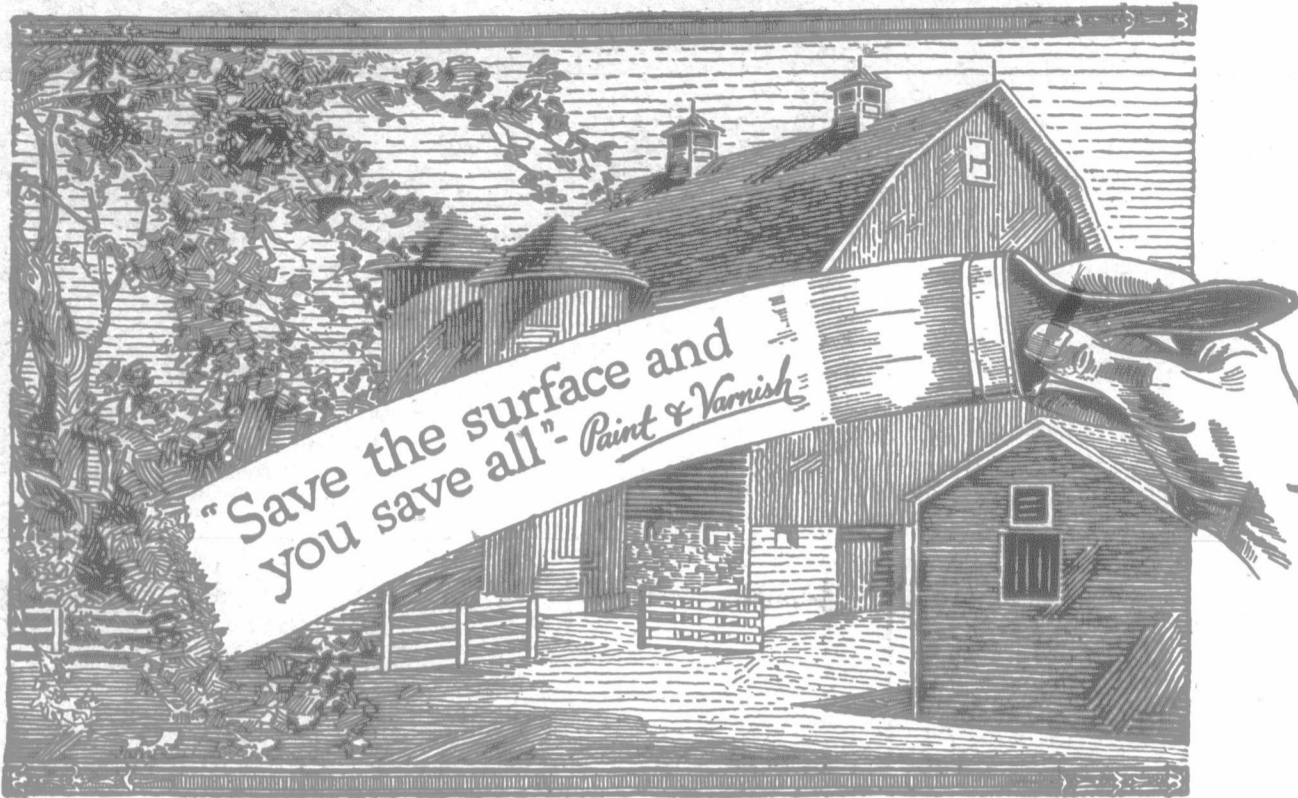
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veloped, improved and perfected
to the point where it is recognized
as the most expensively built
hand separator on the market to-
day. Its high efficiency is repre-
sented in the real intrinsic value
of the manufacturing cost.

The Simplex skims closely—takes
all the cream—it is easy to turn and
very convenient in handling and clean-
ing. Write to-day for booklet, which
gives all information and shows the
high standard of quality in the Sim-
plex Separator.

D. Derbyshire & Company, Limited
BROCKVILLE, ONTARIO



The Cost is so small for the protection you get

THERE are millions of dollars invested in farm buildings and machinery. Both property and implements can be indefinitely conserved by paint and varnish at a cost amounting to only a fraction of the loss which otherwise occurs.

Yet hundreds of thousands of dollars are lost every year to our farmers through rust, rot and wear.

Rust is the deadly enemy of implement or machine. The best steel cannot withstand the inroads of the elements without surface protection.

The same elements that make rust, just as surely spell rot and ruination for your frame house and farm buildings.

And what rust and rot do in one direction, wear will do in others—to floors and furniture for instance.

The surface is the danger spot. All decay, rust and wear start there. Surface protection—paint and varnish—will save your property.

The property owner who tries to save a few paint dollars, loses many dollars in repairs and replacement.

Save the surface and you save all.

THIS ANNOUNCEMENT is issued by the Canadian Save the Surface Campaign Committee, for the purpose of educating the public in the Preservative and Protective value of Paint, Varnish and Allied Products for the Conservation of Property, and has received the approval of the Canadian Trade Commission in the following words:

"The realization of the above objects will lead to employment during the Reconstruction Period and bears our entire approval.

THE CANADIAN TRADE COMMISSION



John P. Jones
Commissioner

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"My mare that I have been treating is like a new horse, she has improved so much. Please send me four more treatments; my neighbors want to try it."
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We will send a full week's treatment for 5c, to cover postage and packing.

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THOM. BEDARD, Sabrevois, P. Q.

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SPECIAL NO. 640 We have made an extra good Team Harness, No. 640, at a special price. **\$57** Ask your dealer or write to us about it.

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Manufacturers of Harness and Wholesalers of Auto Supplies
42 WELLINGTON ST. EAST TORONTO, ONT.

A Forward Policy for the United Farmers' Co-operation Company

BY W. C. GOOD.

(Continued from previous issue.)

There is the system of centralized authority. An illustration will make it plain. Suppose that the electors of this Province placed the Provincial Government in office, and that all local or municipal officials, councils, school trustees, magistrates, etc., were appointed by the Provincial Government. That would be the system of centralized authority and many very plausible arguments could be advanced in support of it. Efficiency, economy, uniformity may all seem to be gained by the centralization of power. And yet we cling, and I think rightly, to the idea of local self-government, with all its diversity, bungling and apparent waste. And I venture to say that few here have much liking for the system of centralized authority. Now if this were the plan adopted by British co-operators their wholesale society would be owned by the members at large, and the retail societies owned and managed only as branches of the wholesale society. Efficiency, uniformity and economy of management might be urged for this system, and also the pooling of resources, and a corresponding insurance against local failure. I am convinced, however, that these alleged advantages are those of Germany before the war, and that, as with her, this system covers up vital weaknesses with an imposing outer garment. I believe thoroughly in the federal system, in the system of decentralized authority as opposed to that of centralized authority, in the democratic system, because, after all, the centralized system is not democratic. And in accordance with this conviction, I cannot help viewing with anxiety certain features of the recent branch store policy of this Company. I have already referred to one instance where this policy has, possibly quite accidentally, imported the element of competition into our co-operative movement, with grave danger to our ultimate success. But here I speak of the policy in its relation to democratic principles. Of course there are many co-operative features about it; and so far as I can see, we can easily remove the bad features without sacrificing the good ones. But we need to take stock of the situation and see the danger in time. I desire, therefore, to draw your attention to the following facts:

First: The Federal System has been tested and found good, and is, so far as I know, the system universally adopted in all countries where the co-operative movement has become firmly established. This is notably the case in Great Britain, where co-operation has grown steadily for seventy-five years until in 1917 its business amounted to \$1,124,568,976. It is also the system followed without exception, so far as I have been able to discover, in Europe. The centralized system has collapsed in many places where it has been tried; and where it has not yet collapsed it has not been in operation for a sufficient length of time to give it a thorough trial. Or, it may be, altruistic men have been in charge, and so the defects of the system have not become quickly apparent.

Secondly: The chain store idea, while it has been notably successful in some cases, from a capitalistic point of view, has made a poor showing from a co-operative point of view, and of this we have had sufficient experience on this continent to give us warning. I refer briefly to the following history of this movement in recent years.

The Saskatchewan Purchasing Company owned a number of branch stores a few years ago. But it had a short career, was wound up by its creditors, and involved creditors and shareholders in heavy losses.

The National Railway Association was formed in Canada a few years ago to open up branch stores at railway centres from coast to coast, depending on the subscription of local capital in the central association. The aggregate investment according to my information was between one and two hundred thousand dollars, which was practically all lost, the Association being wound up at Osgoode Hall. Thus the co-operative movement was brought into undeserved disrepute in many railroad centres.

The Householders' Co-operative Stores,

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WIDE STEEL TIRE
It's no trouble out what a set of you. Just write to us for a set of wide steel tires and you will find them full of life and full of life. To save your fields and homes.



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The world's rearing per cent. animals is held by deen-Angus at Other Aberdeen-Angus have dressed over several over 70%. I bet and show catt lots have dressed several times. The deen-Angus, usually cent. of edible meat the Hide," the stor

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Choice bred heifers Southd

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Have a few choi that would n headers; GEO.

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For sale. Ch for ALEX McKINNI

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Ottawa, for sale, Young bulls and bred sire even if Mr. "Grape Gran

32 bu ing; enou Fem; invit Arthur F. O'Neil & P

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APRIL 29, 1920

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Policy for the
Farmers' Co-
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Tudhope-Anderson

Wide Steel Wheels

It's no trouble at all for you to find out what a set of steel wheels will cost you. Just write us giving size of the axle or axle bearing on your wood wheel wagon, width, and diameter desired, and you will promptly receive order-blanks and full particulars about wide tire steel wheels for work about your farm.

To save yourself as well as your fields and horses, won't it pay you to look into this right away?

Made in diameters 20" to 60"; tire widths 3" to 10"; to fit any skein or bearing.

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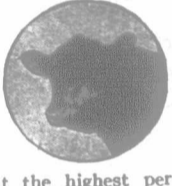
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The present string of young bulls for sale includes some classy herd bull prospects, winners themselves and sired by champions. If interested in Angus, write your wants. Visitors welcome.

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Angus, Southdowns, Collies
Choice bred heifers. Bulls 8 to 15 months.
Southdown ewes in lamb.

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Have a few choice Angus Bulls for quick sale that would make most desirable herd headers. Write for particulars.

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ABERDEEN - ANGUS BULL

For sale. Choice animals at choice prices for three weeks.

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Aberdeen-Angus "Middlebrook Abbot 2nd." a prize winner at Toronto and Ottawa, for sale, as have had 5 years—price \$500. Young bulls and heifers \$175 and up. Get a pure-bred sire even if herd grades. It pays. A. Dinsmore, Mgr., "Grape Grange" Farm, Clarksburg, Ont.

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12 bulls, serviceable ages; 5 by breeding; size and individual merit are good enough to head any pure-bred herd. Females of different ages. Inspection invited. They are priced to sell.

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Phone 27-12 Granton

Sunnyside Herefords—Herd headed by Brummel's Chance (Imp.), Champion at London and Guelph, 1919. For sale: Three bulls, 10 to 15 months old. MRS. M. H. O'NEIL & SONS, Denfield, Ont. R. R. No. 4. Phone 11derton.

Ltd., was launched about five years ago in Toronto by a couple of financial men. The ostensible intention was to operate a chain of stores in Toronto and other cities. A large amount of share capital was collected, several stores were opened, and then the scheme went smash.

One of the most pathetic failures of the chain store plan has been that of the institution founded by N. O. Nelson, of New Orleans, known as the Nelson Co-operative Association, Limited. Nelson had been a student of co-operation for many years; was well informed on the subject, and a co-operator by conviction, being much impressed with its moral and social, as well as economic value. He was, for many years, a personal friend of outstanding British co-operators, organized the model town of Leclare, Illinois, for his work people, and developed a great business at St. Louis and other centres in the United States for the manufacture of plumbing goods. He was a self-made man of great natural ability and a good organizer. Altruistic and strongly co-operative in character, he turned over his manufacturing undertaking to his work people and customers, on a co-operative basis, gradually releasing his invested capital therefrom by the surplus profits subsequently made. Then he went to New Orleans and invested hundreds of thousands of dollars in the Nelson Co-operative Association, Inc. He organized sixty-one retail stores, a wholesale warehouse, four meat markets, a creamery and a bakery, besides a big farm up the river for the production of food products. His aggregate turnover was around two million dollars annually. Nelson admitted the scheme was not co-operative in that he did not induce the people to co-operate, but his idea was that, as the development of true co-operative principles in the American people was slow, he felt that if he could successfully establish a chain of stores by his capital, energy and organizing and business ability, the people who were benefiting thereby would have sufficient common sense to continue them successfully, and through such experience be induced to continue them successfully, and through such experience be induced to become interested in the genuine co-operative movement for its own sake. The stores were conducted some six or seven years. They eventually absorbed all the resources of the erstwhile millionaire. The result was that Nelson lost every dollar of the money he had in these stores.

More recently the Grand Army of Canada proposed a chain food store system with a million dollar capital. In some places also the G. W. V. A. have become obsessed with the chain store idea, and campaigns have been undertaken to organize them. In both of these cases, however, the Co-operative Union is endeavoring to dissuade them from their plans, and to get them to co-operate with their fellow citizens in other occupations to organize general co-operative institutions and to develop the same intensively.

This recital is by no means encouraging, and should well make us careful. The same cause or causes possibly did not operate in all these cases; but from a co-operative point of view there are a number of fatal defects about the plan, some one or more of which usually bring disaster in time. These may be enumerated as follows:

1. This system tends towards the concentration of great power in the hands of a few men.
2. Although the essential principle of "one man one vote" may be nominally recognized it is difficult to make it operative because the members are too numerous and too scattered to be able to attend meetings and participate personally in the conduct of the society. The ally in the conduct of its accompanying delegation of powers with its accompanying dangers must, therefore, be resorted to.
3. Central management of local societies does not tend to develop local interest and local pride, nor does it train local men in the inception, direction and control of business. Sustained interest is, therefore, hard to maintain, since success is not developed. With the passing of the actual political power to the common people, the social value of this educational process cannot be over-estimated. In discussing the British Co-operative Movement with Mr. Henson, a director of the Co-operative Wholesale Society, who was in Toronto recently, a friend of mine was informed by him that

The DE LAVAL MILKER

Exclusive Advantages

The De Laval Milker is a distinctly different type of machine, positive and uniform in action. It is faster, more reliable and more sanitary than any other method of milking.

Among the many new and exclusive advantages in its construction are the following:

- Udder Pulsator, close to cow's udder—insuring uniform, snappy action of teat-cups.
- Pulsation speed cannot be adjusted or tampered with—always uniform and pleasing to the cows.
- No pulsator springs, washers or regulating screws—pulsator has only one moving part.
- Alternating action at fixed speed—the two front and the two rear teats milked alternately and uniformly.
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- Pulso-Pump—especially designed rotary machine, providing the vacuum and the mechanical control of Udder Pulsator.
- Sanitary design—every part is accessible, easily cleaned and sterilized. Many farms where the De Laval Milker is used market certified milk at top prices.

Write to nearest De Laval office for Milker Catalog, mentioning number of cows milked.

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No More Blackleg

Calves once vaccinated with Continental Germ Free Blackleg Filtrate are safe from Blackleg for life.

Write for Booklet, which contains valuable information on Animal Diseases, Breeding Tables, Horn, Training, Branding and Marking Appliances, and other stock subjects. It is free.

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Co. of Muscatine, Iowa, Products

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SOUTHDOWN SHEEP
CORRESPONDENCE and INSPECTION INVITED
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Halse Grange, Brackley, England
Exporters of all Breeds
of Pedigree Live Stock

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Great Village, Nova Scotia

BROOKDALE HEREFORD FARM

Young stuff for sale at all times. Visitors always welcome and met any time.
W. READHEAD, Milton, Ontario

Braeside Farm

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Two roans and one white, all "Crimson Flowers," and all sired by Augusta Knapton—115764—; ages 14, 12 and 11 months. All three are big, strong, sappy calves and in good condition and ready for work. Dams, Crimson Jennie 8th—80930—, Crimson Jennie 9th—94989—, Crimson Jennie 11th—107128—.

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Lord Lorne (21269)—Clyde

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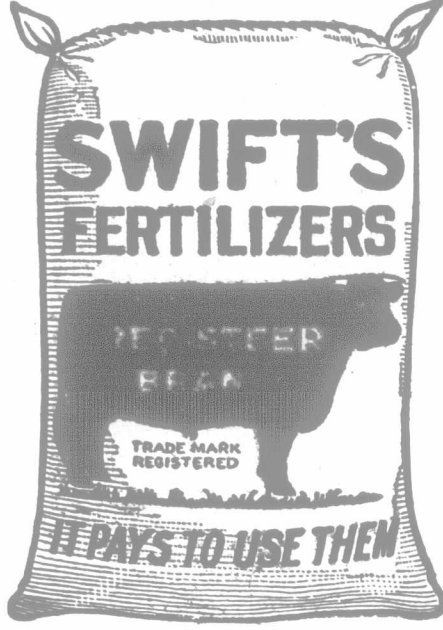
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- For Potatoes.** Five hundred to one thousand pounds per acre of Swift's Red Steer Fertilizer 3-8-3 or 2-10-2.
- For Spring Grain.** Two hundred to four hundred pounds Swift's Red Steer Fertilizer 2-8-2 or 2-12-0.

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Agents wanted in unrepresented territory.



DUAL-PURPOSE SHORTHORNS

Present offering: Six young bulls, Reds and Roans, also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

CHAS. GRAHAM - Port Perry, Ontario

Mardella Dual-Purpose Shorthorns

8 choice young bulls; 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butter-fat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or phone.

THOMAS GRAHAM, Port Perry, R.R.3, Ont.

Dual-Purpose Shorthorns—Herd sire, Darlington Major Maude = 101212 =, by Darlington Major = 91279 = (imp.); dam Lady Maude = 104585 = (imp.). For sale, 6 bulls, ages 6 to 13 months. R. H. & W. S. SCOTT, Box 231, Tillsonburg, Ont.

Dual-Purpose Shorthorns and Dorset Horned Sheep

Present offering: A number of 2-year-old heifers and some young bulls. Write, or come and see.

VALMER BARTLETT, Canfield, Ont.

R.O.P. Shorthorns

At Evergreen Hill Farm. One yearling bull by St. Clare = 84578 =, also a few yearling heifers.

S. W. JACKSON, - Woodstock, Ont.

Scotch Shorthorns

Herd headed by Master Marquis = 123326 =, by Gainford Marquis. Stock of either sex for sale. Also Oxford Down ewes.

GEO. D. FLETCHER, Erin, R.R. 1, Ont.

SPRUCE LODGE STOCK FARM

Shorthorns and Leicesters For Sale
Two choice young bulls, 6 and 11 months old, also one and two-year-old heifers, all got by Roan Chief Imp. = 60865 =.

W. A. DOUGLAS, Caledonia, - Ontario

Aberdour Shorthorns

We are offering our stock bull, Pioneer 89582, for sale; dark red, very active. Guarantee of service goes with him. This is one of the good bulls of the Province. Price \$300. G. Christie & Sons, Port Elgin. Bell telephone.

GRAND RIVER DUAL-PURPOSE SHORTHORNS

Herd headed by Prince Lavender 104449—dam gave 16,596 lbs. milk as 4-year-old
Present offering: 5 good young bulls. Some good bull calves coming on—dams now running in R.O.P. A few females to spare.

HUGH A. SCOTT, - CALEDONIA, ONT.

DUAL-PURPOSE SHORTHORNS

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Inspection of herd solicited.

WELWOOD FARM, - Farmer's Advocate, - London, Ont.

Reyburn Milking Shorthorns

ANNUAL INTERNATIONAL SALE
JUNE 9th, 1920, AT EUCLID, MINNESOTA, U.S.A.

Sixty head of choice milking Shorthorn cows and heifers, and five outstanding bulls

Address all correspondence to Palmer Farm, Euclid, Minn.
R. R. WHEATON :: :: A. E. PALMER

MILKING SHORTHORNS

Young stock from R.O.P. cows by imported sires.

BERKSHIRE PIGS

Choicely bred sows and boars, all ages. Can supply pairs not akin.

J. B. PEARSON, Manager - Credit Grange Farm - Meadowvale, Ont.

Shorthorn Herd

Sires Selling Quick—I have several young bulls left that must go out quick. All are of serviceable age—three are by Gainford King, a same sire that sired the \$3,100 junior champion heifer, sold in the Dryden-Miller sale. Write quick if you want them.

GEO. E. MORDEN, Oakville, Ontario

Irvin Scotch Shorthorns

Herd Sire, Marquis Supreme, by Gainford Marquis (imp.). We have at present three young bulls of serviceable age and one younger, all sired by our herd sire and from Scotch-bred dams. Good individuals and the best of pedigrees. Also pricing a few females.

J. WATT & SON, Elora, Ontario

Glengow Shorthorns and Clydesdales

Recently advertised bulls have all been sold. Sultan = 100339 =, and all bred to a Golden Drop bull; also several others somewhat younger. A real good yearling stallion, and mares all ages, in foal, will be priced right.

WM. SMITH, Columbus, Ont. Stations: Oshawa, C.N.R.; Myrtle, C.P.R.; Brooklin, G.T.R.

BLAIRGOWRIE SHORTHORNS

3 Imported bulls. 10 Imported females in calf or calf by side. 2 Scotch bred bulls. 5 Scotch bred cows with calves by side.

JNO. MILLER - (Myrtle C.P.R. and G.T.R.) - ASHBURN, ONT.

he attached as much, if not more, importance to the business and general education and the facilities for mental development the movement was giving many thousands of the masses of the people in the old land than to the economies it was providing through its industrial, commercial and financial organizations. On a moment's reflection one will appreciate the wisdom of this opinion. Throughout the world the people are awakening to their political power. Hitherto they have been unaccustomed to exercise it. Everywhere previously it has been in the hands of a political or a business class. If the common people are to exercise power wisely, it is necessary that they should be educated in public affairs and have experience in the transaction of big business. If power is exercised without knowledge or experience, disaster is likely to overtake popular parties and popular political policies. Such failures in the administration of public affairs must inevitably bring back the reactionists and retard progress. Apart from political administration the economic responsibilities of public bodies are being steadily increased. We are having more and more of compulsory co-operation applied in the township, province and nation, in the form of public ownership. By the cultivation of intelligence and responsibility along business lines through co-operative enterprises we can turn out men and women with the capacity necessary to do justice to the principle of public ownership. If business training for social purposes has been so advantageous to the British working men it would seem to confer an even greater service upon the Canadian farmer. The British working man co-operator is usually a hired worker without individual business responsibility. He does not, in the employment of his labor, have to make both ends meet. That is an obligation resting on his employer. The Canadian farmer is, however, a business man as well as a worker. It is to his personal interest to have a thorough training in orderly and economical business operations, and a general and comprehensive education in the transaction of big business. Under localized, direction and responsibility, and the numerous opportunities for expansion of a co-operative society, there is no reason why, at every retail trading point in Ontario, the co-operative society should not be the greatest and most comprehensive local economic institution.

4. Devotion and loyalty of local members, and good business management may fail to bring its natural results in profits, owing to the pooling of resources and losses. Thus local loyalty and efficiency, if not rewarded will be correspondingly discouraged. We have not yet reached the stage where we can depend wholly upon the altruistic spirit to develop thrift and efficiency; some reward for such virtues should exist. Moreover, there is serious injustice in taking the surplus profits of a well-managed society to wipe out the deficit in a society that is badly managed. And, even if there is an attempt made to return to each branch store the profit that its good management or good fortune may have created, what would happen if the losses sustained in some of the branches practically wiped out the aggregate surplus made in the better-managed or more successful branches? There would be nothing to divide and the gains of some branches would have to make good the losses in others, or these others would have to be abandoned.

I am quite aware, of course, that all the foregoing indictments do not apply to the chain store policy of this Company, but we are sufficiently close to danger to give some cause for anxiety.

The problem which faces us is, then, this: We must devise some plan for avoiding competition between co-operative societies, and we must decentralize the movement. And to solve this problem it seems to me that we should, as soon as possible, function as a real wholesale society serving the various retail societies that are now in existence or that may come into existence. And we should link up not only with retail societies organized by farmers but also with those organized by city working men. There is in this direction a golden opportunity just now, which may not be open very long, for the workingmen's societies are becoming so numerous that at any time they may form a new wholesale society for themselves. It is high time, therefore, that we turned our faces in this direction, and the

federal plan is meet the need. With respect suggest that all into the feder possible, and a all stock now reside near societies to With respect farmer's clubs to nearby retail were formed. clubs function stock could b And in accord I suggest that in the central proportion to and also that sent at gene society in like out the princip I suggest furt of this Comp wholesale soci carry on a reta served by loca special conditi societies and i scheme. In c could be no s being ca society on a as a local soci I am convi pany is broa to adopt som consolidating in this Prov seemly comp and that if, as the centraliz over the fede co-operation anticipate, b triumph for c will always b it. The fede all co-operat which will. Canada have as being opp in Imperial that we shou co-operative

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federal plan is the only one which will meet the need.
 With respect to the stock held, I would suggest that all retail societies entering into the federation acquire as soon as possible, and as completely as possible, all stock now held by individuals who reside near enough to the said retail societies to become members thereof. With respect to the stock now held by farmer's clubs it could also be transferred to nearby retail societies if and when these were formed. And meanwhile, so long as clubs functioned partly as retailers the stock could be held by them as now. And in accordance with this general plan I suggest that the amount of stock held in the central by the local societies be in proportion to the latter's membership; and also that local societies be represented at general meetings of the central society in like proportion, thus carrying out the principle of "one man one vote." I suggest further that the business policy of this Company be distinctly that of a wholesale society, and that it decline to carry on a retail business in those districts served by local retail societies unless under special conditions strictly fair to such local societies and in harmony with the general scheme. In unorganized districts there could be no objection to such retail business being carried on by the wholesale society on a retail basis until such time as a local society could be organized.
 I am convinced, that unless this Company is broad enough and wise enough to adopt some comprehensive policy of consolidating the co-operative movement in this Province, destructive and unseemly competition will soon develop; and that if, as a result of this competition, the centralized scheme should triumph over the federal one, real and democratic co-operation would be killed. I do not anticipate, however, such a complete triumph for centralization, because there will always be many who will not support it. The federal plan, however, will unite all co-operators, and it is the only plan which will. The organized farmers of Canada have placed themselves on record as being opposed to centralized control in Imperial affairs, and it seems to me that we should take the same stand in the co-operative movement.

Diseases of Bees.

(Experimental Farms Note.)

Bee diseases are of two kinds:—Diseases of the adult bee, which, happily, in Canada, have so far been of a transient nature because no effective treatment is known; and diseases of the brood, of which there are three, American foul-brood, European foul-brood, and Sacbrood.

Since each of these three diseases is treated differently, and since the first two cause great loss when neglected, it is important that every beekeeper should be able to recognize and distinguish them so as to treat the serious ones effectively and without delay.

The diseases affect the larva or worm stage of the bee. In American foul-brood, the larva, just after capping, becomes a coffee-colored mass which is so tenacious or viscid that it will rope out sometimes to a length of several inches if a tooth-pick be inserted into the cell and withdrawn, and it has an unpleasant glue-like odor. The mass dries down to a scale that adheres tightly to the lower wall of the cell. The capping of the cell containing the affected larva is usually discolored; it is often irregularly perforated, or it may be removed altogether.

In European foul-brood, most of the larvae are stricken before they are capped over. They lose their shape and collapse at the bottom of the cell, appearing as if they had been melted and turning to a light straw or gray color. The decayed brood has a slightly sour smell to which is sometimes added a strong odor of putrefaction. The mass ropes out either not at all, or but little, and the dried scale is easily detached.

In Sacbrood, the full grown larva lies stretched out on its back in the cell, discolored but with skin and shape intact. The juices of the larva are watery and contain curd-like particles.

American foul-brood is treated by shaking the bees into a clean hive containing frames fitted with foundation without any of the honey, and taking away the combs of brood and honey which contain the spores of the disease. The bees must not be allowed access to the honey unless it has been boiled for an hour, although it is fit for human use. The combs may be rendered into wax.



BEAVER BOARD



You can't expect Beaver Board results unless this trademark is on the back of the board you buy -

FOR BETTER WALLS & CEILINGS MADE IN CANADA

Renew, Repair, Reclaim without the dust and dirt

Yes, without the muss of a plaster job. Because the clear, clean panels of Beaver Board instantly cover up old cracked plaster and discolored wall paper. Because Beaver Boarding is as quick as it is clean. The whole job is done in an unbelievably short time.

It's done in a short time and done for all time—you'll never have to replace Beaver Board—It Cannot Crack—It lasts as long as the building.

This is the time for repair work. Order Beaver Board from your nearest lumber yard to-day. They will

deliver it or you can take it out yourself. You can do the work if it's a simple job or call in a local carpenter if greater skill is required.

In either event you can be sure of the Beaver Board result—provided you get genuine Beaver Board with the trademark plainly printed on the back of every panel. This mark is insurance for you as well as the dealer.

If you would like practical assistance in the planning of your repair work, write us to-day for a copy of our book "Beaver Board and Its Uses."

THE BEAVER COMPANY, LIMITED
 505 Beaver Road, Thorold, Ontario
 Timber operations at Frederickhouse and Charlton, Ont.
 Mills and Plants at Thorold and Ottawa
 Distributors and Dealers Everywhere

Pear Lawn Shorthorns, Hackneys and Yorkshires—One imported in dam Miss Ramsden bull, 14 months; one Secret bull, 12 months, imp. sire and dam; one Golden Rose bull, 6 months, imp. sire and dam; one bull, a Flattery, 12 months, imp. sire. A few young cows with calves at foot. One imported Hackney stallion, A 1; two Hackney stallions rising one year; one registered Clyde mare; also Yorkshires at weaning time. **HERBERT J. MILLER, Keene P.O., Ont.** Stations—Keene G.T.R., Indian River C.P.R. Peterborough County.

Spruce Glen Shorthorns—When in want of Shorthorns visit our herd. We have 80 head to select from—Minas, Fames, Flor-ences, Emlys, Red Roses and Elisas—good milkers; a few heifers for sale; also several young bulls of breeding age, thick, level, mellow fellows and bred just right. **JAMES McPHERSON & SONS, Dundalk, Ont.**

PUSLINCH PLAINS SHORTHORNS
 Five bulls for sale by Burnbrae Sultan -80325-.
A. G. AULD, R. R. 2, GUELPH, ONT.

Roan Bull—Calved April 23rd, 1919
 Sire, Chief Orator =122385 = (Imp.). Dam, Spring Beauty =138815 = (Imp.). Good enough in- dividually and in breeding to head a good herd. Could spare a few females.
J. T. GIBSON, Denfield, Ont.

20 Bulls—SPRUCE LAWN—100 Females—Clydesdales, Shorthorns, Yorkshires. Herd headed by Imported Golden Challenger 122384, a Rubyhill, bred by Earl of Northbrook, by Ascott Challenger, bred by L. De Rothchild. Special bargains in farmer's bulls. Cows and heifers in calf, yearling and heifer calves. Yorkshires either sex.
J. L. and T. W. McCAMUS, Cavan, C.P.R.; Millbrook, G.T.R. and P.O., Ont.

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

Maple Shade SHORTHORNS
 A dozen young bulls imported and my own breeding at moderate prices.
W. A. DRYDEN
 Brooklyn - - - Ontario

SCOTCH-TOPPED SHORTHORNS
 Three young bulls (red), for sale; thick, sappy fellows; also 6 thick heifers, 2 years old, bred to a Scotch Clementina bull. These will be priced right. Come and see, or address:
HENRY FISCHER,
 Bell 'Phone R. No. 2, Mitchell, Ont.

The hive should be disinfected by scorching.

European foul-brood is treated by introducing young Italian queens and keeping the colonies strong and well supplied with stores. This disease will spread very rapidly during a honey dearth in late spring and early summer. In severe cases, the colonies should be left queenless for one or two weeks before the Italian queens are introduced.

Sacbrood usually disappears after a few weeks and calls for no treatment.

The Use of Nitro-Cultures.

In the report of the Dominion Botanist for the year ending March 31, 1915, he says: "During the last month of the year," viz., December, 1914, it was deemed advisable for this division to prepare nitro-cultures of alfalfa, red clover and peas for distribution to the branch farms."

Such was the genesis of the present system of free distribution of nitro-cultures to farmers, began in the following season of 1916, and now entering its fifth year.

The branch Farms, by their example and reports, and the ocular demonstration to visitors given in the condition of their leguminous crops, started the demand of the farming public for these cultures, which it is our endeavor to stimulate, guide aright, and, to the best of our capacity, satisfy.

For the benefit of those farmers, who have not yet studied this question, we propose to briefly explain the term "nitro-culture".

Since the time of the Romans it has been known that the introduction into a crop rotation of a legume—that is, one of the plants belonging to the family Leguminosae of which the most important members from the farming view point are clovers, peas, beans, and vetches, somehow or other, greatly benefited other subsequent crops. It is only within the last few years that the explanation has been discovered.

The Legumes, as a family in the vege-

Burnbrae Shorthorns

Eighty-three years without change, we have been breeding Scotch Shorthorns. The foundations of many of the best herds in America were laid from our farms.

I am in a position to furnish you with the best in either sex that can be found. High-class young bulls for the breeder and the farmer. Cows and heifers of the finest breeding to start you right, and you cannot afford to start wrong. Every animal that I have sold in two years has been satisfactory, the most of them sold by letter. I can satisfy you with the best in what you want at a price that will give you a chance, and I will pay the freight or express to your station. Augusta Sultan = 93092 = one of the greatest living sires at the head of my herd. Write and if possible come and see, it is worth while. Post Office, Telegraph, Telephone and Station is Stouffville, Ont. 30 miles from Toronto.

ROBERT MILLER :: Stouffville, Ont.

A NEW IMPORTATION OF 40 SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT :: FREEMAN, ONTARIO
Burlington Jct., G.T.R., only half mile from farm.

Imported Scotch Shorthorns For Sale—three imported bulls, one yearling sire, also a choice two-year-old Orange Blossom of our own breeding and three well bred bull calves about year old. Would consider exchanging an imported bull for Scotch females.
R. M. MITCHELL, R. R. No. 1, FREEMAN, ONT.

Spring Valley Shorthorns—Herd headed by Sea Gem's Pride 96365. We have a number of good bulls for sale, including the Champion Ivanhoe 122760, and his full brother also, an extra well bred Rosewood, and others. Write for particulars.
Telephone and telegraph by Ayr. KYLE BROS., Drumbo, Ont.

Minster Farms—Holstein bulls fit for service for sale. Son of a 14,763-lb. 2-year-old dam, with 650 lbs. butter (in test again at 3 years old, milking higher and tested 4.4% butter-fat). Also a pair of bulls from untested sisters of our 18,864-lb. milk and 777.5-lb. butter, 4 year-old heifer (Marie Calamity Fayne). Dam of their sire has 19,500 lbs. They are choice bulls and priced right. For full particulars, write
R. HONEY & SONS, Dartford, Ont. (Hastings Station).

Cedar Dale Farm—The Home of Lakeview Johanna Lestrage, the \$15,000 sire—He is the son of the 38,06-lb. cow, Lakeview Lestrage, and is our chief sire in service. We are offering a few females bred to him, and also have a few bull calves sired by him at right prices. Other older bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker.
A. J. TAMBLYN, Cedar Dale Holsteins, (C.N.R. station one mile), Orono, Ont.

Cedarbrook Farm Holsteins

(Farm one-half mile from Inglewood Station C.P.R.—G.T.R.)
We are offering two young sons of Highland Pontiac Sylvia a 31,92-lb. son of Avondale Pontiac Echo. These are choice youngsters, ready for service and we guarantee satisfaction. Come and see them.
CEDARBROOK FARM :: INGLEWOOD, ONTARIO

table kingdom, generally bear on their rootlets small nodules or lumps, of the size of a pin head upwards. Microscopic study has shown that these nodules contain numerous small organisms, known as bacteria. These organisms belong to a particular group with a number of definite strains, each strain apparently confining itself strictly to a particular plant or group of plants. A long series of subsequent experimenting has proved that these bacteria convert the nitrogen of the air into a chemical form which the plant or group of plants can readily assimilate. The association, in short, of plant and bacteria is decidedly beneficial both to the legumes and the soil. The net result, at the end of the season, is a valuable addition of nitrogen to the farmer's field, at, practically, no expense.

Now "nitro-cultures" are simply collections of these bacteria ready bottled. The proper bacteria are isolated from all others, grown on artificial soil, consisting of a jelly made from an oriental seaweed mixed with chemical salts, and then bottled for sending out.

The farmer, when he receives the cultures, breaks up the jelly, shakes it up with some skim-milk or sugared water, and wets his seeds with the resulting liquid. This distributes the bacteria over the seeds, which, when dry, are sown; and, so, plant and bacteria are brought into intimate contact from the very commencement of growth.

Nitro-cultures are prepared by the Division of Botany for alfalfa and sweet clover, red and alsike clovers, and peas, and are put up in bottles containing sufficient bacteria for the treatment of about a bushel (60 lbs.) of seed. Cultures are supplied free to farmers on application to the Division of Botany, Central Experimental Farm, Ottawa, Ontario, on their stating the crop for which culture is required, and the quantity of seeds proposed to be treated. Only three such bottles in all, however, can be supplied to any one applicant.—R. A. Inglis, B. A., Assistant Botanist, Experimental Farms.

COMPLETE CLEARING SALE

Forty High-Class Holstein-Friesians

The entire Herd belonging to the Estate of the late Frank Boyle, selling at the farm 1½ miles west of
UNIONVILLE, ONTARIO, TUESDAY MAY 4th, 1920

To enlarge this sale, W. F. Elliott consigns six head

IF YOU WANT THE BEST OF FOUNDATION MATERIAL ATTEND THIS SALE

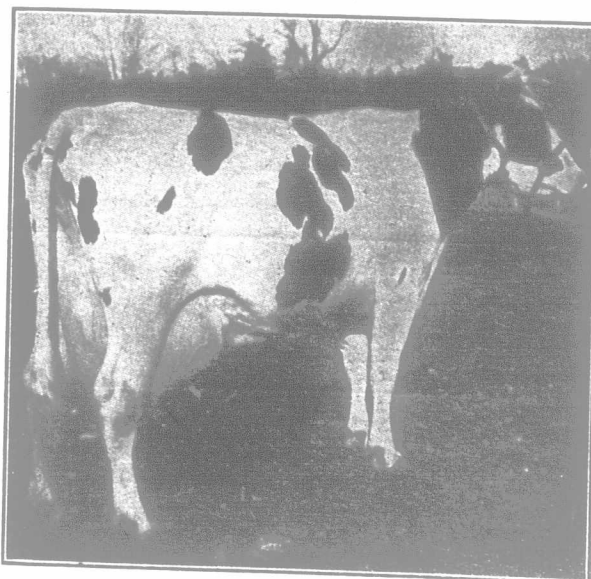
Included in the offering are:

TEN DAUGHTERS OF May Sylvia Pontiac Cornucopia

A great young breeding sire from a daughter of the breed's greatest cow May Echo Sylvia and sired by a son of K. P. Pontiac Lass the World's first 44.18-lb. cow. The daughters of this sire have won more money in the calf classes at Ontario Exhibitions than those of any three other sires combined. You can buy ten of his "best" in this sale.

EIGHT DAUGHTERS OF King Pontiac Artis Sylvia

This is one of the worth-while bulls used in this district during the past several years. He is sired by King Pontiac Artis Canada and his dam was that great 29.04-lb. cow Inka Sylvia 6th. His oldest daughters selling are 1916 heifers and they are all bred to either May Sylvia Pontiac



MAY ECHO SYLVIA
(The World's Greatest Cow)

If you buy this breeding you buy the best.

Cornucopia or Sir Echo Johanna Cornelius.

Sir Echo Johanna Cornelius (Brother to the \$106,000 bull)

This bull is sired by King Echo Sylvia Johanna who was also the sire of Carnation King Sylvia the \$106,000 calf. On the dam's side he is from a 32.26-lb. four-year-old daughter of Pietje 22nd son. His calves as yet are only youngsters, but the half dozen selling will be a feature of the offering. He with May Sylvia Pontiac Cornucopia has been the chief sires in service. The majority of the breeding females are selling safe in calf to the service of one or the other of these two sires.

At the same time the farm will also be offered by public sale, subject to a reserve bid. This is undoubtedly one of the best 175 acre lots in York County. Call and look it over before sale day.

For catalogues apply to

Mrs. Frank Boyle, Unionville, or W. F. Elliott, Unionville, Ont.

APRIL 29, 1920

Elgin Pure-bred Holstein Breeders' Club

60 SIXTH CONSIGNMENT SALE **60**
HEAD St. Thomas, Ont., Wednesday, May 12th, 1920 **HEAD**

Seven Bulls

Fifty-three Females

One a $\frac{3}{4}$ -brother to Woodland Banostine Colantha, 35.01 lbs. butter, 709.10 lbs. milk at 4 years. One by same dam as the above 35.01-lb. heifer. One by a 29.19-lb. 4-year-old sister of the above 35.01-lb. cow, sired by a son of Pontiac Korndyke Het Loo.
 Others from R.O.M. sires and dams.

Four females by same sire as Woodland Banostine Colantha, 35.01 lbs. butter in 7 days. Four daughters of King May Fayne, from a 34-lb. 4-yr-old dam. Seven others from same herds. A full sister to Fairview Posch, a 29.60-lb. cow, who sold for \$1,380. A 16.55-lb. jr. 2-yr.-old, whose full sister has a 4-yr.-old record of 20.88 lbs. butter in 7 days.



Space will not permit me to tell you all—so write for catalogue.

Fred. Carr, Pres., R.R. 8, St. Thomas, Ont.

E. C. Gilbert, Sec., R.R. 7, St. Thomas, Ont.

Remarkable Growth of the Mutual

For a life insurance Company there is no such a thing as old age. The older the company the more strength and energy it acquires, providing it has experienced normal and healthy development such as characterized the first half century in the life of Canada's only Mutual.

This Company was incorporated in 1868, organized in 1869 and began writing business in 1876. Its steady and consistent progress has been phenomenal.

The figures from the successive reports suggest almost limitless possibilities of expansion in the coming years.

The Mutual Life of Canada
 Waterloo-Ontario

Cream Wanted

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

ONTARIO CREAMERIES Limited
 LONDON ONTARIO

Thames Valley Farms

We have for sale—bull calf—splendidly marked, more white than black, whose dam is a daughter of Homestead Colantha Prince, son of Dutchland Colantha Sir Abberkerk—and by that great proven son of Rag Apple Korndyke 8th.

SIR WALDORF KORNDYKE
 The first \$60.00 takes him.
 B. B. McCarty Thamesford, Ontario

For Sale—Two registered Holstein bulls, one year old. Good size, fine type, perfectly marked, from our noted prize bull "Colantha Payne Butter Baron," 33.17 lbs. of Butter in 7 days. Your choice at \$160.00 for quick sale.
 M. & W. SCHELL, Woodstock P.O.

LABELS
 Live-stock Labels for cattle, sheep and hogs. Manufactured by the Ketchum Manufacturing Co., Ltd., Box 501 Ottawa, Ont. Write for samples and prices.

Glencairn Ayrshires—Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. Thos. J. McCormick, Rockton, Ont. Copetown Station, G.T.R.

Please mention The Advocate when writing

Questions and Answers. Miscellaneous.

Apoplexy.

I have a bunch of young pigs about nine weeks old. They did very well until a few days ago. I have been feeding pulped roots, shorts, and some corn chop. I have no milk. I noticed one day that some of them would grab a mouthful of feed and then fall back and struggle. After a time they would come around all right. Should I get rid of the brood sow?

E. R.

Ans.—This is a case of apoplexy. It is due to high feeding and lack of exercise. Your corn chop is a little too heavy feed for pigs of this age. When you have no milk it is a good practice to feed a little tankage in order to balance the ration. Purge each with 1 to 2 ounces of Epsom salts, and feed some finely-ground oat chop in place of the corn. See that the pigs get exercise. If the sow is a good one there is no reason why you should get rid of her. The trouble is in the feeding, not in the sow.

Gossip.

Robert Miller, of Stouffville, whose advertisement of Shorthorns appears regularly in "The Farmer's Advocate", writes as follows: "I believe in giving credit where it is due, and 'The Farmer's Advocate' deserves some credit for furnishing me with a lot of discriminating customers, and that is the kind I like. We have had a lot of splendid young bulls, and heifers for sale, as well as a number of cows, and the men who got in touch with me through the advertisement in 'The Farmer's Advocate' wanted just that kind, so that we have had a splendid trade and have added to our long list of customers many men who know the value of good sires and dams, and who are willing to pay a fair price for them. A great part of my trade has to be done by letter, and in every case I have had the most satisfactory replies. I intend that it should be that way, for it is worth more than ordinary profit and it pays that kind of profit too. Many men are finding that they must have better grade of cattle to use the expensive grains and grasses. We are deplorably short of good cattle and they are going away faster than we are breeding them. Nothing in the world pays better, and while they pay their breeders they increase the wealth of the country, improve the food supply and furnish at one and the same time the greatest necessities and luxuries that mankind can have."

EDITOR "THE FARMER'S ADVOCATE":

Your Christmas Number is my first glimpse of Santa Claus. It is good from cover to cover, and I think the article entitled "Our Country's Call" is worth the year's subscription price of your paper alone, not to mention your unexcelled "Hope" or Junia in the Ingle Nook. I wish you continued success.
 Huron Co., Ont. CHAS. H. KING.

Hamilton House Holstein Herd Sires

Our highest record bull for sale at present is a 4 months' calf from Lulu Darkness, 30.33 lbs., and sired by a son of Lulu Keyes, 36.56 lbs. His two nearest dams, therefore, average 33.44 lbs., and both have over 100 lbs. of milk per day. We have several older bulls by the same sire and from two and three-year-old heifers with records up to 27.24 lbs. All are priced to sell.

D. B. TRACY, Hamilton House, Cobourg, Ontario

Hospital for the Insane, Hamilton, Ont.

HOLSTEIN BULLS, ONLY, FOR SALE

Senior sire is from one of the best sons of King Segis Alcartra Spofford. Junior is grandson of the noted May Echo Sylvia, by Champion Echo Sylvia Pontiac.

Write to the Superintendent for prices, etc.

HOLSTEIN HERD AVERAGES 18,812 LBS. MILK

A herd of 13 pure-bred Holsteins last year averaged 18,812 lbs. milk and 638.57 lbs. fat. Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in **HOLSTEIN CATTLE** send for booklets—they contain much valuable information. **HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA** ST. GEORGE, ONT.
 W. A. CLEMONS, Secretary.

Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje), and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. Their youngsters should not remain long. Write to-day.

RAYMONDALE FARM, Vaudreuil, Que. D. RAYMOND, Owner, Queen's Hotel, Montreal

Cloverlea Dairy Farms Herd headed by King Pontiac Rauwerd who combines the blood of Canada's greatest sires and dams. His offspring are a choice lot. We have stock for sale, both male and female, 75 head to choose from. Consult us before buying elsewhere. Could book a few more cows for service to "King."
GRIESBACH BROS., L.-D., phone Collingwood, Ont.

HOLSTEIN HERD SIRES—I have at present several young show calves nearly ready for service; all of which are from tested dams and sired by my 30-lb. sire, Gypsy Pontiac Cornucopia. This bull is a grandson of May Echo Sylvia, and our entire offering in females are bred to him. Prices right.
JOSEPH PEEL, Fort Perry, Ontario

WALNUT GROVE HOLSTEINS

I am offering a choice lot of bull calves sired by May Echo Champion who is a full brother of world's champion May Echo Sylvia, also a few cows just fresh.
(Take Radial Car from Toronto to Thornhill) C. R. JAMES, Richmond Hill, R. R. No. 1, Ont.

Sylvius Walker Raymondale is the sire of the majority of our young bulls now listed. If you see these calves you will appreciate them. Their dams are mostly daughters of King Segis Pontiac Duplicate. Don't delay if you want a good bull at a right price. We are also offering females.
R. W. WALKER, & SONS, Fort Perry, Ont.

ELDERSLIE HOLSTEIN-FRIESIANS

Am all sold out of heifers, just have three bull calves left, from four to six months old. They are sired by Judge Hengerveld De Kol 8th, a 32.92-lb. bull. The dam of one is a 20.225-lb. cow. Write for prices and come and see them.
ARCHIE MUIR, Elderslie Farm, SCARBORO' P.O., ONT.

Summer Hill Holsteins—We have the best bunch of Holstein bulls ever offered at our farm. Their dams have records up to over 34 lbs. of butter in 7 days. All are sired by a bull with a 34-lb. dam. One is a full brother to the Grand Champion bull at Toronto this year. Prices reasonable.
D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.

HOLSTEIN BULLS FROM 30-lb. DAMS

If you want 30-lb. bulls—good individuals—and priced right—you should see my present offering. I also have lower priced bulls and am offering females bred to Ormsby Jane Burke. Correspondence solicited.
R. M. HOLTBY, Manchester G.T.R.; Myrtle C.P.R.; FORT PERRY, ONT.

"Premier" Holstein Bulls Ready for Service—I have several young bulls from dams with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.
H. H. BAILEY, Oak Park Farm, Paris, Ont.

SUNNYBROOK FARM HOLSTEIN SPECIAL

We are offering at a bargain price an 18 months' son of Sir Lyons Hengerveld Segis, the great 33.31-lb. son of King Segis. This calf is an excellent individual, well grown and his dam is Patricia Johanna DeKol 27.84 lbs. Don't delay if you want him.
JOSEPH KILGOUR (Sunnybrook Farms) NORTH TORONTO, ONT.

War is Declared
against the
SCRUB SIRE

AYRSHIRES
LEAD TO

PROSPERITY AND THRIFT

Let Your March be Upward with the AYRSHIRES
Not Downward with the SCRUBS

AYRSHIRE RECORD
10,330 lbs. milk
406 lbs. fat

SCRUB RECORD
342 lbs. milk
116 lbs. fat

TO IMPROVE YOUR HERD GET AN AYRSHIRE SIRE

TO LOSS AND THRIFTLESSNESS

Write Your Nearest
Ayrshire Breeder
or the
CANADIAN AYRSHIRE BREEDERS ASSOCIATION
HUNTINGDON, QUE.

10



A One-Man Job Now

—less labor, lower costs, and greater production. That's what

C X L Stumping Powder

has meant on my farm. Where I used a team of horses and an extra hired man for ditching and blowing out stumps and boulders, C X L Stumping Powder and one man do the work, and do it better.

C X L Stumping Powder means more land under cultivation, swamp land drained, dry land irrigated, better crops, larger fruit trees, and bigger profits.

"Explosives on the Farm" tells you how C X L Stumping Powder can be a help to you on the farm. Write today for free copy.

Dept. P

Canadian Explosives Limited

Head Office, Montreal

Halifax Toronto Sudbury
Winnipeg Vancouver



There is money in
Agricultural blasting.
Write for proposition. 4

Stockwood Imported and Ayrshires—Write me for your next herd sire. I have several youngsters at present sired by my own herd sire, Killoch Gold Flake (imp.) 51225, and from imported dams that are still in the herd. Call and see the kind we breed. Also pricing a few young cows safe in calf to herd sire.
D. M. WATT, St. Louis de Gonzague, P. O.

SPRINGBANK R. O. P. AYRSHIRES
Our Ayrshires win in the show ring and they fill the pail. We hold more present R. O. P. champion records than any other herd in Canada. Present offering, 9 young bulls seven months and under, all from high record dams.
A. S. Turner & Son, Railway Station, Hamilton Ryckman's Corners, Ont.

The Woodview Farm JERSEYS
London, Ontario
JNO. PRINGLE, Prop.

CANADA'S MOST BEAUTIFUL JERSEY HERD
Herd headed by Imported Champion Rower, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported prize-winning cows. Also some cows and heifers. Prices right. We work our show cows and show our work cows.

DAISY MEADOW STOCK FARM
PURE-BRED JERSEYS
Quality animals—Highest production with show type females of all ages for sale. Also bulls fifteen months and under from R. O. P. dams. This herd was the first in the Dominion to receive an accredited certificate from the Health of Animal Branch, Ottawa.
E. deF. HOLDEN & SONS
FRELIGHSBURG, QUEBEC.

Questions and Answers.
Miscellaneous.

Washy Horse.

I have a seven-year-old horse that scours when driven, and frequently when standing in the stable. He is fed timothy hay three times a day and half a gallon of oats—night and morning. What is the cause and cure for this trouble?
E. A. M.

Ans.—Horses of this kind are called "washy." It is due to faulty digestion, due to weakness of the digestive glands. Some horses are so strongly predisposed to the trouble that it is almost impossible to check it. Have his mouth examined again, and if necessary, his teeth dressed. Give him a laxative of 1 1/2 pints raw linseed oil. Get a mixture of equal parts of powdered sulphate iron, gentian, ginger, nux vomica and bicarbonate of soda and give him a heaped tablespoonful three times daily. Add to his drinking water one-quarter of its bulk of lime water and give him only small quantities at a time, especially if going to drive or work him. Endeavor to give in such quantities that he will consume about the same quantity three times daily. Feed on good hay and oats, hay in only limited quantity for each meal, and if possible give quite a limited amount if you expect to drive him shortly after a meal. Arrange so that he will get the bulk of his hay ration at night,

100 Sophie Tormentor Jerseys 100
At Auction, June 3, 1920

Register of Merit Cows, Bred Heifers, Heifer Calves,
Bulls Ready for Service and Bull Calves.

Descendants of the World's Champion Long-distance cow, Sophie 19th of Hood Farm; Hood Farm Pogs 9th, the champion sire, sire of 79 R.O.M. cows and 31 producing sons; Hood Farm Toronto, sire of 73 and 24 sons; Pogs 99th of Hood Farm, sire of 70 and 10 sons. The champion producing blood of the breed. Herd tested by U. S. Dept. of Agriculture Veterinarians. Shipment to Canada without quarantine. The catalogue tells the story—free on request to

HOOD FARM, INC. :: LOWELL, MASS.

BRAMPTON JERSEYS
THE LARGEST JERSEY HERD IN THE BRITISH EMPIRE

At Toronto Exhibition, 1919, we won twenty-five of twenty-seven first prizes. We now have for sale first-prize young bulls from R. O. P. dams, as well as females of all ages.

B. H. BULL & SONS :: Brampton, Ontario

Laurentian Producing Jerseys—The oldest bull we have at present is a year old youngster, sired by our herd sire, Broadview Bright Villa, No. 5630, and from Brampton Astoria, one of the best imported cows in the herd. We also have others younger of similar breeding, as well as a few bred heifers for sale.
FREDERICK G. TODD, Owner, 801 New Birks Bldg., Montreal, P.Q.
Farm at Morin Heights - F. J. WATSON, Manager

For Sale—Edgeley Golden Jolly, son of Queen 2nd—1st prize in 2-year-old in Bright Prince, a son of Sunbeam of Edgeley. We have him priced right for quick sale.
JAS. BAGG & SONS, EDGELEY, ONT.
(Woodbridge C.E.R., Concord G.T.R.)

DON HERD OF PRODUCING JERSEYS

We have the young bulls of serviceable age—good individuals and priced right. Could also spare a few choice bred heifers. Visitors welcome.
B. MURPHY & SON,
TODMORDEN, ONT.

with only a limited quantity in the morning and at noon.

Mature Sire.

Will using a year and half old sire year after year have a tendency to produce rather small and inferior stock as compared with the progeny of a well-matured sire?

2. Is it possible for our scientific agriculturists to cross sweet clover with alfalfa, thereby giving us a much harder legume?
P. B.

Ans.—1. It will have a tendency to do so. It stands to reason that the progeny of an immature sire will scarcely be as strong as that of a mature one, and if the use of an immature sire were continued for generation after generation; there would no doubt be a weakness in the cattle.

2. It is possible that the plants may be crossed so as to secure a hardy legume of the quality of alfalfa. Already considerable has been done with the selection of alfalfa to secure a hardy strain. This has met with success. Then there is a strain of sweet clover known as "Alborea" which many claim is of finer quality than the ordinary white-blossomed variety, and is thus more suitable for hay.

EDITOR "THE FARMER'S ADVOCATE":
My wife swears by your paper, and lectures me for being careless in paying.
Montreal, Que. W. ROBERTS.

If You Want Pork
Get a Pig

There is no other way to get the wise farmer's attention to pigs once they are on the farm.

The object of a pig is to get quickly and perfect digestion.

Gardiner's skimmer separates perfect milk from mother's milk on it and gives bringing quick results.

Sold in 25 lb. bags. If none, order.

GARDINER BROS.,

Feed Specialists,
SARNIA, Ont.

17

Large

Hardy, thrifty English Large breed for this country. Popularity brings more than other breeds and good stable prices. All also English.

LYNNORE

F. W. Brantford

YORK

Pigs of different breeds from

WELD

Farmer's Advocate

YORK

Small breeds once

David A. Ash

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A choice lot of gilt Young bo

Loelle Hadden,

Meadow Bro

service, from prize able for quick sale

G. W. MINERS.

Lakev

If you want brood any age, or you from prize-wi

JOHN DUCK.

Large Er

I can supply select and 4 sows, 4 m

F. L. ABBOTT.

TA

Young sows, bred boats for

JOHN W. TODD

Big Type Che

to Exhibitions, 1 805-lb. sows, and

JOHN

Shropshire Y

two lambs sired Two Clydesdale

W. H. PU

If You Want Fine Porkers, Use

Gardiner's Pig Meal

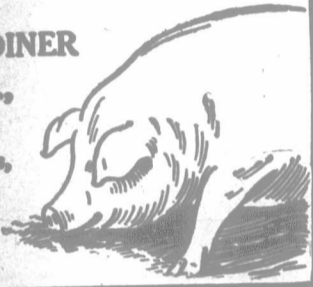
There is money in pork, and the wise farmer pays careful attention to feeding the little pigs once they are weaned.

The object is to fatten them quickly and yet maintain perfect digestion.

Gardiner's Pig Meal with skim or separated milk is the perfect substitute for the mother's milk. Pigs thrive on it and grow rapidly, thus bringing quick profit to the farmer.

Sold in 25, 50 or 100-lb. bags. If your dealer has none, order direct from

GARDINER BROS., Feed Specialists, SARINA, Ont.



Large Black Pigs

Hardy, thrifty and easy feeders, the English Large Blacks are a satisfactory breed for this country. In England their popularity brings higher prices for them than for other breeds at present. A bacon type and good size. Try them. Reasonable prices. All ages on hand at present.

Also English dual-purpose bulls. LYNNORE STOCK FARM F. W. COCKSHUTT Brantford - Ontario

YORKSHIRES

Pigs of different ages, both sexes, from large litters.

WELDWOOD FARM Farmer's Advocate, London, Ontario YORKSHIRES

At Westside Farm

Small pigs of "Weldwood" breed ready to ship; write at once. David A. Ashworth - Denfield, Ont.

Invergie Tamworths

A choice lot of gilts bred for June and July farrow. Young boars from 50 pounds up. Leslie Hadden, Box 264, Sunderland, Ont.

Meadow Brook Registered Yorkshires—Ten choice young boars fit service, from prizewinning stock. Prices reasonable for quick sale. G. W. MINERS, R.R. No. 3, Exeter, Ontario

Lakeview Yorkshires

If you want brood sows of any age, stock boars of any age, or young pigs, write me. All bred from prize-winners for generations back. JOHN DUCK, Port Credit, Ont

Large English Berkshires

I can supply select breeding stock, all ages. 2 boars and 4 sows, 4 months old, from registered stock. F. L. ABBOTT, Stanstead, Que.

TAMWORTHS

Young sows, bred for May and June farrow, and boars for sale. Write or phone. JOHN W. TODD - Corinth, Ontario

Big Type Chester Whites—We cleaned up at London and Toronto Exhibitions, 1919. Now offering pigs from our 805-lb. sows, and sows bred to our 1,005-lb. boar. JOHN ANNESSER, Tilbury, Ont.

Shropshire Yearling Ewes, bred to Bibby's 84 (imp.) ram and two lambs sired by him. Two Shorthorn bulls. Two Clydesdale stallions. W. H. PUGH, Myrtle Station, Ont.

Questions and Answers.

Miscellaneous.

Cubic Feet in a Ton of Hay. How many cubic feet are there in a ton of well-settled hay? A. R.

Ans.—It is generally estimated that 450 cubic feet will weigh out a ton.

Guinea Hens.

Where can I secure a pair of guinea hens? L. A.

Ans.—We do not know just at present of anyone having a pair for sale, but if you would place a small advertisement in our columns you would no doubt get in touch with someone having these for sale.

Old Oats.

1. Would you advise sowing oats that were grown two years ago? 2. Is it lawful for a man to marry his brother's widow? E. R.

Ans.—Yes, provided the oats have been properly stored. 2. No.

Removing Material From Farm.

A buys a farm from B who agrees to leave shingles which he had bought for house, also car and rope in barn. When B moves he takes the shingles and car and rope. Can B do this? G. W. F.

Ans.—If nothing had been agreed upon, B would have been at liberty to take the shingles, car and rope. As B took these materials after agreeing to leave them, it indicates that he is not man of his word. If this were a written agreement, or there was a witness to the agreement, A could force B to return these things.

Salting Cows.

1. Is it better to have salt where the cows can get it at all times, or to give it only at certain intervals? 2. I have been told to give cows carbolic acid. Is it a good practice? E. T. M.

Ans.—1. The best plan is to have salt where the cows can get it at all times. 2. It is not a practice to be recommended, although a very small quantity has in some cases been given. A cow that is in proper condition at time of freshening is seldom subject to this trouble.

Enlarged Fetlock.

1. My driving mare got struck on the front foot a year ago and the fetlock is enlarged. What can I use to reduce this swelling? 2. Where could I get a book on fox farming? M. J. D.

Ans.—1. Apply a liniment made of 4 drams each of iodine and iodide of potassium and 4 ounces each of alcohol and glycerine. If this does not effect a cure blister with 2 drams each of biniodide of mercury and cantharides mixed with 2 ounces of vaseline. 2. We do not know where a book on this subject could be obtained.

Moving Hay.

I moved on this rented farm two years ago. Lease is worded "all feed must be fed on farm." When we came there there was no hay. I had to buy some to feed my cattle until I could put them on pasture, so I bought four tons. Now I am moving this month could I be stopped from taking my four tons away, when I moved? E. P.

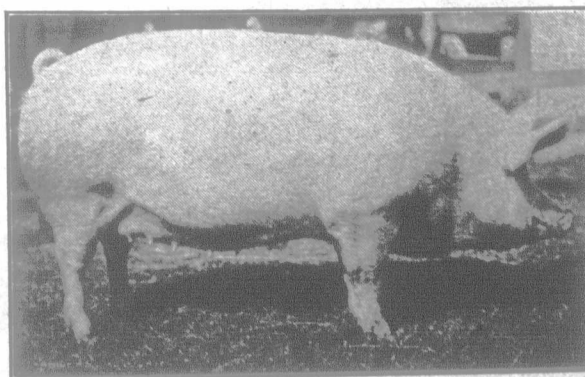
Ans.—I do not see that you can legally be prevented from taking your four tons of hay away provided you have paid the rent. I mention the matter of payment of rent in view of the possibility of the hay being distrained upon if you happened to be in default in that regard.

Cut Worms.

Last year my vegetables were largely destroyed by cut worms. If the seed were sown in the same place this year would it again be destroyed? H. D.

Ans.—1. It is probable that the worms may bother again this year. The treatment for cutworms in the garden is to ment for cutworms in the garden is to use the poisoned bran mixture. This consists of 20 lbs. bran, one quart molasses one-half pound Paris green and two to three gallons of water. This should be scattered thinly along the rows affected, as soon as the cutworm injury is noticed. It is important that the poisoned bran be scattered after sundown so that it will be in the very best condition to attract the cutworms when they come out to feed at night.

EARN A Pure-Bred Yorkshire



You can do this by sending 25 New, Yearly Subscriptions to

The Farmer's Advocate and Home Magazine

Each subscription must be accompanied by the sum of \$1.50, and when remitting, use Postal Note or Money Order.

These hogs are bred at "Weldwood" "The Farmer's Advocate" farm, and you can have your choice. Boar or Sow of weaning age. As the winners complete their lists, their names will be entered, and the pigs shipped in rotation, as they become ready for shipment.

PLEASE REMEMBER

Write plainly all names and addresses when sending subscriptions. Each subscription sent must be for one year, and must be that of a bona fide new subscriber.

Renewal subscriptions or changes of name from one member of a household to another do not count.

THE WILLIAM WELD CO. LTD., London, Ont.

Make That Lazy Loafer Lay

You can't afford to keep a lazy bird about the place. Every hen must be a producer if Canada is to do her share in meeting the world's demand for food.

Pratt's Poultry Regulator

is a guaranteed egg producer. Turns the lazy hens into steady layers. Keeps them everlastingly on the job. Starts the young pullets laying early, too. Mrs. Jas. C. Fortune, of Huntingdon, P.Q., writes: "We kept ten pullets over for winter laying. These we fed Poultry Regulator. On Nov. 30, we got our first egg. For the month of Dec. we got 131; for Jan., 206; Feb., 201; March, 221, making a total of 759 eggs from ten pullets. So far this month we have had 167 from only 8 hens, as 4 are set. We never had a hen before, and no proper place fitted up for them." Thousands of Canadian users of Pratt's are doing as well, or better.

Order Pratt's Poultry Regulator from your dealer in popular priced pkgs., or in money-saving 25-lb. pails or 100-lb. bags.

MONEY BACK IF NOT SATISFIED.

Write for FREE book on the care of Poultry. Also use Pratt's Animal Regulator. The Guaranteed Stock Tonic.

Pratt Food Co. of Canada, Limited 328L Carlaw Ave., Toronto.



ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed. H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO. Langford Station on Brantford and Hamilton Radial.

BERKSHIRES

—My Berkshires for many years have won the leading prize at Toronto, London and Guelph. Highficers and Sallys the best strain of the breed, both sexes, any age. ADAM THOMPSON, R. R. No. 1, Stratford, Ont. Shakespeare Station, G.T.R.



Crown Brand Syrup

2 lbs. EDWARDSBURG PURE CORN SYRUP

for COOKING BAKING CANDY-MAKING



Snowflake
THE FULL STRENGTH
Ammonia

Cuts grease with less rubbing
Softens water

10 cts.

S.F. Lawrason LONDON, ONT.

The H. C. of B.

is largely caused by waste resulting from spoiled cakes, pies and pastry.

Many people do not consider baking powder a very important ingredient in baking, whereas it is *most important*—Success or failure depends upon the powder you select.

EGG-O Baking Powder

helps keeps down the **HIGH COST OF BAKING**, because, first, it is sold at a reasonable price, and second, its double acting qualities absolutely assure perfect baking at all times. Always follow the directions on the label, you use less powder.

Buying Egg-O in the larger tins is most economical for family use.

Egg-O Baking Powder Co.
Limited
Hamilton, Canada



Boys and Girls—Do you want some money? You can earn it by acting as agents for THE FARMER'S ADVOCATE AND HOME MAGAZINE. Turn your spare time into money. Address: THE WILLIAM WELD CO., LIMITED, LONDON, ONTARIO

Our School Department.

Standard Varieties of Vegetables.

Soon it will be planting time for the hundreds of school gardens in the Province, and the following list of vegetable varieties is given to include those recognized as standard varieties by commercial and amateur gardeners alike. Appended also is a list of the different vegetables with the amount of seed or the number of plants necessary for a row 100 feet in length.

Artichoke: Red or white.
Asparagus: Palmetto, Conover's Colossal, Reading Giant.
Beans: Wax—Golden Wax, Davis White Wax. Green—Valentine, Refugee. Beets: Flat Egyptian, Detroit Dark Red.
Broccoli: Walcheren.
Brussels Sprouts: Dalkeith.
Cabbage: Early—Jersey Wakefield, Copenhagen Market. Main Crop—Glory of Enkhuizen, Short Stem Ball Head. Savoy—Chester Savoy, Green Globe Savoy. Red—Red Rock.
Cauliflower: Erfurt, Snowball.
Celeriac: Large Smooth Prague.
Celery: Early—Paris Golden, White Plume—Winter—Winter Queen. Red—London Prize Red.
Chives: Common.
Citron: Colorado Preserving.
Corn: Early—White Cory, Golden Bantam. Main Crop—Perry's Hybrid, Stowell's Evergreen.
Cucumber: White Spine, Improved Long Green, Chicago Pickling.
Dandelion: Improved Cabbaging.
Egg Plant: Black Beauty, New York Purple.
Endive: Moss Curled.
Horse Radish: Bohemian.
Kale: Dwarf Scotch.
Kohl Rabi: Carentan.
Lettuce: Grand Rapids, Nonpariel, Big Boston. Trianon—Cos.
Muskmelon: Paul Rose, Osage, Burrell's Gem.
Mustard: English White.
Onion: Seed—Southport Yellow Globe, Southport Red Globe, Denver's Yellow Globe, Red Wethersfield. Pickling—Silver Skin, Barletta. Green—White Welsh, Egyptian. Transplanted—Prize-taker.
Parsley: Champion Moss Curled.
Parsnip: Hollow Crown.
Peas: Early—Gradus, Sutton's Excelsior, American Wonder, Thomas Laxton. Late—Stratagem.
Peppers: Ruby King, Chinese Giant, Large Long Red.
Potatoes: Irish Cobbler, Early Ohio, Delaware, Early Eureka.
Pumpkin: Quaker Pie, Connecticut Field.
Radish: Ne Plus Ultra, Scarlet White Tip Turnip. Winter—China Rose, White Chinese, Round Black Spanish.
Rhubarb: Victoria, Linneaus.
Salsify: Mammoth Sandwich Island.
Spinach: Viroflay, Round Leaf Summer.
Squash: Green Hubbard, Golden Hubbard, Boston Marrow, Vegetable Marrow, Bush and English Marrows.
Swiss Chard: Silver.
Tomato: Red—Earliana, Bonny Best, Chalk's Jewel, Red Rock, Red Canner. Pink—Byron Pink, Imperial.
Turnip: Golden Ball, Early White Six Weeks.
Watermelon: Cole's Early, Peerless.

PLANTING TABLE.

Artichokes, 10 lbs.; asparagus, seed, 1 ounce; asparagus, plants, 50 plants; beans, bush, 1 pint; beets, 2 ounces; Brussel sprouts, $\frac{1}{4}$ ounce; cabbage, early, $\frac{1}{4}$ ounce; cabbage, late, $\frac{1}{4}$ ounce; carrot, $\frac{1}{2}$ ounce; cauliflower, $\frac{1}{4}$ ounce; celery, $\frac{1}{4}$ ounce; citron, 1 ounce; corn, sweet, $\frac{1}{4}$ pint; cucumbers, $\frac{1}{2}$ ounce; egg plant, $\frac{1}{4}$ ounce; kale or barecole, $\frac{1}{4}$ ounce; kohlrabi, $\frac{1}{4}$ ounce; leeks, $\frac{1}{2}$ ounce; lettuce, $\frac{1}{4}$ ounce; melon, musk, $\frac{1}{2}$ ounce; melon, water, 1 ounce; onion, seeds, $\frac{1}{2}$ ounce; onion, sets, 2 quarts; parsley, $\frac{1}{4}$ ounce; parsnip, 1 ounce; peas, 1 quart; pepper, $\frac{1}{2}$ 1 ounce; potato, Irish, 10 lbs.; pumpkin, $\frac{1}{2}$ ounce; radish, 1 ounce; rhubarb, plants, 33 plants; salsify, 1 ounce; spinach, 1 ounce; squash, summer, $\frac{1}{2}$ ounce; squash, winter, $\frac{1}{2}$ ounce; tomato, 25 50 plants; turnip, $\frac{1}{2}$ ounce.

Factors in Education.

In recent issues we have reproduced what the Ontario Federation of Home and School Associations considered important factors in education. Regarding the qualifications for trusteeship they express the following line of thought:

The Trustees.—Men and women possessing a vision of the significance of trusteeship; equipped as educational leaders and not mere followers of public opinion; anxious to provide equal educational opportunity for all the children of all the people; aiming to give every boy and girl, during their 'teen-age years, after they complete their elementary school course, a high school education in terms of their life needs; free from ideas of false economy; seeing the possibilities of the school as an agency for keeping the adult part of the community at school, through evening classes, lectures, debates and community gatherings; providing all necessary equipment and facilities and encouragement so that the teacher may do the best possible work; arranging for regular health inspection of the pupils, so that children may derive the greatest possible benefit from their opportunities.

The Inspector.—An educational leader as well as an inspector; a man or woman of wide reading and broad experience, of force and vision; practically acquainted with the progress of education in other provinces and countries; helpful to teachers; inspiring to pupils; and stimulating to trustee boards and communities; equipped to organize the progressive forces of his district for constructive advancement in education.

The Department of Education.—Encouraging, through progressive legislation and regulation, the best conditions for the democratic development of local enthusiasm, initiative and pride; providing the leadership that will stir communities to self-directed progress; supporting liberally, especially in the less prosperous districts, local effort to provide better schools or to initiate new lines of work, so that every community in the Province may be equally well served in education; outlining courses of study that will be elastic enough to permit of wholesome freedom; arranging for textbooks through which pupils and teachers may receive the most help and greatest culture; organizing the citizenship at large to put itself to school in night schools, reading clubs, debating societies, extension courses, etc.

The Home and School Association.—Co-ordinating and encouraging all the above agencies.

If you find plants or insects that are strangers to you, take them to your teacher and learn all about them. One should not, however, expect the teacher to know everything. There are many problems in nature that puzzle even the most learned professors and highly-educated people are learning new things all the time. Life is one continuous school and there is always a great deal that we never learn. Your teacher will help you to find out many things about animals, plants and insects—work together!

If a corn-tester has not yet been constructed and used in the school, the time is opportune now to carry on the work. In connection with your corn studies, read the article, "Selecting Seed Corn for Silage Crops," which appeared in the issue of April 1, page 611.

We hope you did not miss the Spray Calendar in the issue of April 1. This Calendar should be preserved at the school. It will guide you in caring for the school garden or home plots.

Start now to make a collection of plants and insects. The work is interesting when one becomes engaged in it and above all it is educational.

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Education.

We have reproduced the illustration of Home and considered important. Regarding the citizenship they express thought:

men and women possess the significance of an educational leader. Followers of public provide equal education for all the children of the land. We are going to give every boy and girl their 'teen-age years' in their elementary school education in a safe, free from ideas being the possibility of an agency for keeping the community at bay. We are holding classes, lectures, community gatherings; providing every equipment and arrangement so that the best possible work; health inspection of children may derive benefit from their

educational leader; a man or woman of broad experience, practically acquainted with education in other countries; helpful to pupils; and stimulates and stimulates the progressive for constructive action.

of Education. — Encourage progressive legislation for the best conditions for development of local pride; provide that will stir connected progress; especially in the local effort to provide initiate new lines every community in equally well served courses of study enough to permit of arranging for text-pupils and teachers help and greatest the citizenship at school in night debating societies.

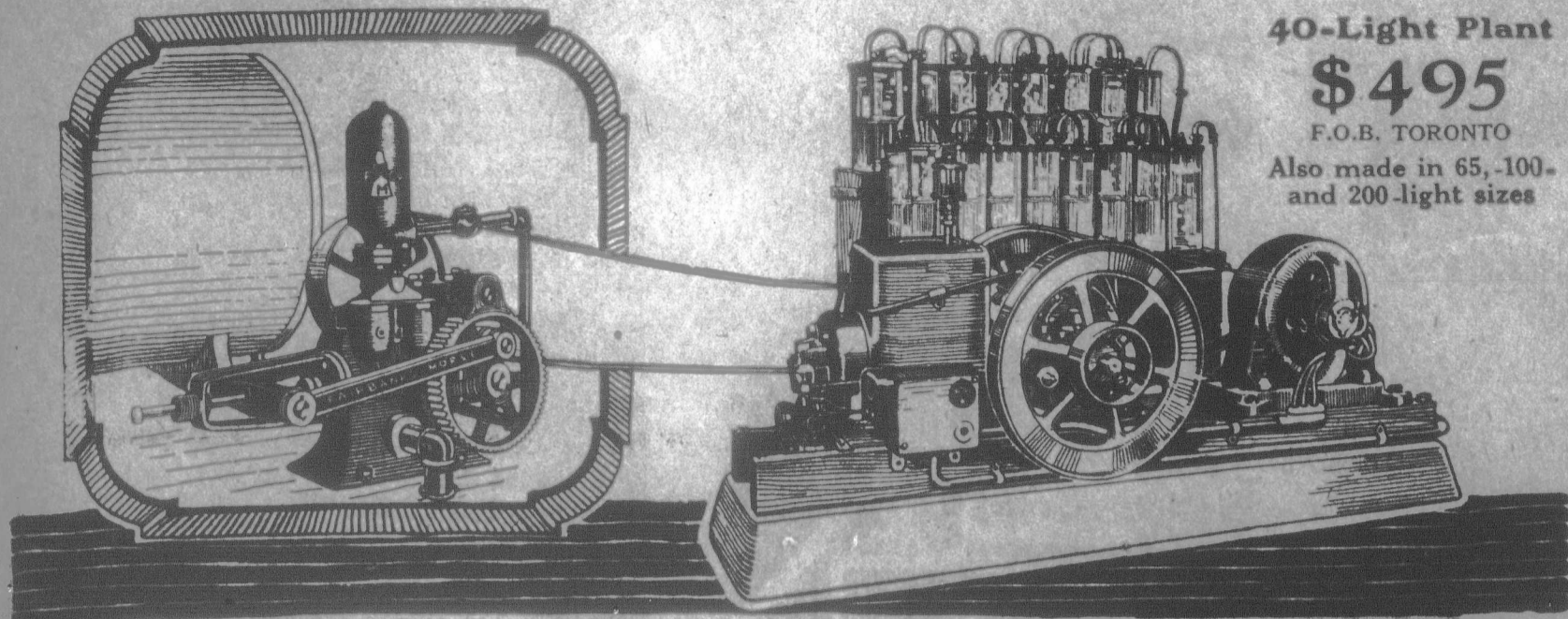
School Association. — Encouraging all the

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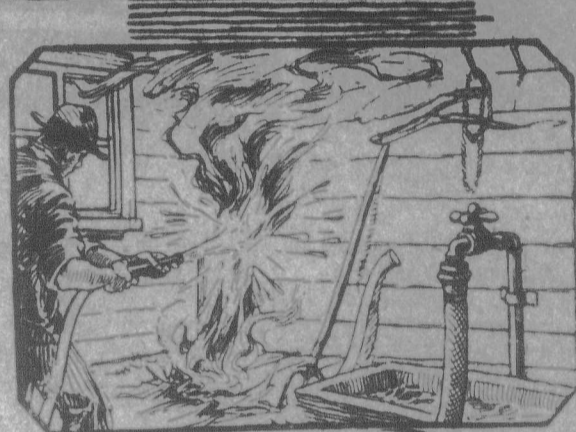
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