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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE  
SUCCEED  
FOUNDED 1879

Dairy and Cold Storage Commissioners Dept of Agriculture Dec 31, 20

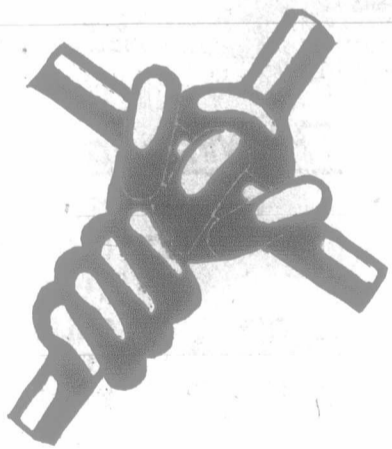
AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.

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LONDON, ONTARIO, MARCH 25, 1920.

No. 1435



## The Ontario Government recognizes the importance of fighting the weed evil. Read this:



"In the first place, I would say that all obstructions to cultivation, such as piles of stone, must be removed—hauled away to the woods or an out of the way corner in the winter or some other slack time. Secondly, places for harboring weeds, such, for example, as snake fences, should be got rid of as soon as possible....."

Extract from paragraph dealing with eradication of weeds, in Bulletin 188, "Weeds of Ontario," by Prof. J. E. Howitt, published by the Ontario Department of Agriculture.

### Weeds Do Not Thrive Under a Frost Wire Fence

You can drive the plow or mower within nine inches of a Frost Fence, and you can use the hoe or scythe right under a Frost Fence. You can thus quite easily get at the weeds and destroy them.

Every strand of the wire in Frost Fence is drawn and galvanized in our own mills, and has the qual-

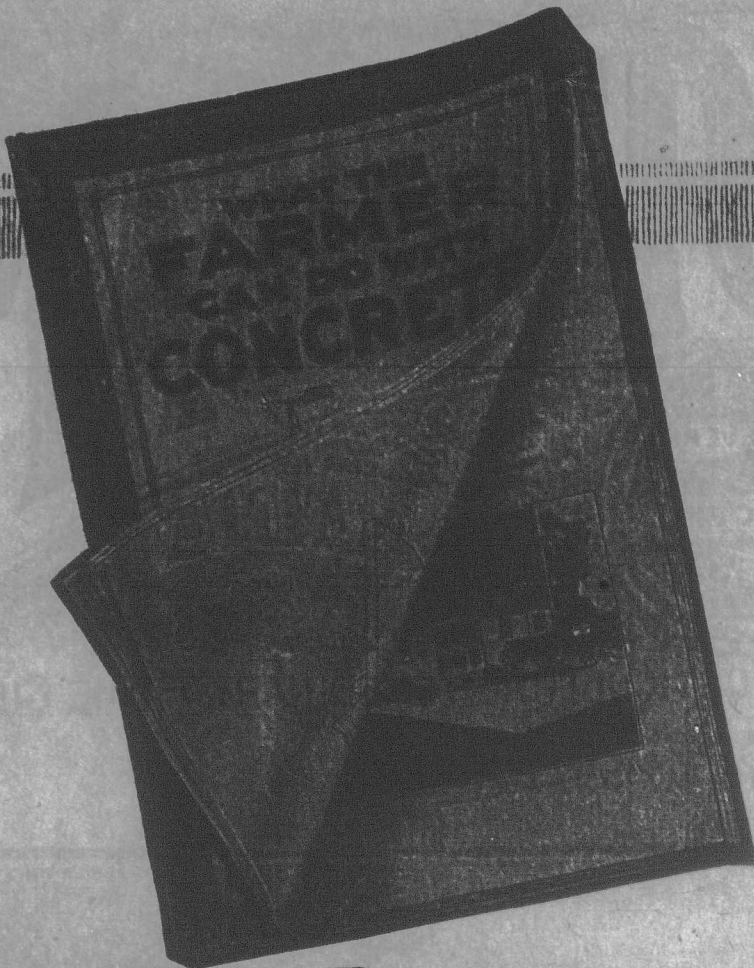
ity necessary to withstand the severe Canadian climate.

The Frost Tight Lock—look at it—is the strongest part of the fence. It assures long life for the fence, and keeps the wires firm and taut.

Haul away your snake fence. Put up a Frost.

### Frost Steel and Wire Co., Limited, Hamilton, Ontario

Manufacturers of Galvanized and Bright Wire, Hay Wire and Bale Ties, Woven Wire, Farm and Ornamental Fences, Galvanized Gates, Manufacturers' Wire Supplies. Write for Catalogue.



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That shows you how to make money and save labor

**T**HE hog is one of the best money-makers on the farm. Yet it is easy to lose money on hogs unless disease is prevented by cleanliness, unless parasites are controlled by sanitation, unless the feed bill is held down. These preventive measures are all accomplished by concrete improvements such as those described in our free book, "What the Farmer Can Do With Concrete." It tells, among other things, how to build a concrete feeding floor that does away with mud, disease and waste of grain. Such a feeding floor means more pork with less corn—

enables you to get 100% profit annually from your stock. Concrete feeding floors and barnyard pavements are simply several walks laid side by side. The materials necessary are "Canada Cement," sand and pebbles or broken stone. The cement can be obtained from a dealer near you—you likely have the sand and pebbles on your farm. Anyone can readily learn how to make and use concrete—our free book TELLS how, in simple, easily-understood directions.

CANADA CEMENT COMPANY LIMITED

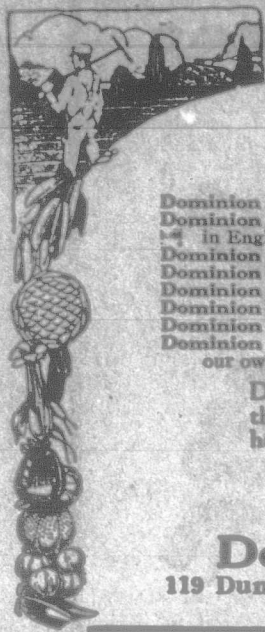
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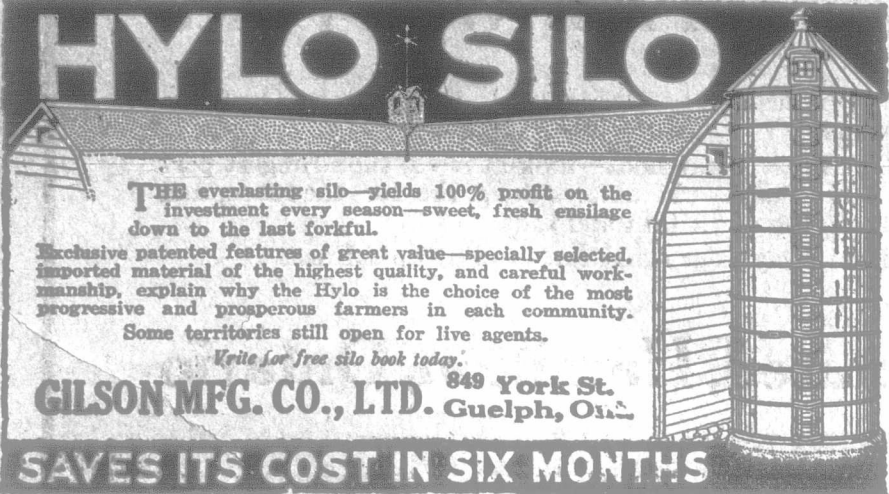
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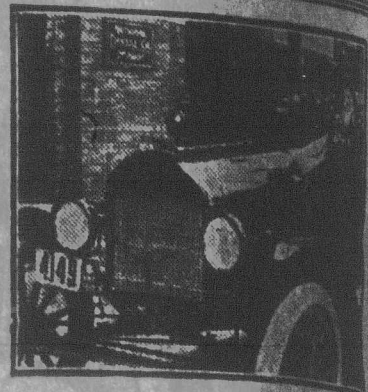
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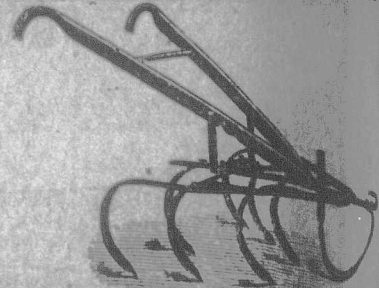
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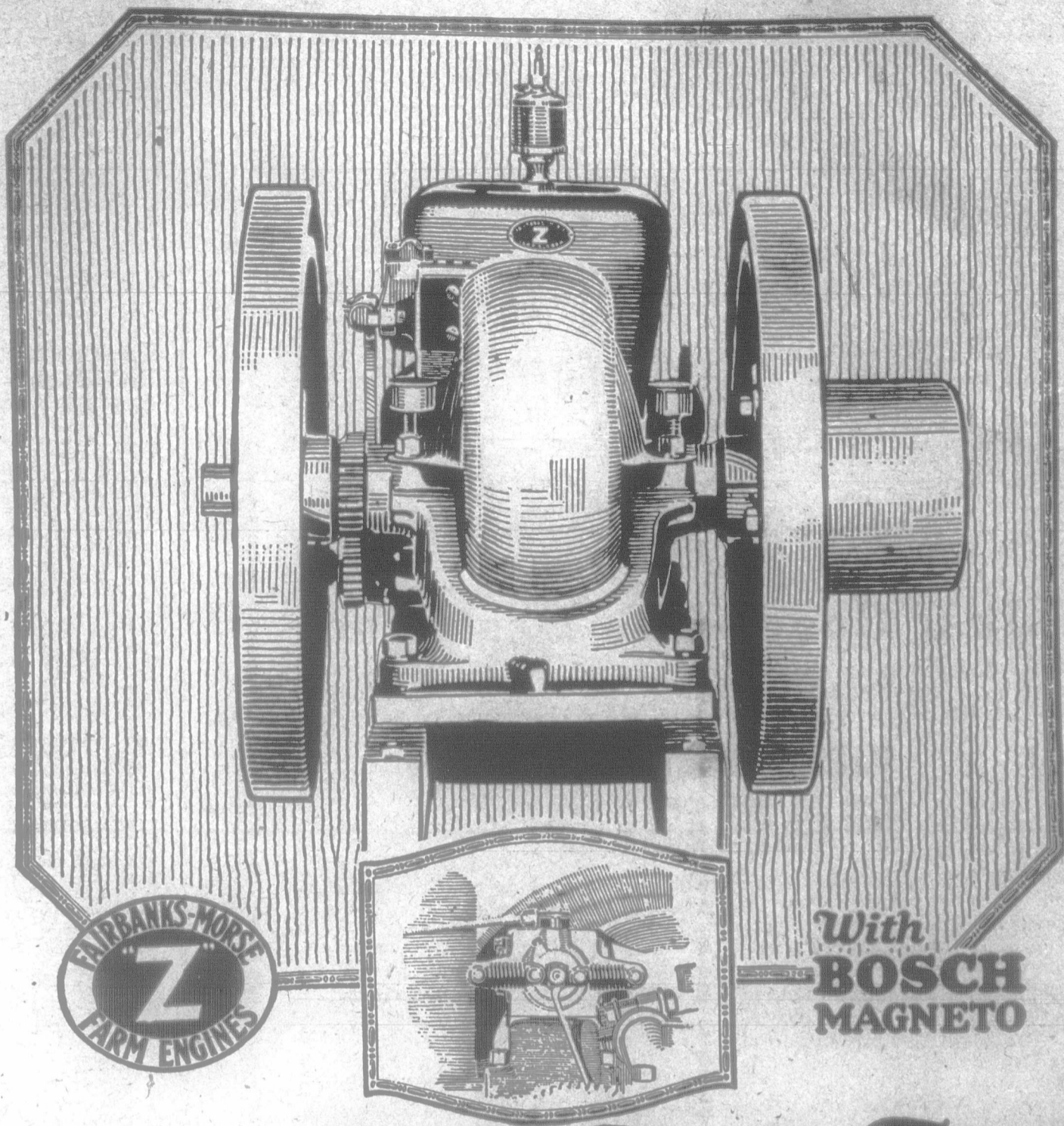
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JUST think of the famous "Z" Engine with a Bosch high-tension, oscillating magneto—which delivers a steady succession of hot, intensive sparks. Every farmer in Canada should at once call on the nearest "Z" Engine dealer and see the result of this recent epoch-making combination—FAIRBANKS-MORSE "Z" ENGINE WITH BOSCH MAGNETO. Mechanical perfection, plus power—and right price—to date sold the "Z" Engine to over 250,000 farmers. This quality and quantity production enabled us to contract for a large proportion of the extensive Bosch facilities for making this one possible "Z" betterment, which establishes a new farm engine standard. And all Bosch Service Stations throughout Canada will assist our dealers in delivering maximum engine service.

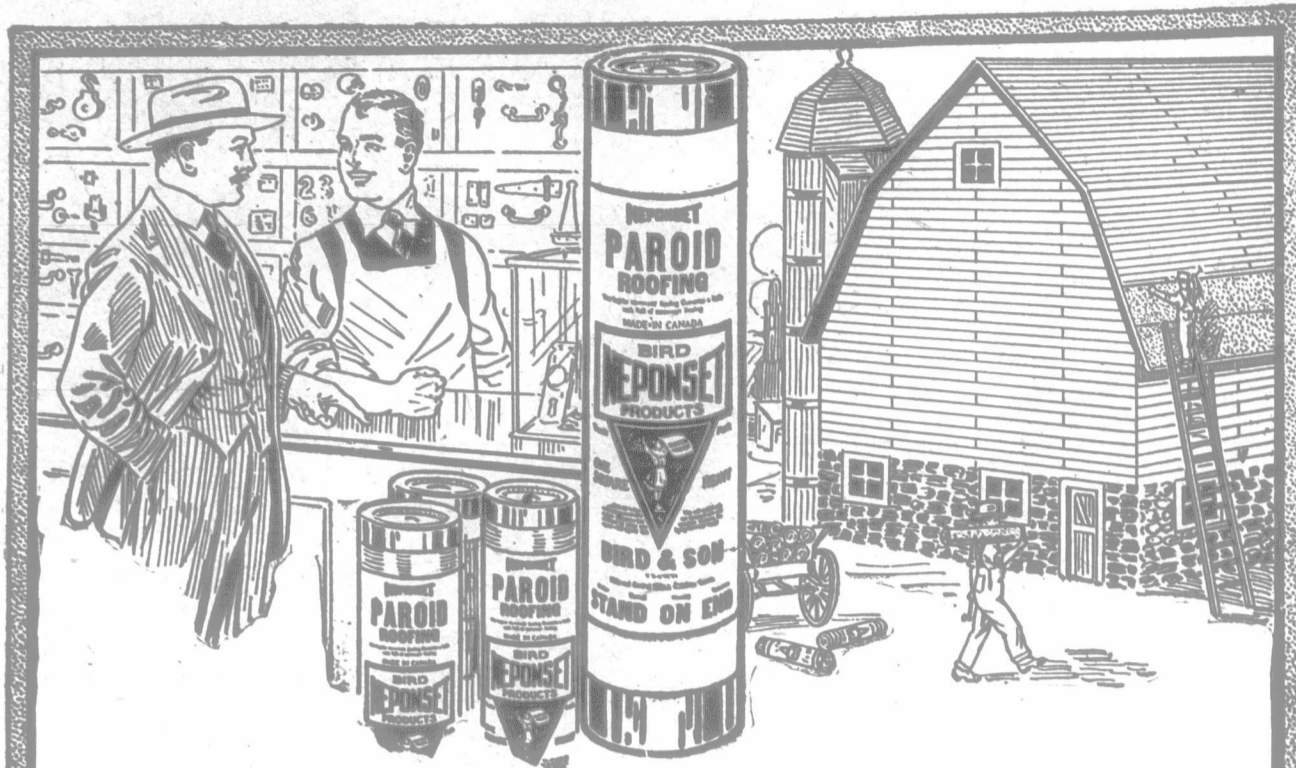
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provides a roof that is serviceable and long-lived. Lay a Paroid Roof to-day and forget it for the next twenty years or more. Before the roof needs repairs you will have spent far more than its original cost in repairs to other parts of the building. Hundreds of buildings throughout the Dominion of Canada conclusively bear out this statement.

The base of Neponset Paroid is a high-grade rag felt thoroughly impregnated

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It is further reinforced with a talc surface, grey in color; or with a permanent slate surface, red or green in color.

Roofed with Neponset Paroid you may rest assured that your buildings are perfectly weather-proof and sound.

Easy to lay—With every roll of Neponset Paroid is supplied sufficient nails and cement with full directions.

There is a Neponset dealer in your district. Write us for his name and a copy of our illustrated booklet "Roofing Canada."

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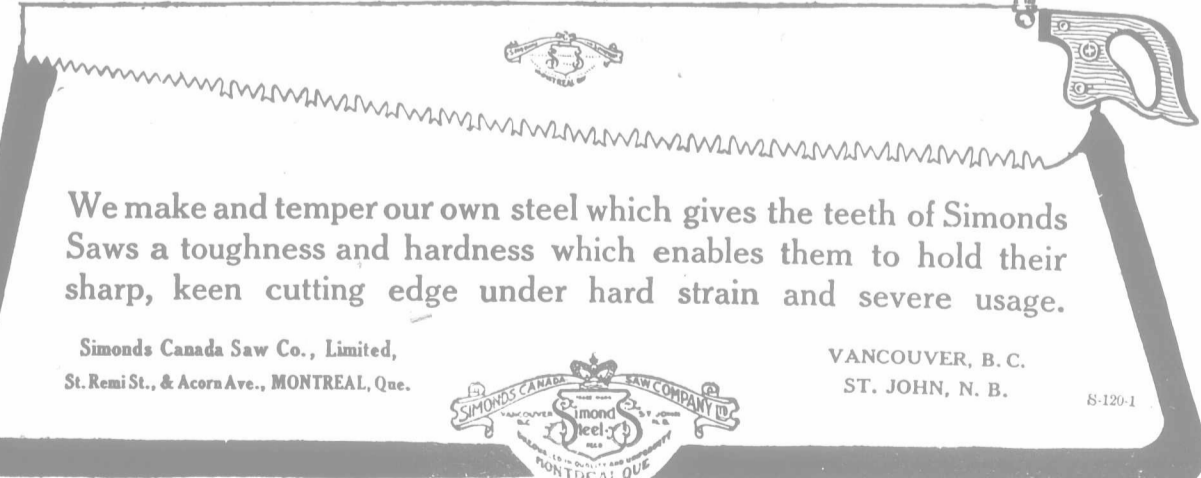
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THE FARMER'S ADVOCATE AND HOME MAGAZINE, London, Ontario

## "Sharp Point" Steel Posts

Don't break your back digging post holes. Don't waste your time replacing rotted posts every few years.

### NO HOLES TO DIG

You don't need to dig a post hole, because the ground end of a SHARP POINT POST drives easily. It bites its way down through the hardest soil in less than three minutes. It won't loosen or wobble under the weight of the fence, because the hole is exactly the same size as the post. No loose filled-in dirt around it to settle and let the post get shaky. In the time you are digging and setting a single wooden post you could put in ten SHARP POINT POSTS. On over two-thirds their length holes are punched in the post itself, close enough to take care of any spacing up to 50 ins. high.

### Sharp Point Posts Save Money, Time and Work

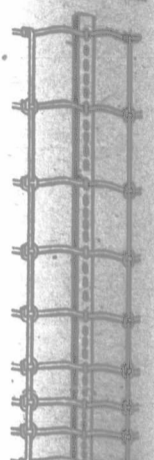
These posts cost little—if any—more than No. 1 Cedar Posts. They last at least twice as long. They can be driven in in one-tenth the time. They cut out the toughest work on the farm, digging post holes. SHARP POINT POSTS give you an All-Steel fence—stronger, better and cheaper than any combination of wood and steel.

SHARP POINT Steel Posts are made in two sizes, and costs as follows:

Standard— $1\frac{1}{2} \times 1\frac{1}{2} \times 6 \times 7$  ft. 4 ins. long, each....59c.  
Heavy— $1\frac{3}{4} \times 1\frac{3}{4} \times 3-16 \times 7$  ft. 4 ins. long, each....69c.

Freight paid on orders of 50 posts or more. Get my prices on Farm and Lawn Fences. Mail your order with Cash, Money or Express Order or Bank Draft to

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Delivery men and other outside workers who wear these coats keep warm and dry in spite of storms.

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Banner Oats (good sample), \$1.75 bush; 10 bush. or over \$1.65.  
O. A. C. 72, \$1.70 bush; 10 bush. or over \$1.65.  
Early Alaska (ripens with barley), \$2.25 bush; 10 bush. or over \$2.10.  
Peas, Golden Vine, \$3.75 bush.  
Black Barley, \$3.25 bush.  
Marquis Spring Wheat, \$3.00 bush.  
O. A. C. 21 Barley, \$2.60 bush. (good sample), 10 bush. or over \$2.50.  
Red Clover No. 1, \$48.00; Alysic No. 2, \$42.00; Timothy, No. 1 for purity, \$10.00 bush.; Sweet Clover No. 1, \$28.00 bush.  
Alfalfa, northern grown, \$38.00 bush.  
These prices are ex-warehouse, Guelph, and subject to change. Cotton bags extra, 65c. each; sacks 15c. Terms cash.

**Hewer Seed Co.**  
Guelph, Ontario

## Corn That Will Grow

Canadian-Grown Seed Corn  
Your money back if not satisfied

J. O. Duke - Ruthven, Ont.

Sharp Point Steel Posts

Save your back digging post holes. Save your time replacing rotted posts in a few years.

**HOLES TO DIG**  
Need to dig a post hole, because of a SHARP POINT POST. It bites its way down through soil in less than three minutes, or wobble under the weight because the hole is exactly the size of the post. No loose dirt, no settling and let the post get steady. You are digging and setting a post you could put in an instant. On over two-inch length holes are punched in the soil enough to take care of any 50 ins. high.

These posts cost little if any more than No. 1 Cedar Posts. They last at least twice as long. They can be driven in in one-tenth the time of the SHARP POINT POST. Give you an extra strong, than any wood and

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Seed Co.

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Grown Seed Corn back if not satisfied Ruthven, Ont.

Plenty of Reserve Power

The guaranteed power rating of the White-Allwork is away under what the tractor will actually deliver. The big motor—5x6 inches—larger, we believe, than used on any other 3-plow tractor—actually develops 32 H.P. at the belt. It delivers 19 H.P. at the draw-bar. We guarantee 14 H.P.

blower, or a 28-inch separator. The pulley is on a direct line with the crank shaft.

Put it on wet, heavy land or on rough land, and it has the power to go right along. Yet it weighs only 4800 lbs., won't pack the soil, turns in a 12-foot radius.

You know best what you are paying.

It is the sort of tractor you would expect in "The First Quality Line."

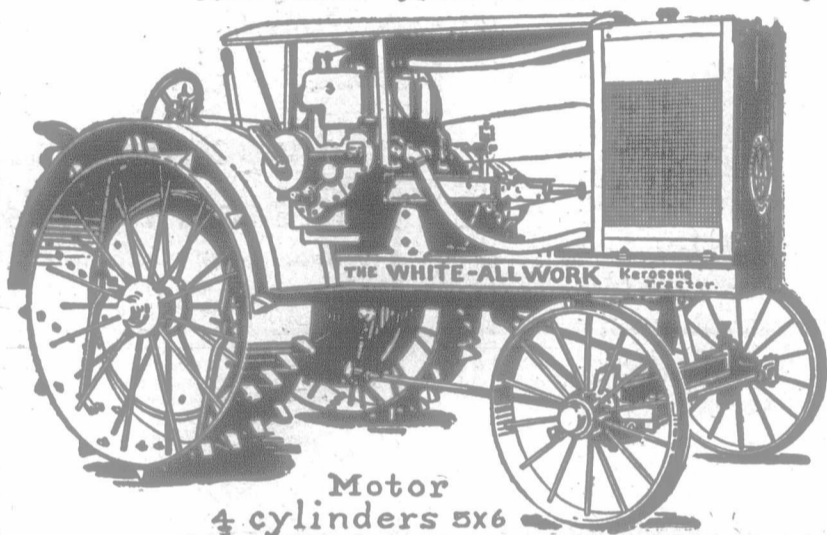
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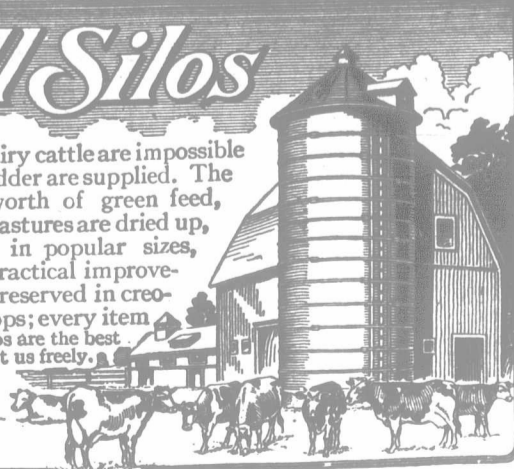
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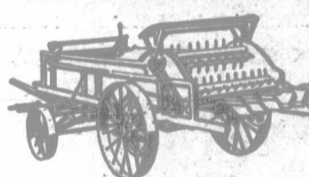
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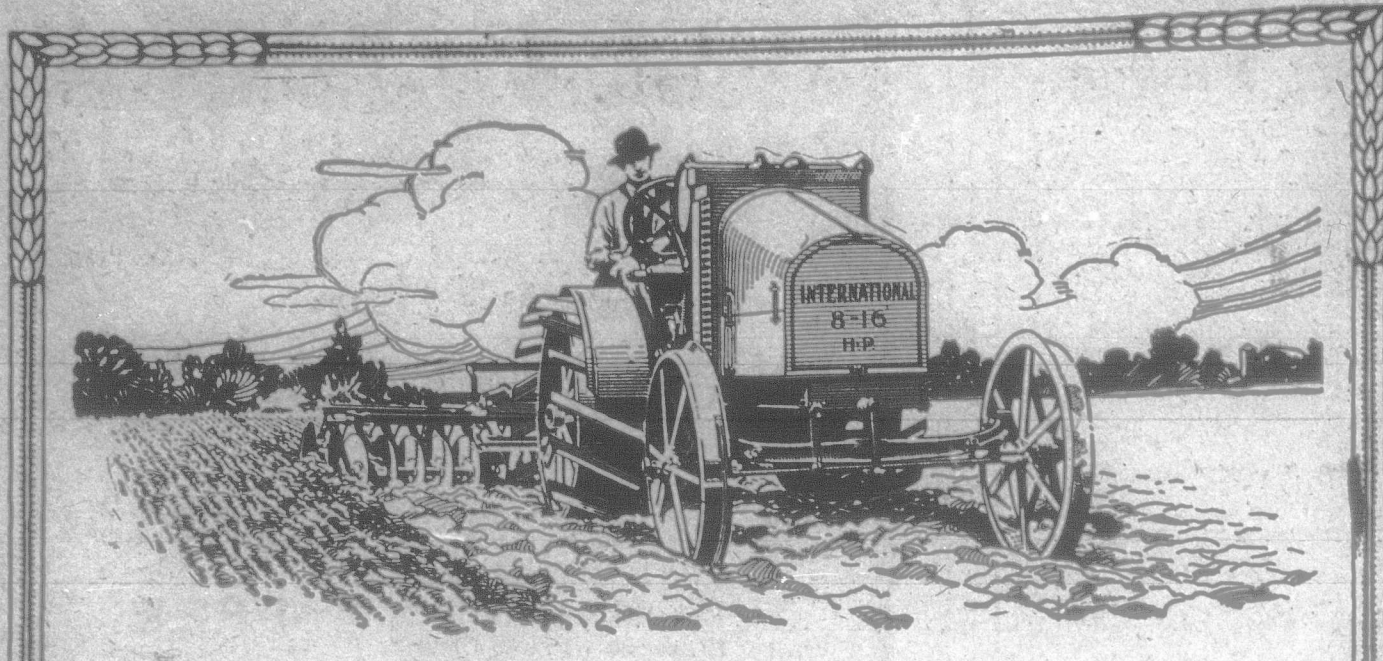
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**Y**OUR tractor should be a complete power investment. It should be one that can be used practically every day of the year, one that is 100% efficient, belt and drawbar.

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MAKERS OF POTATO MACHINERY,  
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DIGGERS and SORTERS.



Write for free book containing valuable data on potato growing.

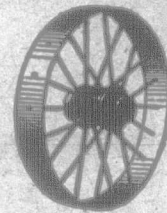
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### WIDE TIRE Steel Wheels

make your work easier

How much easier to load and haul around the farm with a low wagon that won't sink in the soft soil and spoil the ground or tire out the horses! There's a Tudhope-Anderson Wide Tire Steel Wheel for your truck-wagon.

Write us now for order-blanks and full particulars about wide tire Steel Wheels for work about the farm. Can be made to fit any skid or axle bearing—diameters, 20" to 60"; tire widths, 3" to 10".



We also manufacture Low Down Wide Tire Steel Wheel Trucks.

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BETWEEN MONTREAL, TORONTO, DETROIT AND CHICAGO

Unexcelled dining car service

Sleeping Cars on Night Trains and Parlor Cars on principal Day Trains.

Full information from any Grand Trunk Ticket Agents or C. E. Horning, District Passenger Agent, Toronto.

FARMERS! Order now if you want a set of "Cooke" Steel Wagon Wheels

Owing to the great scarcity of raw materials our factory will be able to fill only a limited number of orders this season. FIRST COME, FIRST SERVED. OUR WHEELS ARE MADE TO FIT ANY SIZE AXLE OR SKEIN. Satisfied customers in all parts of Canada cheerfully testify as to their labor-saving qualities and durability. They make a new wagon out of an old one at small cost. Write today for price list, illustrated circular and testimonials, together with order blank and free chart showing how to take measurements correctly. Remember we quote price delivered to your nearest railroad station.

THE COOKE METAL WHEEL COMPANY,  
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**Steel Wheels**  
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 Wheels for work about  
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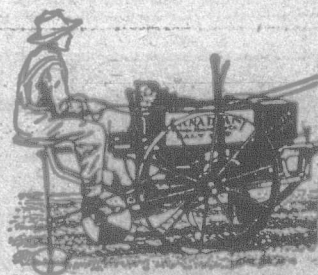
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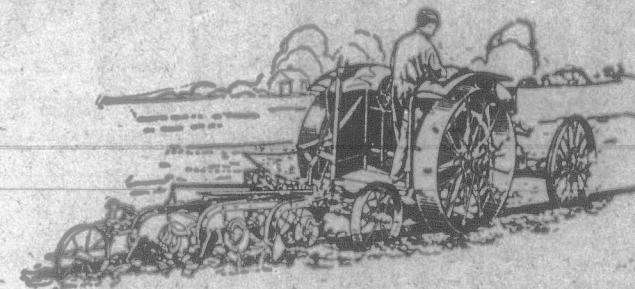


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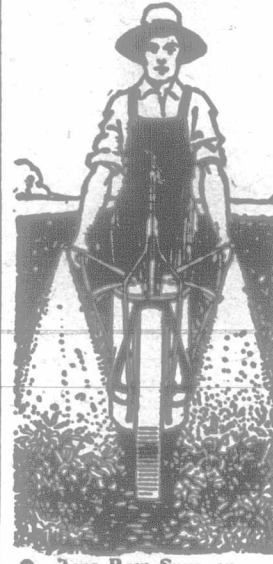
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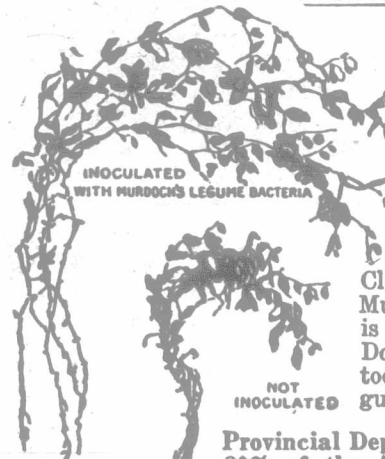
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# The Farmer's Advocate and Home Magazine

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LV.

LONDON ONTARIO MARCH 25, 1920.

1435

## EDITORIAL.

Banish the scrub bull—pure-bred or grade.

Immigration has begun in earnest; we hope it is hand-picked.

If weed seeds are sown one is likely to reap weeds. Sow only clean, first-quality seed.

Plan to have a garden this summer, producing all the vegetables required throughout the year.

The farmer has no control over the weather, but he can control the quality of seed sown and the tith of the seed-bed.

Germany has had a relapse. Prussia and the remnant of the once great German army still pine for the old domineering, monarchical form of Government of the "Me and Gott" kind.

Don't take eggs for setting indiscriminately from the whole flock. Select the best type and the best layers, mate them with a good bird and produce something better than the present average of the flock.

The recent break-up was welcomed in many districts where farmers had, for months, been drawing water to supply the house and stables. There is hardly anything more unpleasant than a water shortage, either summer or winter.

At a recent consignment sale, those standing at the ring-side could see lice promenading up and down on the shoulders of an animal led into the ring. We venture to say that the owner of that particular animal was not a good herdsman. Lice will infest pure-breds as well as grades, but they should not be allowed to victimize either.

Where you find the trustees, ratepayers and parents solidly behind the teacher and rendering support, you will usually find a well-conducted, successful school. Where the teacher is obliged to play a lone hand and meet opposition at every turn, the school is just an ordinary one like the thousands that dot the countryside. Failure is more frequently the fault of the section than of the teacher.

A small spark would create a terrible upheaval in the East where Turkey, Syria, Egypt, Afghanistan, and India may well be likened to a powder magazine. Mohammedanism, with its innumerable hordes of followers, might be quickened by one undiplomatic move and the world thrown into a conflict more disastrous, if possible, than the last.

Those who have delayed purchasing their clover seed may be shocked when they make up their minds to buy. Not only is the price high but the supply is very limited. The condition of the roads all winter made it impossible to move machines and get all the seed threshed. Those in need of seed should keep their eyes on the clover huller and watch where it goes.

The Provincial Minister of Education, Hon. R. H. Grant, would do well to keep his ear to the ground and give some heed to the demands which are being vibrated towards Toronto. The Minister has a very efficient staff, but they may not give sufficient attention to the wishes of those outside the charmed circle. The Department, in the past, may have been inspired, but the chiefs within the Department were never to be complimented for the tolerant way in which they considered the views of others.

## The Kapuskasing Adventure.

The investigation into the affairs of the soldiers' settlement at Kapuskasing has revealed the fact that the locality chosen is not tenable, and that the Ontario Government must in some way provide for those who, to a certain extent, are wards of the Province. Our forefathers, perhaps, would have made good, even under such handicaps as the members of this soldiers' settlement have struggled, but that has nothing to do with the present situation. Men and women in the colony of Kapuskasing have found the odds too great. They have lost what money they had when setting out on the wild adventure; they have explored, so to speak, a portion of the Province regarding which there has been undue optimism, and now to deal fairly with them another location or suitable employment must be found.

The Government would be warranted, we believe, in making a rather bold and generous adjustment of the whole matter, in order to relieve itself of any increased obligations to these people who have been wronged. The Soldiers' Settlement Scheme might possibly be resorted to in behalf of those in a position to qualify. Some no doubt, would, after their experiences, prefer employment in towns or cities, and in such cases the Government could work through the various housing commissions to provide them with homes. Still others when recuperated financially and otherwise, might prefer engagement on farms where separate cottages are available, and in pursuit of such locations the provincial machinery could be made use of. The people of Ontario, through its Government, must right themselves with this colony and the object should be to establish the various members according to their qualifications in some line of work, and with surroundings that will make it possible for them to work out their own destiny without too much Government supervision and support.

## Scrub Pure-Breds a Menace.

The campaign now in progress to eliminate the scrub or grade bull and replace him with a pedigreed animal must be conducted with no small amount of foresight and skill. The very act of doing away with the grade and putting something in its place that has no more than a pedigree to commend it will do the industry a more lasting harm than would a continued patronage of the scrub. At present, the pure-bred sire, on account of the yeoman service it has rendered in improving our breeds of all kinds, is looked upon with considerable respect, and farmers have not used him as freely as they might because of the erroneous impression that it would incur greater expense. When by persuasion the grade is replaced with a pedigreed animal, and on account of poor individuality or the lack of good inherent qualities he fails to leave better progeny than his predecessor, the pure-bred sire falls into disrepute and his failure destroys respect for pedigreed live stock in general. This is not theory. The situation above described exists in many localities already, where pure-bred sires have been brought in and have failed to make good.

The market for common bulls is rather quiet this spring, and it is possible that some of the poorer ones may be purchased by farmers to replace grades they have been using. Such would be unfortunate, for no pure-bred breeder would be sufficiently ardent in his advocacy of pedigreed live stock to argue that a poor pure-bred is any better than a good grade. Some of these scrub pure-breds foisted on to unsuspecting farmers are likely to create a bad impression, and establish a prejudice that will require another decade to break down.

Breeders should play the game fairly and unsex all poor males that are born into their herds. All horses bred from racing stock cannot go in 2.10, neither are 100 per cent. of the offspring of pure-breds up to the required standards of the various breeds. It is false economy trying to dispose of everything for breeding

purposes, and, if breeders and the advocates of scrub-bull elimination are not careful, there will be a reaction which will retard progress or perhaps turn the wheels backward for another ten years at least.

What has been stated should in no wise be construed as a blow at the pure-bred. The scrub bull should go, and good pedigreed stock should be allowed to demonstrate its wonderful and unquestioned influence in the improvement of our live stock. We heartily endorse the pure-bred, but will not hesitate to condemn the traffic in scrubs or misfits which, because of their pedigrees, are finding purchasers, ignorant of the worthlessness of the animals and the papers which accompany them.

## Things Are Not What They Seemed.

Post-war conditions in the meat trade are not coming up to predictions of the more optimistic prophets, who, one year ago, foresaw a hungry Europe clamoring for food and a much increased universal demand, based on the assumption that meat would occupy a more prominent place in the menu of those who at one time or another have been connected with the army. All this, no doubt, would have come to pass had it not been for certain and numerous unlooked-for circumstances that have influenced the whole trend of world commerce and trade. Weddel and Company, of London, England, who annually issue a very reliable report of the frozen meat trade, state in their summary for 1919 that, "Consumption has fallen off to the extent of thirty per cent. from its pre-war standard, and there were large stocks on hand at the close of the year which could not be marketed for lack of demand. The fundamental disability under which the community is laboring is the result of high prices rather than short supply."

The report then proceeds to condemn in no uncertain terms the British Government for continuing its food control regulations, and upon the Ministry of Food is unloaded a great deal of blame for the present unfavorable situation.

Regarding the situation on the Continent the report says: "What the countries of Central Europe might be capable of consuming, if meat were provided at a low cost, may have furnished a basis for some of the official estimates, but that is not a reasonable foundation on which to build. If full consideration be given to prejudices, transport difficulties, and inability to pay for meat, these estimates will have to be reduced materially." The summary is concluded with the following ominous and pessimistic statement from the producer's point of view. "With ample supplies available in the various producing countries, abundant freight space, a much curtailed consumptive demand in this country, and no material expansion in the continental inquiry, the outlook is full of menace to the producer and full of hope for the consumer."

These opinions should not create any undue pessimism among the producers of live stock on this Continent, but they are valuable in helping one to temper his judgment and direct his actions. The whole report is based on conditions which are exceedingly abnormal and at a time when the British Ministry is struggling with a system of food control that has evidently outlived its usefulness. Consumption has been reduced to an alarming extent the world over. With the channels of trade thrown open, allowing supply and demand to operate again there can be no doubt but what the situation will clear itself up in due time without any undue hardship to either producer or consumer.

Spring is here and peculiar to the season is a new crop of young things in the stables and pens. Make conditions right for the increase which annually takes place; and a little "watchful waiting," even if it does mean the loss of a few hours' sleep, is advisable at this time.

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

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JOHN WELD, Manager.  
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### Nature's Diary.

BY A. BROOKER KLUGH, M. A.  
Birds on the Farm—3.

One of the prime requisites in attracting birds about our homes is the provision of suitable nesting sites. The requirements of the various species in this respect are very different. Many species, such as the Warblers, Chipping Sparrow, Catbird, Brown Thrasher, Song Sparrow, Cuckoos, etc., etc., require bushes in which to build; others such as the Oriole, Vireos, American Goldfinch, Hummingbird Purple Finch, Junco, and some of the Flycatchers need trees in which to construct their nests, while the Bluebird, House Wren, Tree Swallow, Nuthatches, Chickadee and the Woodpeckers require cavities in dead trees or hollow limbs or some other cavity, as nesting sites. Some species, such as the Robin, Phoebe, and Barn Swallow need only a ledge of some kind as a support for their nests, and hence these species are most readily accommodated about our buildings.

If we are to be successful in attracting the birds about our houses we must recognize that the great majority of species need cover into which they can retreat to escape their enemies, and also as shade and as shelter from winds and violent rain. Such cover is best provided by a thick growth of bushes and vines near the house, or by dense hedges. Where such cover does not already exist it must be planted, and where it does exist it is advisable to add to it certain species which are, by reason of the fruits they produce, particularly attractive to birds. Some of these species are doubly valuable as they not only attract the birds but they furnish early-ripening fruits which are preferred by the birds to cultivated fruits, such as cherries, and thus prevent depredations upon those fruits we wish to reserve for our own use. The species of small trees and shrubs which are thus of double value are the Shadbush (*Amelanchier canadensis*), the Red-berried Elder (*Sambucus racemosa*), the White Mulberry (*Morus alba*) an introduced species, the Bird Cherry (*Prunus pennsylvanica*), the Red Osier Dogwood (*Cornus stolonifera*) and the canes of the Red Raspberry (*Rubus idaeus*) and the Blackberry (*Rubus villosus*). There are a great many other species which furnish fruits later in the season and during the winter, which should be included in our thicket, but we shall treat of them when we discuss the matter of winter feeding.

Perhaps the greatest success in attracting birds is to be effected in the case of those species which normally nest in cavities in dead trees and in hollow limbs. Stubs and dead trees about the house do not appeal to our sense of beauty, nor are they safe, while the thrifty farmer removes all dead limbs from his orchard. Consequently such birds as the Chickadee, the Nuthatches, Bluebird, Tree Swallow, House Wren and the Woodpeckers, have to resort to the woods to find suit-

able nesting sites. They may, however, be induced very readily to breed in the vicinity of the house if nesting boxes are provided for their accommodation.

The more elaborate and ornamental a bird-box is the less likely it is to be tenanted. Such a simple box as shown in figure 1 is acceptable to many species, but the best kind of bird-box is that known as the Berlepsch box, shown in figure 2. This box is a short log, with the bark on, which has been split, hollowed out and an entrance drilled, fastened together, and an over-hanging cap nailed on it.

The dimensions in inches, of boxes for the different species should be as follows:

	Diameter of Chamber	Depth of Chamber	Size of Entrance
House Wren.....	4	6	$\frac{1}{2}$
Chickadee.....	4	8	$1\frac{1}{8}$
Nuthatch.....	5	8	$1\frac{1}{4}$
Tree Swallow.....	5	6	$1\frac{1}{2}$
Bluebird.....	5	8	$1\frac{1}{2}$
Flicker.....	7	16	$2\frac{1}{2}$
Screech Owl.....	8	15	3

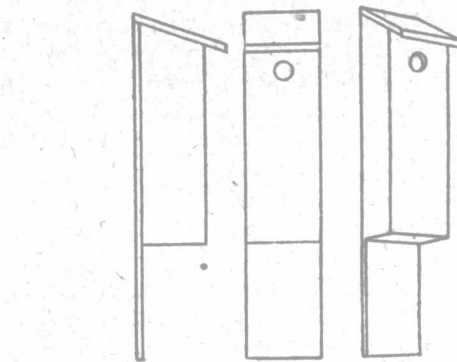


Fig. 1—A Simple Bird-box.  
Drawing by P. A. Taverner.

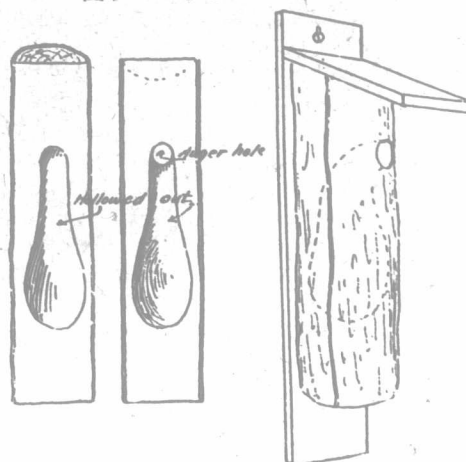


Fig. 2—A Berlepsch Bird-box.  
Drawing by P. A. Taverner.

As some species do not carry in any nesting material but rely for this upon chips which fall on the bottom when they are excavating the cavity, it is best to place 2 table-spoonfuls of sawdust in the bottom of the boxes with chambers 4 or 5 inches in diameter and five table-spoonfuls in the larger boxes.

Nest boxes may be hung at any time in the year, but the best time is in the autumn before the leaves fall, as then one can judge better as to the suitability of the location than in spring where the trees are bare, and the boxes are sure to be ready for the spring.

The boxes should not be hung in a very shady place, such as in the middle of a tree, for the dead stubs and hollow limbs which the birds would naturally use are never densely shaded, but are usually quite exposed. They should be hung on the trunk, on upright branches, or on the under side of sloping limbs.

The best heights at which to hang nest-boxes for the different species is: Bluebird, 5 to 10 feet, Chickadee, 6 to 15 feet; House Wren, 6 to 10 feet, Tree Swallow, 10 to 15 feet; Nuthatch, 10 to 15 feet; Downy and Hairy Woodpecker, 15 to 25 feet; Flicker, 10 to 20 feet; Screech Owl, 10 to 30 feet.

(To be continued.)

### The Evolution of the Plow.

BY ALLAN MCDIARMID.

Probably none of the poets will object if I twist the words of one of them a little and say,

Spring is the time the farmer's fancy  
Once more turns to thoughts of plows.

The time of year has come when the man who "feeds them all" has again to think of doing his share towards providing the world with the means of existence for another twelve months. And the first thing to be done, if he wasn't beforehand enough to have it all done last fall, is the plowing.

I heard a French-Canadian compatriot, who hadn't quite mastered all the intricacies of the English language, say, a couple of years ago, "We've got to keep plenty of men in Canada to tilt de soil." It struck me, that in using the word "tilt" in place of "till," he wasn't so very far out after all. The first operation the farmer per-

forms upon the land is to invert it, to tilt it up on edge with the plow. It is first in order and first in importance.

This being the case it might be worth our while to take a few minutes to find out something of the history of this machine, the plow, that we are all so familiar with that we hardly look on it as a machine at all, any more than we would look on a carving-knife as a machine. But it is one, just the same. The best of the world's mechanical genius went into its invention and perfection. The modern plow is a combination of instruments that have to be pretty nicely adjusted to one another to do the work we require of it at the present day. But familiarity with it has bred contempt and we fail to appreciate the skill that the mould-board alone is evidence of. Unless this part of the machine was perfectly formed and properly adjusted to the rest of the plow it could not raise the furrow-slice and turn it over in a way that would bring satisfactory results in harvest-time. A good plow is one of our best weed destroyers. A poor plow is a weed cultivator.

The first plows that we have any record of were nothing more nor less than a pointed stick which was pressed into the ground by the operator at the same time as it was being drawn forward by oxen or, as sometimes was the case, by four or five men. A later development came when the trunk of a small tree was used for tearing up the soil. Two small branches would form the handles. If a farmer of to-day could go to his wood-lot with his axe, select a suitable plow and bring it home on his shoulder, it would greatly help to reduce the high cost of farming. It would be a reminder of the days of our grandfathers who used to go to the bush for their pitch-forks.

The Romans were the first nation to bring the plow to anything like what it is at the present day. To the primitive form we have described they added the coulter and the mould-board. They even attached wheels to it to prevent it going too deep. From this time onward to the present day there has been gradual change and improvement. Those of us who attended any of the tractor demonstrations last fall and took note of the two, three and five bottom gangs that were at work turning over the ground, were inclined to the belief that the last word had been said in plow improvement. But it's hard to say. The ancient Egyptians may have thought that about his crooked stick.

But any of us that may be inclined to congratulate ourselves on the supposed fact that we are the first to use tractor-drawn plows or to make use of engines of any kind in the cultivation of the soil, had better make sure of the circumstances before we say too much.

Just three hundred years ago, or in 1618 to be exact, David Ramsey took out a patent for engines and machinery to plow the ground "without the aid of oxen or horses." But apparently this David Ramsey met the usual fate of inventors, for we have no record of his plow and engine coming into general use.

Then in 1769 another patent was taken out for a machine that was to plow, harrow and do every other operation on the land, without the aid of horses. The patentee this time was Francis Moore, and he was so sure his engine would be a success that he sold off all his horses and induced his neighbors to do the same, "because the price of that noble and useful animal will be so affected by the new invention that its value will not be one-fourth of what it is at present." But Moore was in the same class with some of our more modern prophets, who have foreseen the extinction of the horse. He and his friends all had to stock up again.

The next invention came in 1810. A Major Pratt took out the patent, and his plan was to have two engines, one at each head-land, drawing the plow back and forth between them, by means of an endless rope. There were two sets of plows that could be raised and lowered alternately so avoiding the necessity of turning them at the end. But for some reason or other the farmers of old England didn't take kindly to the Major's idea and the machine never came into general use.

But before the year 1832 several of these steam plows had been brought into practical operation. From the description of one of them it must have been somewhat similar to the "caterpillar" tractor of to-day. It is described as having a "broad, endless, flexible floor, or railway, attached to the wheels." It was intended for breaking up soft or swampy land. It worked on the same principle as the one last described, drawing the plows across the field between it and an auxiliary carriage on the other side of the field. But it cost too much to run it. It required no less than ten men and boys to operate it. And its daily work averaged eight and three-quarter acres. The inventor, a Mr. Heathcote, abandoned the machine after having spent \$60,000 on it.

From this time on improvements were gradually being made in both plows and engines and we quote these words from a report on the subject made in 1860. "There are at present about 800 or 900 steamplows in Great Britain and the demand for them is yearly increasing. The Leeds establishment is turning out about six engines, with their appurtenances per week; and other firms have also large demands. Many are exported to the continent, to the West Indies and to Egypt."

The ordinary reader of this report wonders where these machines and manufacturing plants have vanished to. There must have been a relapse to the old methods and manners, towards the end of the century, to judge by the lack of any accounts to the contrary.

But the progress outlined in those fifty or sixty years of invention and comparative failure were part of the evolution of the plow, and if we know it now in its perfection it is because of the contributions of the past. But the law of the Survival of the Fittest has never been replaced and who will undertake to say what kind of a plowing outfit will be turning up the soil in A. D. 2020.

# THE HORSE.

## The Horse as a Lunatic.

The latest treatise on the reforming of dangerous and useless horses sets out from the premises—probably correct—that few horses are born vicious. An old friend of mine, Mr. W. Leng, the well-known Yorkshire buyer of Thoroughbreds, is often heard to say, "God sends the horses, and the devil sends the men to look after them." There is no doubt much truth in the inference that many, if not most, horses which are dangerous and vicious are made so by ill-treatment or mismanagement, which has soured them. That is the argument of the treatise I have just finished reading, and the remedies suggested are not mysterious, but simply sound common sense, which so many of those connected with horses to-day seem to lack.

But the author of the book to which I am referring makes no mention of the equine lunatic—the "mad boss" of which we have all heard the old type of stableman speak. Not a single reader of the Live-Stock Journal who has had many horses through his hands but will agree with the thesis that just as there are men and women so mentally deranged as to be incurable and a danger to the community, so are there certain horses which are *non compos mentis*. This is not necessarily due to in-breeding or confined to high-bred animals, though one more often finds lunacy amongst light than heavy horses. This may not be so much a matter of breeding as temperament and nerves. The heavier-built, stronger-boned European nations are invariably found to be more phlegmatic and less excitable than the lighter, more versatile people, and so it is with horses. One finds more cases of degrees of madness (and badness) amongst half-bred and thoroughbred horses, for instance, than amongst Clydesdales, Shires and the nondescript car horse. It is not a question of feeding, of early environment or handling, but of breeding and hereditary temperament. Most of us can point to certain progeny as being "hot," given to savagery, kicking or bolting—not because they were mismanaged, ("mistetched" they call it in Yorkshire) when being "made" or broken, but because there is a strain of madness which has come down to them in common with other family traits. Sometimes the strain may "nick" with a similar characteristic on paternal or maternal side, and then it is that we occasionally get what is to all intents and purposes an equine lunatic. Such horses may have their quiet, lucid days; they may be so amenable to human control and discipline that they are restrained to a certain degree as is a deranged man or woman in charge of a keeper, but they watch for opportunities and are not slow to seize them.

"Vicious," says one; "highly strung," says another; "a horse of uncertain temperament," says a third; "humoury," suggests a fourth, and so on. In many cases a lunatic or semi-lunatic, say I. This is perhaps the exception rather than the rule, but what I am venturing to suggest is that there are horses which are verily and indeed "mad" not merely in name, but in fact. I well recall one thoroughbred horse which was a lunatic, if ever there was one. I rode him regularly when he was in training, and he won several steeplechases for me, but had periods of imbecility, when he became absolutely unbalanced and was a danger both to himself and his rider. Five days in the week he would possibly conduct himself like a lamb, and on the sixth he would make sudden bolts into or over stone walls or fences, and, if one was "ready for him" and could stop him, would throw himself down and scream or kneel on the ground and tear up sod and soil in unprovoked and unaccountable frenzy. Now, I maintain that the cleverest horse trainer, from Rarey downwards, cannot find a cure or preventive for a horse with a kink in its brain of this character.

You may teach a vicious horse that man is master, that certain causes produce certain effects, or you may by patience and kindness reassure him that all men are not his enemies, and that man is the superior being, to whom it is a more comfortable thing to knuckle under. Again and again there have been men, successful men in their own line, too, who have made a close study of unmanageable and dangerous horses, and who have been heard to say that they have never yet seen the horse they could not ride or control or handle. Possibly they are correct in their somewhat conceited claims. The doctors at an asylum would tell one the same—aided by attendants and with certain appliances of restraint. They will operate upon or minister to the most violent and dangerous patient. They may exhaust him in their endeavors, or they may temporarily pacify him to achieve a specific purpose, but to-morrow or the next day he will still be a violent and dangerous person. I repeat there are such animals amongst horses—neither kindness, patience or severity will ever make them anything else. The number is small, perhaps, but most of us have had experience of at least one of these mad-brained creatures whose conduct has been quite distinct and apart from the excitable, "hot," bundle-of-nerves, easily terrified or vicious bolter amongst horses. Madness, like vice or temperament, can be curbed under the restraint of strong will, bridle and the God-given gift of "hands." There are cases in which by long treatment it may be entirely eradicated, but I maintain that there are certain horses which are never certain and never dependent, and by which the most astute horse master and reformer would be defeated.

I have never yet heard of an officially certified mad horse, inasmuch as such a diagnosis could only be given after long acquaintance. The line of demarcation between vice, nerves, temperament and disorder of the brain never yet seems to have been drawn with regard

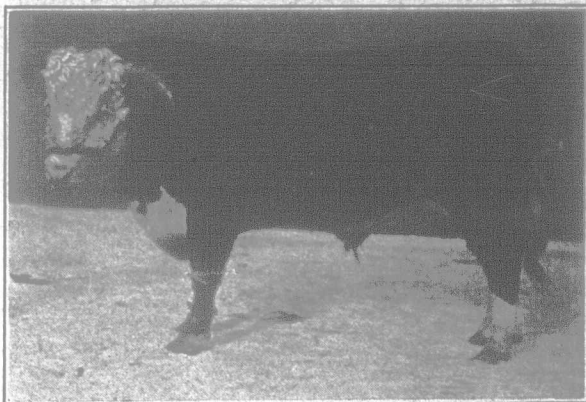
to horses, despite all the thought and careful study of past and recent times.

It is because the characteristics of blood stock are made more public and because a varying degree of interest is centred on them that their vices, virtues and idiosyncrasies are made known to all men. We have watched certain racehorses in the paddock and on the course, and have wondered if they were quite properly balanced mentally. We have heard jockeys speak of their peculiarities and describe some of them as "going clean mad," but it is probable that amongst Hackneys, Dales ponies, or any other breed, we should discover a certain, if much lesser, number of equine lunatics if their peculiarities were made known. The subject is an interesting one, and would be more so if after death the brains of some horses with marked peculiarities could be examined by a pathologist. It would also be interesting to obtain data as to whether moons, lack of sleep, or other conditions were in any way responsible for the awakening of latent equine lunacy or making it more pronounced.

I had hoped, as I have said, to read someone else's views on the subject in the most recent treatise on vicious unmanageable horses, but it is not so much as mentioned. Walsh, in his book on "The Horse" (1862), gives a page on horse madness, but he refers to rabies, though he concludes his paragraph thus:—

"There is only one disease (phrenitis) with which it can be confounded, and in that the absence of all consciousness, and in milder cases of fear, so that no normal control whatever can be exercised, marks its nature and clearly distinguishes it from rabies, the victim to which is conscious to the last, and, though savage and violent in the extreme, is aware of the power of man, and to some extent under his influence."

J. FAIRFAX-BLAKEBOROUGH, IN THE LIVE-STOCK JOURNAL



**Brummels Chance.**

Junior Hereford bull, champion of the breed at Guelph, 1919. Shown by O'Neil Bros., Denfield, Ont.

## Diseases of the Respiratory Organs.—XI.

### NASAL CATARRH OR COMMON COLD.

Nasal catarrh may occur in an acute or sub-acute form. It occurs more frequently in horses than in other classes of stock. This is mainly due to the numerous causes of "taking cold" to which the horse is exposed, and to the large size of his nostrils, which more freely exposes the mucous membrane to external irritating agents. Among these may be particularly mentioned street dust and dusty feed, smoke, fungi and spores, which are flying in the air when the feed is distributed, and the ammoniacal atmosphere of ill-ventilated stables. The epizootic character the disease sometimes assumes points to the intervention of infectious elements, but no real evidence of infection has been discovered. When the disease attacks a large number of animals living under the same conditions, it is much more probable that the same causes are operating than the disease is due to infection.

Young or weak, delicate animals are predisposed to an attack. A strong predisposition to colds exists during the process of changing the coat, in either the fall or spring. In the fall, after the young animals have been on pasture for several months, and are brought into warm stables, the change, in many cases, appears to act as an exciting cause, as also do alterations in temperature, hot, ill-ventilated stables; exposure to wet and cold; allowing an animal that has been subjected to sufficient exercise to cause perspiration to stand in the cold, especially facing draft, without protecting him by adequate clothing. In some cases an attack becomes complicated with laryngitis, or other disease of the respiratory organs, and in all cases that are neglected and the animal exposed to aggravating conditions, the catarrhal inflammation is liable to spread from the nostrils and involve other respiratory organs.

Symptoms.—Acute nasal catarrh is indicated in the early stages by a diffuse injection and dryness of the nostrils and the animal exposed to aggravating conditions, the catarrhal inflammation is liable to spread from the nostrils and involve other respiratory organs. Symptoms.—Acute nasal catarrh is indicated in the early stages by a diffuse injection and dryness of the nostrils and the animal exposed to aggravating conditions, the catarrhal inflammation is liable to spread from the nostrils and involve other respiratory organs. The animal is dull, the appetite is impaired, he usually sneezes, there is a discharge of tears from the eyes, increase in temperature and more or less marked dullness and debility. In a few days a discharge from the nostrils is noticed. The mucous membrane is shiny and somewhat swollen, the discharge is at first serous, clear and of a watery nature. In mild cases it sometimes preserves this character, but when the inflammatory process is lengthened it becomes mucous-like, and later on purulent. The patient sneezes frequently, or a well-developed cough may be

noticed, and the edges of the nostrils become coated with crusts formed by the drying of the muco-purulent discharge. In some cases, the glands in the space between the arms of the lower jaw (the inter-maxillary space) become enlarged, hardened, and in rare cases adherent to the bone and tender to pressure. The average duration of acute catarrh is eight to fifteen days. In most cases recovery takes place without the appearance of any secondary trouble. The discharge gradually diminishes, and later disappears. There are cases in which the symptoms are somewhat alarming from the first, as chills, inappetence, well-marked increase in temperature and acceleration of the pulse.

Treatment.—In mild cases good care and careful nursing is all that is required. The patient should be placed in a well-ventilated stall, even if it be necessary to move him to colder quarters, and clothe him and bandage his legs in order to keep him comfortable, as in this as in practically all respiratory diseases, pure air is necessary, even at the expense of heat. He should be fed on laxative, easily-digested feed of good quality, as rolled oats, bran, a little linseed meal, a few raw roots and hay.

In more severe cases the nasal irritation can be relieved by causing him to inhale steam, by holding his head over a vessel containing steaming water to which has been added a little carbolic acid or tincture of benzoin, and stirring the liquid with a wisp of hay. This should be repeated two or three times daily, as the symptoms indicate; one-half ounce of nitrate of potassium should be given twice daily for two or three days. If debility, weakness and loss of appetite be well marked, tonics should be given, as a tablespoonful 3 times daily of powdered sulphate of iron, gentian, ginger, bicarbonate of soda and nux vomica. If the bowels become constive, the condition should be combatted by giving rectal injections of warm soapy water and the administration of 8 to 10 oz. of raw linseed oil. Drastic purgatives, as aloes, should not be given, as they tend to excessive action. Gentle exercise in the open air, when the weather is fine, and under cover in rough weather, is beneficial. If the cough be troublesome, mustard mixed with warm water should be rubbed on the throat, which should be kept well wrapped with woolen bandages.

WHIP.

## LIVE STOCK.

Forty-six Scotch Shorthorn females recently made an average of £575 12s. 1d. at an auction sale in England.

Hog feed is still high priced and hard to buy, but there is an indication that the price of finished hogs is also ascending.

The Shorthorn Breeders' Association of California made an average of \$418 on fifteen females and forty-seven bulls at a public auction.

The quality of our commercial cattle depends upon the quality of sire and dam. Is everyone working to improve our cattle industry?

It is a good practice to cure a quantity of pork for summer use. If the meat is properly cured and smoked it can be used any time during the summer.

Breeders should answer all inquiries for stock whether they have animals for sale or not. It is a courtesy due the inquirer, and may bring business later on.

At least twenty-five per cent. of the registered bulls now in service would have made better steers than sires. The knife should be used a good deal more than it is.

High-quality pork cannot be produced from unfinished hogs. There has been a tendency all winter for producers to market hogs before they are prime. As a rule the last twenty-five pounds is produced the cheapest.

Mr. Edward, of Lambton County, writes that he recently had a Leicester ewe give birth to four smart, healthy lambs. This is a high percentage increase and a good deal above the average.

Milk fed at normal temperature, clean stalls, utensils and feed boxes are essential in raising thrifty calves. As soon as the calf will eat it should be given rolled oats, bran, oil cake, cornmeal and clover or alfalfa hay.

At the Brandon Winter Fair, held early this month, the Shorthorn steer that won second in the Boys' Calf-feeding Competition sold at public auction to R. A. Wright, Drinkwater, Sask., at \$1.31 per pound.

At the Brandon Winter Fair and Fat Stock Show, Aberdeen-Angus cattle won first in car lots, groups and single entries. An Angus, 13-months-old steer won first in the Boys' Calf-feeding Competition for G. Campbell, of Manitoba, and was later made grand champion of the show, and sold by auction for 50 cents per pound.

The following figures forwarded by the Live-Stock Commissioner shows the number of good to choice steers weighing twelve hundred pounds and over marketed at public stock yards in Canada during 1919, and indicates what percentage these were of the number marketed: Alberta 33.95 per cent., number 34,161; Saskatchewan 20.13 per cent., number 20,252; Manitoba 8.78 per cent., number 8,345; Ontario 36.01 per cent., number 36,232; Quebec, 1.13 per cent., number 1,145.

### Our Scottish Letter.

I fear remissness must be charged against me, but possibly the wealth of material now to be presented may compensate for silence. Weather conditions since the beginning of the year have been none too favorable for those engaged in agriculture. About the New Year we had a sharp frost, but it did not last long. Since then we have had rain storms, with occasional hurricanes. Farm labor is well advanced in some places and not well advanced in others. In the Scottish Midlands hard weather was experienced, while in the West we had a remarkable variety of weather samples. In the far North potatoes were not all lifted at the New Year, and things generally were backward. Labor troubles are universal and, in almost every industry, we are face to face with difficulties due to diminished production. Complaint is universal that shortened hours have meant shortened production, yet the Government seems resolved on the mad scheme of making a statutory forty-eight-hour week universal. How this is to improve economic conditions nobody seems to know, and its advocates do not seem to care. The miners are resolute on nationalization of mines, and the Government meantime resolutely have said "No." How long they will continue in that mood is problematical.

Meantime the farmer has his own troubles. He is extremely unpopular. The idea is widely prevalent that he is profiteering to an abnormal extent. It would be contrary to all experience were the producer of the radical wants of humanity not to prosper in times of national scarcity. The question is, has he proposed unduly? and the answer must be in the negative. He has been controlled in respect of almost everything he has produced. Milk, meat, wool, roots, and grain, have all been subject to control. The farmer during the war had not the making of his own price in respect to any of these products. Milk was early put under control, then wool was concerned, and later meat and cereals. In the beginning of this month the control was taken off milk, and in this city it almost at once receded in price by five-pence per gallon, or  $1\frac{1}{4}$  pence per quart. Wool was liberated prior to 1919 clip coming upon the market, and almost at once Cheviot wool bounded upwards to an unprecedented figure, and other kinds in sympathy. At present the question of withdrawing the meat control is being keenly debated. The Government guaranteed a maximum price until July 4, 1920, and the general opinion of farmers is favorable to control running its course. On the other hand, some are of the opinion that it would be better to let prices assume a natural and economic course forthwith. It is admitted that somebody will be hurt when control is withdrawn. The only question is the date at which control can be withdrawn with the minimum of injury to anybody and everybody. The problem is complex, and those who understand it best are most ready to admit its difficulties. Meanwhile the public have to be reckoned with. The milk control had to be withdrawn because it was impossible to justify a high price to the consumer when the supply exceeded the demand. At the moment a similar condition holds in respect of meat of secondary quality.

#### SHOW-RING vs. MILK PRODUCTION IN DAIRY CATTLE.

Ayrshire cattle breeders have had a strenuous time during the past few months. I suppose many fanciers of the breed in Canada understand the position here,

but others may not. Perhaps about fifty years ago special attention began to be paid in the show yard to the formation of the milkvessel and teats. It was found that the vessel on udder that was carried well forward on the belly and tucked well up behind was best adapted for enduring purposes. Gradually as this particular formation was most difficult to attain it became the show-yard ideal. It was also found that this "tight" vessel and a small, corky teat went together. No one in his senses deliberately set himself to breed small teats that could only be milked with the finger and thumb but experience proved that the tight vessel demanded in the show yard had the small teat as its associate, and show-yard fancy dominated a section of the breed. But along with this baneful fancy there went something else which proved disastrous. The cow that was designed for show purposes could not possibly be put to her full powers as a milk producer because immediately she "went to milk," as it was termed, she became useless for the show-yard fancy. Hence there was in time developed within the best dairy breed in the world a race-type of show cows which won prizes in proportion as they were of diminishing value as milk producers. This show-yard cull very nearly ruined the breed. Happily, the great rank and file of breeders paid little heed to show-yard fads. They bred good dairy stock,



Four months later all classes of stock will enjoy the freedom of the woods, but there is little comfort now.

#### Not Even Good Browsing.

and left the show yard type severely alone. Amongst breeders who acted on this principle perhaps the late Robert Wallace, Auchenbrain, was pre-eminent. Others, not breeders, but extensive users of dairy cows, like the late John Speir, of Newton, Glasgow, saw the value of milk recording, and, after many tentative efforts, at long last Mr. Speir got the Highland and Agricultural Society to take the matter in hand. The directors of that body under Mr. Speir's enlightened leadership fostered the institution of milk record societies, and in the end of the day these societies have become self-sustaining.

But another aspect of the question calls for notice. Recognizing that the concentration of attention on the formation of vessel and teats was leading to the ignoring of size, scale and style in the Ayrshire cow, a section of breeders began to devote attention to the head and horns, style, and carriage, depth and length of quarters of the Ayrshire, ignoring altogether the underline and especially the formation of vessel and teats. The issue was that the patrons of the breed became divided into two camps—yield stock, and milk stock men. When the Milk Record scheme became general it was gradually found that the best yields were obtained not from the dairies which attached chief importance to vessel and teats, but from those which gave heed to the style and constitution of the cow. As it has been sentimentally expressed, "the milk stock (so called) were chiefly

noteworthy for not yielding milk to profit." After much controversy it was decided a year ago to constitute a hybrid committee of leaders of both sections, and draw up a scale of points for judges, combining the desirable points (1) of the milk stock—a good shapely, lengthy vessel and long, soft, easily milked teats; (2) of the "yield stock"—so-called—style, size, straightness of back and length of quarters, and (3) of the milk records, and their testimony to the milk yield of the female herself, her dam and two grandams, and so on. The committee met and in due time the scale was agreed upon, and it was determined that it should become operative in 1921. Meanwhile the Breed Society recognized that the new scale of points could only be honored by those who believed in it, and they drew up a panel of approved judges, which they have asked the leading societies to accept. Unfortunately, the panel did not contain one single name of a recognized judge of what is called the "milk stock" party. That party set to work to defeat the adoption of the panel system at the annual meeting of the Ayrshire Agricultural Association, and succeeded. They are in high glee over their victory, and the next move in the game is awaited with interest. The leader of the "reforming" party is Adam W. Montgomerie, Lessnessock, and the leader of the "milk stockmen" is T. C. Lindsay, Aitkenbrae, Monkton, both in Ayrshire. The unfortunate business is that when these two gentlemen sit down to discuss the matter they agree in almost every essential. Each is owner of a first-class herd, but while Mr. Montgomerie is a whole-hearted supporter of Milk Records, Mr. Lindsay, if not actively hostile, is only lukewarm in his support. Meanwhile the British-Friesian breed grows steadily in popular favor, and many who were supporters of the Ayrshire have become patrons of the "Black and White" Dutch cattle. Their great recommendation is their milk yield, capacious milk bags, and serviceable, long teats.

Recently numerous sales have taken place of both Ayrshires and British-Friesians. At the Paisley sale of the latter, 133 head made an average of £98 3s. 7d. each. At Garclaugh, Cumnock, a draft of 30 Ayrshires made £90 6s. 8d. each. At the annual sale of bull calves from the Auchenbrain herd of D. & W. Wallace, 22 made the fine average of £97 16s. 4d. At the Eglinton Mains sale of Lord Eglinton, on Saturday last, the high average of £138 12s. was made for 32 head.

Milk questions are attracting great attention. A propaganda was carried on for three days in Scotland by Wilfred Buckley, of the Clean Milk Society, Soho Square, London. Mr. Buckley maintains that milk should be sold according to grade in respect of freedom from disease germs, or unclean bacteria, irrespective of the butter-fat content of the milk. His argument is that the quality of the milk, i. e., its butter-fat content, is beyond human control, and therefore no one should be held responsible for its condition, whereas the cleanliness of milk is well within human control and therefore the sale of unclean milk should be made a penal offence. One recognizes a large measure of truth in this way of presenting the matter. On the other hand, it will hardly do to put a premium on the sale of clean milk poor in quality. There is no reason why the two things should not go hand in hand. One undesigned result of Mr. Buckley's tour has been to give great encouragement to those who are out to defeat the presumptive milk standard. Mr. Buckley says frankly that no man can guarantee the butter-fat content of his milk two days in succession.

#### HORSES SELL HIGH.

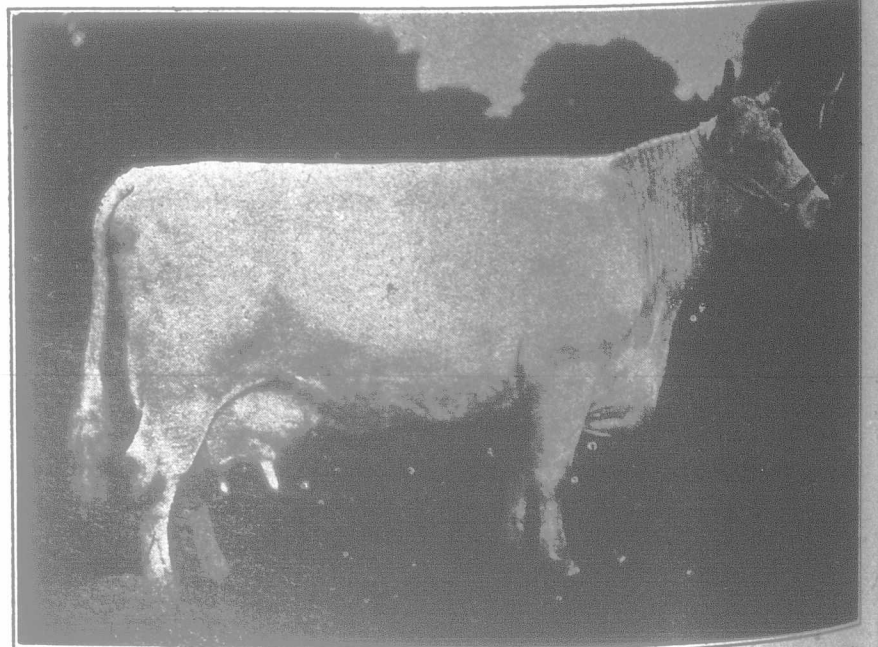
Clydesdale business is brisk and we are within three weeks of the Glasgow Stallion Show. Shire horse breeders have had a record sale, at the Pendley Stud Farms, in Herefordshire. On the occasion 35 head made the splendid average of £722. It will be long before a figure like that is eclipsed.

#### PERTH AND ABERDEEN SALES.

But all such figures are thrown into the shade by the results of the spring bull sales of Aberdeen-Angus



Large Black Sow and Litter.



Missle Thruor, Dual-purpose Shorthorn, First at Royal Show.

and Short details of Meantime at Perth—Guelph, On with Joseph Aberdeen Knight. A week Angus record price Aucherard Perth, 204 £135 15s. ago for 101 sexes on the 12s. 4d. a deen-Angus Strathern, recently bo chaser at P. L. Wallace, of the fam Edgote.) Aberdeen-A Eclintus of heifer, viz. yearling an dalloch ha for seven bu made an av average wa Messrs. M. Mr. Allan, extraordinary Angus heife In spite Before the Gillivray K which von MacGillivra year at Per hills Comet Captain M bull calves January cal 1,800 guine heifer of the She was br and for four astonishing herd averag Cluny Castl next £1,239 Millhills, C average of \$12 a year year was £3

#### Canada

The annual Association Manitoba, o Jas. D. M representative found the d views by let which the A concluded w to the Asso Angus cattl the Nationa clearly that percentage other breed the futurity, Angus calve years, and office and th When th disposed of new policy pointment o decided to would be c parts of Car central will o each provin of deciding w sale to be ann of the centr Angus Breed Toronto, on head of selec association a interest grea sales throug nounced at The Asso that the ce endeavor to matters conc It has been the Associat and the gen cattle. Jas. the Associat Vice-President Bowman, Jo

and Shorthorn cattle, at Perth and Aberdeen. Full details or comments must be reserved for another letter. Meantime I may mention that the champion Shorthorn at Perth—Millhills Comet—was secured by J. J. Elliot, Guelph, Ontario, at 6,600 guineas, after a stiff contest with Joseph Shepherd, the Argentine importer. At Aberdeen, the Shorthorn champion, Rothiebrishbane Knight, was secured by Mr. Shepherd at 5,000 guineas. A week earlier, at Aberdeen, the champion Aberdeen-Angus bull, Black Idol 45093, made 3,000 guineas, the record price for the breed. His buyer was A. T. Reid, Auchterarder House, Auchterarder, Perthshire. At Perth, 204 Aberdeen-Angus females made an average of £135 15s., as against £96 19s. 6d. on the same day a year ago for 101 head, and the average for 537 head of both sexes on the two days was £142 8s. 8d., as against £108 12s. 4d. a year ago for fewer numbers. A new Aberdeen-Angus herd has been formed at Dunira, Crieff, in Strathearn, by Mr. Macbeth, Glasgow shipowner who recently bought that estate. He was an extensive purchaser at Perth. Another spirited buyer was Falconer L. Wallace, of Candaeraig, Strathdon, who is also owner of the famous Balcairn herd of Shorthorns, (formerly Edgote.) Mr. Wallace paid the highest price for an Aberdeen-Angus bull at Perth, viz., 2,800 guineas, for Eclatius of Ballindalloch, and the highest price for a heifer, viz., 1,300 guineas, for the Ballintomb first-prize yearling and reserve for breed championship. Ballindalloch had the highest herd average, viz., £1,149 for seven bull calves, and his first-prize group of three made an average of 1,550 guineas. The second highest average was £1,144 10s. made for five bull calves by Messrs. Marshall & Mitchell, Bleaton, Blairgowrie, Mr. Allan, Ballintomb, Grantown on Spey, had the extraordinary average of £556 10s. for five Aberdeen-Angus heifers.

In spite of these figures, Shorthorns are trumps. Before the sales, Mr. Shepherd paid Captain MacGillivray Kirkton £7,000 for D. S. T., the young bull which won second at Perth a year ago, when Captain MacGillivray bought him for 3,300 guineas. This year at Perth the second-prize winner next to Millhills Comet was Donne Monarch. He was sold to Captain MacGillivray for 3,800 guineas. Three white bull calves were first, second and third in the class for January calves. They made in order, 1,300 guineas, 1,800 guineas and 1,150 guineas apiece. A yearling heifer of the Orange Blossom tribe made 1,000 guineas. She was bred by Robert Copland, Milton Ardlethen, and for fourteen yearling heifers Mr. Copland had the astonishing average of £420 18s. each. The highest herd average was £1,557 10s., made by Lady Cathcart, Cluny Castle, Monymusk, for six bull calves, and the next £1,239 for twelve bull calves by Mrs. Stewart, Millhills, Crieff. At Perth, 603 Shorthorns made the average of £280 9s. 1d., as against £224 6s. 10d. for 512 a year ago. The average for 486 young bulls this year was £302 17s. 3d.

SCOTLAND YET.

Canadian Aberdeen-Angus Association Meets.

The annual meeting of the Canadian Aberdeen-Angus Association was held in the exhibition offices, Brandon, Manitoba, on the 3rd of March, 1920. The President, Jas. D. McGregor, presided, and there was a good representation of western directors. Eastern men found the distance too great, and they presented their views by letter. Mr. McGregor mentioned three steps which the Association had taken during the year just concluded which he believed were of great advantage to the Association and to the breeders of Aberdeen-Angus cattle. First, the report of the accountant of the National Live-Stock Records, which showed quite clearly that the Aberdeen-Angus had made a greater percentage increase in their registrations than any other breed of live stock; second, the establishment of the futurity, which brought out the finest lot of Aberdeen-Angus calves that had been seen at any fair in many years, and third, the establishment of a permanent office and the appointment of a permanent secretary.

When the regular business of the meeting had been disposed of the meeting was taken up largely with the new policy of the Association necessary since the appointment of a permanent secretary. The Association decided to undertake a sale program, whereby sales would be conducted by the Association in various parts of Canada. The provincial associations and the central will co-operate in the conducting of sales so that each provincial association will have the responsibility of deciding when and where a sale shall be held. The first sale to be announced will be held under the joint auspices of the central association, and the Ontario Aberdeen-Angus Breeders' Association at the exhibition grounds, Toronto, on the 2nd of June, 1920. At this sale fifty head of select cattle will be sold, and both the central association and the Ontario association are hoping to interest great numbers of breeders in this sale. Other sales throughout the Western Provinces will be announced at a later date.

The Association wishes it to be distinctly understood that the central office at Brandon, Manitoba, will endeavor to give immediate and careful attention to all matters concerning the Aberdeen-Angus breed of cattle. It has been established for the use of the members of the Association, the breeders of Aberdeen-Angus cattle and the general public who may be interested in Angus cattle. Jas. D. McGregor was re-elected President of the Association, and Jas. Bowman, of Guelph, Ont., Vice-President. The Directors for Ontario are Jas. Bowman, John Lowe and Col. McEwen; for Manitoba

Jas. D. McGregor, Kenneth McGregor, Jas. Turner and John R. Hume; for Sask., Jas. Browne, S. A. Ferrie, and F. J. Collyer; for Alta., Prof. Hutton and A. E. Noad. F. W. Crawford was elected Secretary-Treasurer.

The Perfect Male.

A first-rate bull, placed fourth in his class at the Royal Agricultural Show held at Cardiff in 1919, was imperfect as a male in so far as he possessed only one visible testicle, the other being presumably retained in the belly, as is generally the case, and more or less undeveloped. To produce spermatozoa—the male seed—of good fertilizing powers, one testicle fully descended into the scrotum is sufficient, and therefore a bull with only one visible and fully formed testicle could effect service and stock as many cows as one having the two organs each of proper size and hanging visibly in the scrotum. Accordingly, there is no objection to the use of a bull with only one testicle showing on the score of his inability to serve and to propagate his kind. As a matter of fact, it is well known that the single testicle bull—monorchid as he is called—is as effective in service and in stocking as a perfect bull. If, however, a single testicle bull be used in a herd evil consequences follow and they are such as every breeder, and indeed every feeder, of stock desires to avoid at any cost. These observations do not, I need hardly state, apply to a bull that has been deprived of one testicle by an accident or by operation to remove disease.

Animal bodies are composed of two more or less symmetrical halves, each half having corresponding to it a sexual apparatus. In other words, the organs which produce seed are bilateral, each being complete in itself and the spermatozoa being just as good from the one as from the other to fertilize the egg of the female and to create a new being; consequently one testicle is all that is required for propagation of the kind. Therefore the spermatozoa from one testicle can produce fertilization of the egg in the female a complete animal, with its body perfectly developed and its bilateral sexual apparatus well formed. But if the male be imperfect in one-half of his sexual apparatus, even while the other half is perfect, the progeny after sexual union is usually found to be made up of a certain proportion of males that are imperfect, though their bodies may be well and perfectly moulded and developed. The imperfection seen in the sex apparatus may involve one or both sides. Accordingly the use of a monorchid bull results in the creation of imperfect bulls among the offspring, and although the imperfection may only involve one side in some, in others the right and left organs will be similarly affected. All the sons will not be malformed, for some escape and come to make perfect male animals, and those sons in which the imperfection involves both right and left sides are seedless and useless for propagating their kind, though they may be well and perfectly formed in their bodies, and even as capable of serving as the perfect male bull. A bull with his testicles undescended gives all the appearances that characterize the male, and behaves like one, yet he is incapable of fertilizing the female, for his seed does not contain spermatozoa, the essential element. The undescended testicles, while incapable of producing spermatozoa, are yet capable of inducing in the body the development of all those attributes by which we know a male, and owing to which he behaves as if he were capable of fertilizing like a perfect bull.

THE DESCENT OF THE TESTICLE.

One of the most remarkable as well as interesting phenomena in nature is the descent of the testicle in the higher mammals. For the information of those readers who are not aware of this, I will briefly refer to it. In most of the higher mammals, in which man is included, the testicle is originally formed near the kidney in the loin, and, with few exceptions, of which the elephant is a good example, it passes tailwards until it reaches the groin, where there is a way for its escape into the bag or scrotum, already prepared for its reception. There it remains, except in those animals in which there is a "rutting season," and in which the testicle is withdrawn into the belly at the close of the season, to descend into the scrotum at the onset of the next. Accordingly the testicle travels or descends from the interior of the belly into the scrotum outside it, and, as a general rule, this journey is accomplished at or soon after birth. This is so in all the domesticated animals. Why it should occur remains unexplained, but we know complete descent is essential in all our domesticated animals to ensure the proper production of spermatozoa, or seed, and, of course, to make a perfect male. While complete descent of both testicles is essential for the making of a perfect male, not, of course, a male that is capable of producing seed, yet a male endowed with the usual external characters and with the special mental properties of the sex is produced whether the testicle remains where it is originally formed or stops at any point in its journey of descent. Such an analysis of facts leads to the conclusion that the testicle possesses a double function—the one, which is supreme, for producing seed or spermatozoa, and the other, which is of secondary importance, for inducing and controlling the development of all the characteristics of the male. The supreme function remains in abeyance unless the testicle descends to the terminus of its appointed journey, but its secondary function is carried on at any point in the course of its descent.

This knowledge is of the utmost importance to the breeder, for it enables him both to realize and to recognize a perfect male, which, in the case of the bull, is one with two natural-sized testicles hanging in the

scrotum. Even if such a bull has had one testicle destroyed by disease or injury, he remains perfect as long as the fellow testicle is capable of producing seed. Every bull with incomplete descent of the testicle on one or both sides is imperfect, and should not on any account be used for procreative purposes and the production of stock. Experience has proved the above statement to be true over and over again, and the pity is that the knowledge thus gained by one breeder here and another there is not spread and diffused to others, but is regarded as a matter of curiosity rather than one of the greatest practical importance to all who desire to become successful breeders of any kind of stock.

It may be of interest to many to offer any explanation of this remarkable phenomenon of imperfection in descent of testicle from the place where it is originally formed to its destination in the scrotum, I will endeavor to do so.

Every part and each portion of every part of the animal body is subject by nature to variation, now one way, now another, sometimes to a very minute and at other times to an obvious degree. Such variations indicate that the mechanism which controls and guides the formation and growth of all parts of the body is somewhat unstable. And this instability, which is found to be almost insignificant in animals that enjoy their natural wild state, is apt to become pronounced in those kept under conditions of domestication, and especially when housing and feeding go beyond what is necessary for the maintenance of health and vigor. Now, the descent of the testes is a variation affected in the higher mammals for some definite and as yet unknown purpose, and failure in the proper accomplishment of the descent is equally a variation—the former being progressive and the latter retrogressive. Whether advancing or receding, the variation abides by a law which is well known in heredity but seldom recognized, and not, so far as I know, formulated. The law is that variation once it sets in tends to increase until it reaches a maximum, the increment being usually greater in each succeeding generation and occurring at an earlier period in the life of the animal. The retrogressive variation seen in failure of the natural descent of the testicle follows this law. Therefore it is that once the variation shows itself on one side it is apt to be seen on the two sides in a proportion of the male progeny of the next generation. When both sides are affected, the animal is sterile and unable to propagate himself, and so his line comes to an end. The variation has thus successfully ended the existence of the male descendants of an imperfect male. The females do not escape, for they are apt to produce imperfect males, which in their turn cease to propagate, as illustrated above. An imperfect male then gives—if given the opportunity—both male and female progeny that are most undesirable as stock, and are indeed only fit for conversion into meat. Consequently such a bull should not be used by the breeder for the production of stock, for his own purposes or for sale to others who would be ignorant of sexual defect inherent in the stock.

It is true the imperfect bull may be allowed to produce stock for fattening, because the produce would generally be natural, as far as the body is concerned, but such a practice could not be controlled and would be liable to abuse.

Under these circumstances, it should, I think, be a general rule among breeders of stock of all kinds that an imperfect male, whatever the degree of imperfection, should be, as soon as practicable, castrated and so rendered sterile. Could this be enforced in some way or other, an evil the magnitude of which cannot be estimated, would be prevented at its source. In Live-Stock Journal.

How Lincoln Sheep Breeders View Canadian Registration.

EDITOR "THE FARMER'S ADVOCATE":

I notice in your issue of February 12 that you have recorded my objection to compulsory registration in Canadian Records. Will you kindly allow me a little space to explain, as Vice-President of the National Lincoln Sheep Breeders' Association and not in my private capacity as an individual breeder. In the first place, Mr. Gordon, of the Western Provinces, complained that they could not get Canadian pedigrees for sheep imported to their country. As I pointed out in the meeting, if a buyer of any pure-bred animal, no matter what it is, will hold back half the purchase money till the pedigree is produced, many a sore grievance will be avoided. Our Association is composed of half Canadians and half Americans; our records are as good as can be obtained, and in the majority of cases pedigrees are returned in three days from date of application. As long as American buyers continue to pay prices for range rams by the carload actually greater than the average Canadian breeder is willing to pay for choice selected individuals, just so long will the trade run that way. The objection I wished to emphasize was the acceptance at border of Canadian certificates only, so that duty would have to be paid on United States certificates. Any sheep dealer doing business on a large scale can testify to the vexation, the overbearing attitude of our Ottawa Board, and delay of sometimes three to five months. I have no wish to dictate to any breed as to their mode of procedure, nor to any Canadian buyer receiving a Canadian certificate, to which he is justly entitled, have I any objection; but all I ask is the privilege of the Lincoln breeders to do as they see fit and if the majority wish to fall in line with the resolution, if they will kindly notify me, I will take the matter up at the next annual meeting in December.

Middlesex Co., Ont. HOWARD H. DE GEX.

FOUNDED 1866

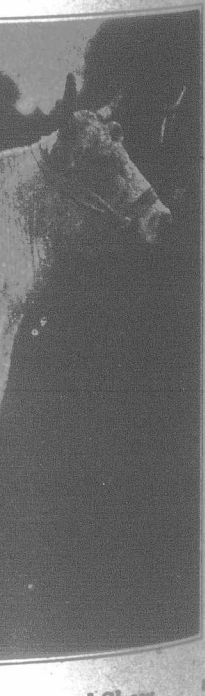
profit." After much ar ago to constitute both sections, and edges, combining the back—a good shapely, ly milked teats; (2) le, size, straightness and (3) of the milk the milk yield of the randams, and so on. time the scale was ed that it should be the Breed Society points could only be n it, and they drew hich they have asked Unfortunately, the ame of a recognized "stock" party. That adoption of the panel of the Ayrshire Agri- ded. They are in the next move in the e leader of the "re- gomerie, Lessnessock, en" is T. C. Lindsay, Ayrshire. The un- ese two gentlemen sit gree in almost every -class herd, but while earted supporter of ctively hostile, is only nwhile the British- ular favor, and many e have become patrons cattle. Their great ield, capacious milk

taken place of both At the Paisley sale of erage of £98 3s. 7d. draft of 30 Ayrshires ual sale of bull calves . & W. Wallace, 22 d. At the Eglington Saturday last, the high 32 head.

great attention. A ree days in Scotland Milk Society, who maintains that milk in respect of freedom bacteria, irrespective milk. His argument is its butter-fat content, erefore no one should n, whereas the clean- ontrol and therefore made a penal offence. f truth in this way of other hand, it will the sale of clean milk on why the two things ne undesigned result give great encourage- efeat the presumptive frankly that no man tent of his milk two

IGH. and we are within three Show. Shire horse at the Pendley Stud the occasion, 35 head 722. It will be long ed.

EN SALES. wn into the shade by les of Aberdeen-Angus



at Royal Show.

## Practical Suggestions for Stable Fitting.

EDITOR "THE FARMER'S ADVOCATE":

In many stables that I have been into, my own included, the stairs leading to the barn take up so much room in the passage that nothing larger than a man can pass. Often there is no other passage, and stock that is to be taken from one section of the stable to another are obliged to go outside from one entrance to another.

I put up with this for two years, but one rainy day I decided to make a change. I took down the stairs, drilled two holes—one in each side—at a point near the top where it would hinge to advantage, and through these holes I passed a piece of one-inch water pipe. This I attached to the ceiling of the stable by suitable hangers. The stairs had to be trimmed at the top so as to clear when swung up. I then got two discarded rope pulleys, attaching them to the ceiling at points so that when the rope was secured to the base of the stairs and passed over them it led to an out-of-the-way place. Here I fastened a stone, weighing just sufficient to allow the stairs to remain wherever placed. There is never a week passes during the period the stock is in the stable but I have reason to use this arrangement, thereby saving time as well as inconvenience.

Another idea is to use a vice when removing worn or broken sections of either a mower or binder sickle. Place sickle in vice, sharpened portion down, allowing that part of the bar to which the section to be removed is riveted to rest on the gaw. The vice is then closed loosely on the section which is driven down. This will cut the rivets, disengaging the section from the bar.

To those who have trouble with water floats, I will give a hint. I have tried it out myself and find it gives perfect satisfaction, besides it is inexpensive. I got a wooden lard pail, passed a wire around it twice in such a way as to cross at the bottom. I then connected this with the arm of the valve by another short wire, and it was ready for use. A candy pail, if more convenient, should give equal satisfaction. The lid placed on the pail will prevent anything from getting into it that might interfere with its buoyancy.

Wellington Co., Ont.

ROBT. MILLAR.

## New Ontario Live-Stock Notes.

EDITOR "THE FARMER'S ADVOCATE":

I was thinking maybe it might be of interest to you and some of your readers to hear from Algoma. We have had a fine winter, escaping the severe storms that were east and west of us. While the temperature was cold, it was fine working weather. The lumbering industry has been very active, and some operators had difficulty to secure enough help. There is a strong agitation to have our water powers developed by the Hydro Electric people. If those powers were developed there is no doubt but that our north shore would become the centre of the manufacturing industry.

Stock is wintering very well so far, and, with an early spring, the bulk of the farmers will be able to feed their stock with present supply of feed. Hay is selling at from \$30 to \$35 a ton; oats, \$1.15 per bushel; potatoes, \$4 a bag.

I am delighted at efforts being made to rid the country of the "scrub-bull." Why not go one better and get clear of the man who breeds and sells the scrub bull? Could steps not be taken along lines similar to the Stallion Enrolment Act, or the Clean Seed Act? It is to be regretted that some breeders of cattle, sheep and pigs send any old cull to farmers in New Ontario, when sold by correspondence. It is to be hoped that ere long a man who pays a good price for an animal will get value for his money.

New Ontario.

N. S.

## THE FARM.

### Forest Planting in Canada.

BY ROBSON BLACK, SEC. CANADIAN FORESTRY ASSOCIATION.

One of the commonest questions asked of the forest conservationist is: "When will the lumbermen start to plant trees?" Many persons follow this up by reminding one that in some countries two trees must be planted for every one cut.

The question of tree planting is but one angle of the forest conservation problem and not the most important angle even then. Canada's forests of commercial importance cover about 250 million acres. Obviously this area is quite sufficient to give us a timber crop equal to all our necessities for all time to come, if managed on something approaching scientific principles. To apply "Forestry" to the forest means simply the application of an art, long practised and well proved, of producing repeated timber crops on land not fitted for agriculture. As a general rule, our present methods of exploitation aim at realizing wealth from the capital stock placed within our reach by a benevolent Providence. Take white pine in Ontario, Quebec and New Brunswick, for example, the original forests have been cut down with little intelligent regard for the reproduction of values on the logged areas. The result is that these Provinces have sacrificed the superb capital stock of this monarch of all Eastern woods, so that to-day Ontario, naturally a great pine-producing land, is cutting less and less white pine every year. The reason is no more mysterious than in the case of a boy whose purse grows lighter as his cash reserve is

frittered away. Ontario's pine resource is in a progressive decline. The one thing that can arrest this tendency is the immediate adoption of forestry principles in commercial exploitation. This means some interference with an old-established industry, but no one has yet suggested an alternative scheme by which present tendencies may be arrested.

Doubtless many men who ask: "When will the lumbermen start planting trees?" never think of themselves as the real foes of conservation when, in quest of a summer holiday, they leave a camp fire burning or toss a lighted cigarette into a pile of dry leaves. It is not the man with the axe but the man with the campfire and the cigarette who is diligently robbing posterity of the great forest resource that properly belongs to it. "Why don't the lumbermen plant?" would better be superseded by: "Why don't the campers put out their fires?" and "Why don't the fishermen look on every spark of lighted tobacco as the seed of a great disaster?"



How to Kill the Nation's Forest Possessions.

The result of one neglected camp fire.

Within the last few years, two graphic illustrations have come to light of the relative importance of protecting the grown-up forests from fire and the economy of putting two or three trees into the ground for every tree cut for timber. A fire ranger, appointed by the patronage system, left his post of duty and allowed a fire to run through 1,400 acres of healthy young growth. To replant that area would take at least 1,400,000 trees at a cost of over \$14,000. Another fire started by a careless citizen, destroyed 16,000 acres, to replant which would cost Canada \$160,000. The prevention of forest fires, therefore, is the transcendent consideration in any national forestry program. Until the forests are made reasonably fireproof—and this is attainable by liberal public expenditures—tree planting can only give us a false sense of security against the peril of timber exhaustion. Without doubt, there are in many parts of Eastern Canada, territories of non-agricultural soil that may be regarded as fairly free from fire hazard. Upon such lands, tree planting is feasible and should be proceeded with. But we must always hold in plain view that Canada has a tree farm of over 250,000,000 acres and that this is amply sufficient to provide us with our timber if closely guarded against fire and worked on the basis of permanent timber production.

## Agriculture in New York State.

(Continued.)

### Things Odd or Different.

GRANGE—ANNUAL DINNER.

Happening to be in a New York State village on the right day I was asked "Will you go to the Grange dinner to-day? It is an annual affair, the election of officers follows, and it is free." It was my hostess for the time being who had spoken, and she further emphas-



A Scotch Pine Plantation Showing the Result of Six Years Growth from the Seedling Stage.

ized the invitation by saying that the dinner would be good. She was herself head cook, had in good time bought three fresh hams of pork and had given them out to different ladies who had roasted them, and further, that she had that morning received a box containing 30 bottles of jam, strawberry, raspberry and cherry—from a newly organized factory as a gift to the dinner. Besides that, she said, there will be the chance to meet many of the farmers during the dinner hour and get information such as you are after.

It was a very fine gathering. Men, women and children were there, by families mostly. And the men were of the type that is beginning to be recognized as peculiarly of the country. Sturdy and healthy, no overplus of fat, intelligent, self-respecting and self-restrained. A Canadian could not detect the difference between them and ourselves.

The dinner was of the good and wholesome rather than of the fancy sort. A fine and very noticeable feature of the feed was the setting of a table for the men of the village who worked in the shipping and storage buildings, who came in their working clothes and were served first.

This Grange has a membership of 250 and meets every fortnight throughout the year. When asked what purpose it served, the answer was that it was for social purposes mostly. The Grange is very far from a dead or dying institution there. In the next village about four miles to the northwest, another flourishing Grange holds its meetings.

### AUTOS ON THE FARM AND PUBLIC ROADS.

Being picked up and given a ride one day by a young farmer who had a load of baled hay on his auto-truck taking it to the car, he was asked some questions as to speed, capacity, etc. He seemed surprised that such trucks were not at all common on Canadian farms as yet. "Why," said he, "we run almost everything on the farm with auto power now."

Roads in Western Ontario run almost altogether along concession lines and sideroads. There are some that slant across farms but very few. In the section of New York State under consideration the opposite is the case. Roads there run usually in the most direct line from one village or town to another quite regardless as to boundaries of property. There are roads which follow the lines of division between farm properties, but comparatively few and these very slightly travelled. One feature which is a natural outcome of having the leading roads as mentioned is, that at junctions or cross-roads there are usually tall guide-posts erected on which boards are nailed in line with the roads leading to the various places and giving the distance also.

Thirty years ago the roads in this part of New York State were not nearly in as good condition nor so well kept up as in Western Ontario. With unlimited supply of gravel, public roads were ungravelled. Such is the case with many of the less travelled roads still. But the change in the character of the better roads is amazing. Of course it is the automobile that has brought about this change. The road from Geneva to Canadajua, about 18 miles, is a State road. At first, when the good roads movement began it was macadamized, then changed by repairs of section after section, here, into brick pavement, the next stretch maybe into concrete, so that, so far as my observation went, it was paved with one enduring material or another throughout its whole length. Another piece of State macadam road between quite unimportant places had been faced with heavy oil into which fine stone siftings had been spread as the oil dressing was repeated, until when finished was as smooth as asphalt pavement and

as slippery weather.

An auto of weather everywhere to get to our credit.

A practice seemed quite staying and cured neighbors to and building things about knives etc., and made an agreed upon privilege to done. He tools. When he had shot him and had pen, with pl keep all clea carcass was of the gambrel. Skinning fini being cut clea entrails were farmer would the rest going of all this av pay for the deal of fat on He did not. skin and fat roots of the where. "Ho "A dollar a I haven't look will be high that they w "The first pi can do 15 no seven, as I places." We start skinning work. The l and scrape th Taking for the rind of profitable for

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as slippery when covered with a little snow in freezing weather.

An autoist can be certain of a good road in any kind of weather (except in deep snow) from anywhere to everywhere. In this we are behind the times as compared to York State. But when our U. F. O. Government gets full control and a free hand we may confidently look for a comparative standing much more to our credit.

**PIG KILLING—NEW STYLE.**

A practice in the matter of pig-killing was new and seemed quite strange. The family with whom I was staying had two fat hogs that were intended to be killed and cured for home use. Instead of asking in some neighbors to help and then getting a barrel hunted up, and building a fire around a big kettle, and knocking things about getting a platform put up, and sharpening knives etc., they simply telephoned a local butcher and made arrangements with him to come on a date agreed upon and do the whole job. It was my privilege to be there the day the bloody deed was done. He came in a little runabout with all his tools. When we went to see how he was getting along he had shot the first hog, with a 22 rifle he had then bled him and had him half skinned. All this right in the pen, with plenty of straw of course, spread under to keep all clean. After the skin was nearly all off, the carcass was drawn up with a little block and tackle and the gambrel tied up to the timbers of the loft overhead. Skinning finished the entrails were taken out, but before being cut clean away, and of course, while still warm, the entrails were removed and the hog dressed just as a farmer would do it, the valuable parts being retained, the rest going with the offal. The butcher took nothing of all this away with him except the skin, that was his pay for the work. Some did say, "he'll leave a good deal of fat on the skin and make a little extra out of that." He did not. There is no natural separation between skin and fat but the work was so skillfully done that the roots of the bristles could be seen from the inside anywhere. "How much do you get for a skin as asked?" "A dollar a piece, big or little," he answered. "But I haven't sold any of this year's skins yet, I expect they will be higher." From another source it was learned that they were. "How many can you do in a day?" "The first pig I skinned it took nearly all day, but I can do 15 now. To-day, however, I will manage only seven, as I had to go such long distances between places." We stayed until we saw him shoot, bleed, and start skinning the second hog. There was no skimp work. The last thing to be done was to carefully wash and scrape the outside of the dressed carcass.

Taking for granted that almost no use is made of the rind of pork, this style of pig-killing is certainly profitable for the farmer and a great saving of trouble.

T. B.

scheme is largely concerned with the type of road as a provincial highway because Federal aid is not available for less important roadways.

Prior to this time the scheme for provincial highways in Ontario included 422 miles, but under the new scheme the plans have been enlarged to 1,824.7 miles by the addition of 22 roads which are designated as follows with their respective mileages, and are also shown in the accompanying map prepared by the Department of Public Highways.

	Miles
1. Windsor to St. Thomas (Talbot Road).....	126
2. St. Thomas to London.....	16
3. Maidstone to Lambeth (Longwoods Road).....	105.5
4. St. Thomas to Niagara Falls.....	141
5. Jarvis to Hamilton.....	27
6. Hamilton to Chatsworth.....	103
7. Arthur to Kincardine.....	64.5
8. Sarnia to Road No. 11.....	62.7
9. Stratford to Brampton.....	77
10. Hamilton to Kitchener.....	32
11. Stratford to London.....	47.5
12. Stratford to Goderich.....	42.5
13. Toronto Hamilton (Dundas St.).....	37
14. Cooksville to Owen Sound.....	102.4
15. Toronto to Bradford.....	31
16. Bradford to Severn River.....	55
17. Toronto to Rouge River.....	11.8
18. Whitby to Lindsay.....	36.5
19. Port Hope to Peterboro.....	26.8
20. Kingston to Ottawa.....	102
21. Ottawa to Point Fortune.....	69.5
22. Ottawa to Pembroke.....	89
23. Existing Provincial system.....	422
<b>Total.....</b>	<b>1,824.7</b>

The existing provincial highways include those from Hamilton to Niagara, Hamilton to London, Toronto to the Quebec boundary, and Ottawa to Prescott. In the above list the Stratford-Brampton, Ottawa-Kingston, and Ottawa-Pembroke highways have been decided upon, but the routes are not definitely fixed. The present concrete highway from Toronto to Hamilton is not classed as a provincial highway. The total mileage of public roads in Ontario is approximately 55,000. Of this large mileage 42,000 miles are reported to be well-graded and of this amount 22,000 miles or 62 per cent. are surfaced with gravel, broken stone or other material. Many of these roads are not well built and few are well maintained, but the roadwork of the province has been carried on from year to year with comparatively little bonded indebtedness, by the municipalities of the province.

Prior to 1901, practically all rural roads were under

far the greatest mileage of all classes of roads in Ontario. These are the roads at the farmer's gate and the ones which determine the value to him of main travelled roads some miles off. If his local roads are poorly built and maintained it may be impossible to draw a load of any size as far as the good road. It is now proposed to subsidize township roads of to the extent of 20 per cent. for both construction and maintenance and to pay also 40 per cent. of the salaries of township road superintendents.

The extent scheme of provincial highways shown on the map is an enlargement of the scheme authorized in 1917, whereby county councils may be relieved of some of their responsibility just as townships were relieved of some responsibility by the introduction of county road systems. The road as outlined will touch every county and will connect up the larger centres of population. The Minister stated that the work will start at the centres of population and reach out into the rural districts as rapidly as possible. Many of the roads to be classed henceforth as provincial roads have formerly been included in county road systems, but it is felt that by taking them over, the counties will be able to devote their efforts to other roads which hitherto have not received much attention. The Dominion Government grant will equal 40 per cent. of the cost of building these roads while the province will provide another 40 per cent. and the municipalities through which they pass, the remaining 20 per cent. In the case of suburban roads in which the county and city are both interested, each will be called upon to bear 10 per cent. of the cost. The program, therefore, means that to take full advantage of the \$6,000,000 coming to Ontario during the next five years from the Federal Government, the province must spend another \$6,000,000 from the Provincial treasury and the municipalities \$3,000,000, making \$15,000,000 in all. Just how much of the 1,824 miles projected can be built during the next five years is difficult to say, but it will be next to impossible to build all of it. The plan is there and the roads it provides for will be constructed as rapidly as possible.

In the construction of these roads the materials available in the locality will be used to the fullest extent. Throughout Western Ontario gravel will be the principal material used, but it will be necessary to use more macadam in Eastern Ontario. At the present time the Highways Department believes there are too many 14 and 16-foot culverts in use and it will be the policy in the future to make the culverts 30 feet wide, or the full width of the road-bed. In certain heavily travelled sections especially adjacent to large market towns or cities, a few miles of concrete roadway will be necessary in order to provide a more permanent highway. By making the provincial subsidies applicable to maintenance as well as construction the Government hopes to prevent roads once constructed from deteriorating and will, we were informed, be prepared to cancel its subsidy if roads are not properly maintained.

The provincial highways will carry a 28 or 30-foot roadway and, according to W. A. McLean, Deputy Minister of Public Highways, where it is necessary to reconstruct an old gravel road, from \$5,000 to \$10,000 per mile can usually be expended to advantage. Macadam roads will cost from \$10,000 to \$30,000 per mile for construction alone, while concrete pavement will cost from \$2.50 to \$3.25 per square yard. It is worth noting that before the war the townships were spending about \$2,500,000 yearly on road work and the counties about the same amount.

In examining the accompanying map it will be seen that London and Hamilton are regarded as natural centres of transportation and that Toronto is served much more easily by roads that feed the lake shore road. In the east will be noticed a large area where no roads are designated. This district is much less densely populated and is still served by colonization roads over the which Department of Public Highways has no jurisdiction.

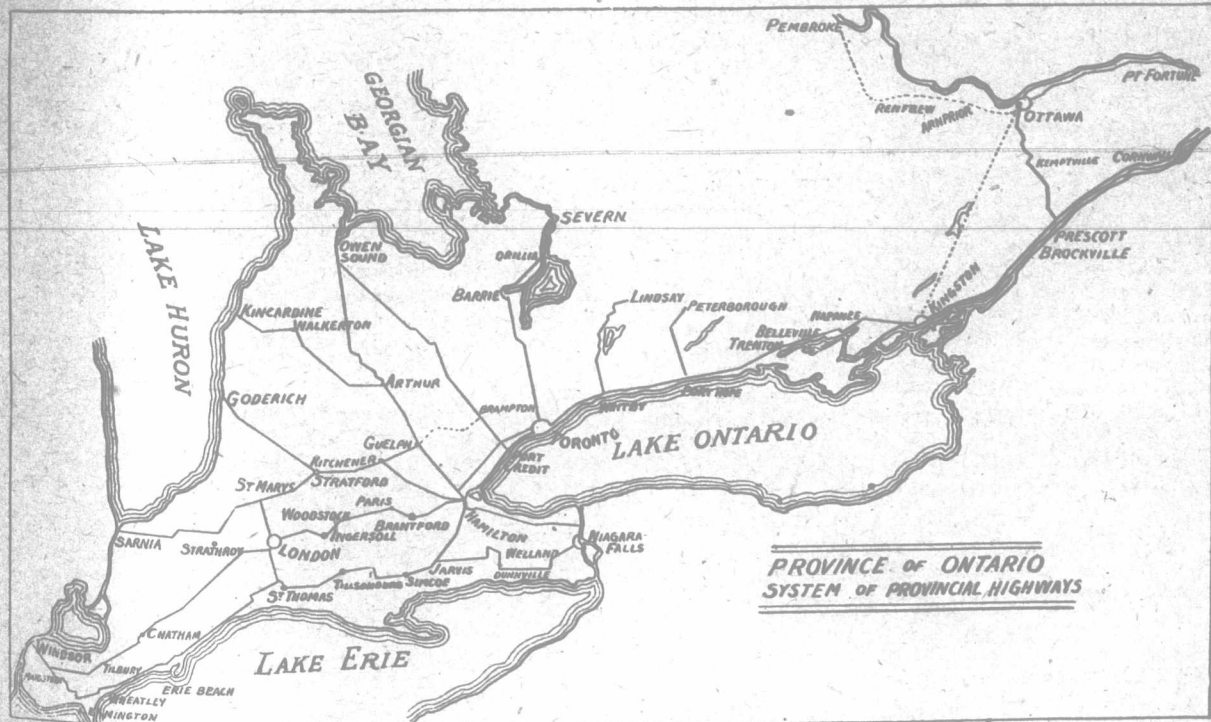
**U. S. Farm Help Shortage.**

A diminution in production in the states of New York, New Jersey and Connecticut is feared in consequence of the shortage of farm labor this season, as anticipated in letters received by the American Land Service organization which had requests for 8,000 workers. Many farmers writing said they contemplated leasing their farms or curtailing the acreage under cultivation and raising about what would be sufficient for their own needs, "letting the other fellow look out for himself." Promises of "good time" in the cities, high wages and short hours were given as the root of the trouble. An official investigation in New York State, showed a falling off of nearly three per cent in the number of people living on 3,775 representative farms and over 17 per cent. in the number of hired men. The movement from the farms to other industries has been greater than it was during the earlier part of the war—Plans are being formulated to possibly tide over this summer emergency by taking out thousands of young men and women during their vacations or slack season in town.

W. T.

Calf, pig and sheep clubs being started in different counties by the Agricultural Representatives should interest the young folk in better quality stock. Breeders should encourage these clubs and do all they can to assist in purchasing suitable stock for the members of the clubs.

Is it true that work in the city weakens a man's nerve to face nature on a farm proposition?



The Proposed Provincial Highways of Ontario.

**System of Provincial Highways Outlined.**

Much interest has been aroused throughout the Province in the proposals of the New Ontario Government to greatly enlarge the system of provincial highways. In order to secure first-hand information as to what is contemplated, a representative of "The Farmer's Advocate" interviewed the Hon. F. C. Biggs, Minister of Public Highways, a few days ago. In general it may be said that it has been planned to recognize four types of roadways within the province, aside from those coming entirely within the jurisdiction of cities. These are the provincial highways, the provincial county roads, the ordinary county roads and the township roads. During 1919 the Dominion Government provided for a grant of \$20,000,000 to the provinces for the construction of main travelled roads, to be spread over a period of five years. It is largely with a view to this grant, of which Ontario's share is approximately \$6,000,000, that the program the Minister of Public Highways has outlined, is planned to cover a five-year period. For the same reason the

control of township councils and statute labor was the principal basis of expenditure. At this time the Highway Improvement Act was passed whereby county road systems were authorized, to be assisted by a provincial subsidy of 33 1/3 per cent. for construction only. At the present time 37 counties of the province have inaugurated county road systems and have constructed 9,500 miles of such roads. County roads are recognized by the Department of Public Highways as the market roads of the province, or the roads leading to market centres and upon which form traffic accumulates from the sidelines. Formerly the greater part of township expenditure was made upon these roads which bear the heaviest local traffic. In 1919, more than \$5,000,000 was spent on roads of this class, of which nearly one-half was contributed by the province. The provincial subsidy to these county roads has now been increased to 40 per cent. of the cost of both construction and maintenance, while a further class designated as provincial county roads will be subsidized by the province to the extent of 60 per cent. of the cost of construction and maintenance.

The purely local or township roads constitute by

### A Balanced Population.

EDITOR "THE FARMER'S ADVOCATE":

A place in the Canadian Temple of Benefactors awaits the statesman who clears the way to a satisfactory solution of the problem of Rural Depopulation. If clearly recognized and honestly faced the prospects for redress of conditions will be better than shutting our eyes in a policy of drift. In cattle rearing, a balanced ration is a consideration. So in the state a proper balance between town and rural people is essential. The abnormal and inequitable concentration of population in cities and towns is not peculiar to Canada, nor is it new. Although mitigated by improvements in the administration of civic affairs, the consequences, as in the past, are injurious. "Farmer's Advocate" readers are well aware that the war increased the volume and speed of the townward current. Existing conditions have driven up the cost of living in Canada for an average family from \$7.72 per week in January 1914 to \$15.30 in Jan. 1920. In nearly everything he buys the farmer feels the pinch. Fifty cities in the United States also report a further advance between Dec. 15, 1919 and Jan. 15, 1920. Curtailment resorted to in supplies of food like milk is especially detrimental to the young. The results of depletion in the ranks of those who till the soil do not end with the food question. Over pressure in trying to keep pace with the call for production when the farm is undermanned, impairs both equipment and worker, making it difficult to maintain rural institutions at a proper standard for the wellbeing of the country as a whole. Apart from the drift of men, young and older, the departure of so many young women from the farm home for professional and town occupations, is serious. Not to mention other considerations it entails heavier burdens upon the housewife left behind who requires more help and repose as her years creep on. She observes what seems to be the greater leisure of her town sister and so when John catches the fever to sell out and move in, she seconds the motion. Numbers who made this shift a few years ago now say they rue the day. Cities have always depended for re-invigoration by draft of fresh rural blood but we have passed the limit of what can be spared. In all directions towns are yet clamoring for more people and Municipal Housing Commissions are rushing up new dwellings, while rural houses stand vacant and farms double in size. We are not without warning of the peril of crowding population in towns. In tracing the downfall of once powerful Rome, the eminent French historian of past civilizations, Dr. Charles Seignobos, records that the old Roman people consisted of small proprietors who cultivated their own land. This gave the nation an honest and robust people. Later on many of them perished in wars. The lands fell into fewer hands, great domains were created. The state hired foreign soldiers to do its fighting and dragged home thousand of slaves who were sent in bands to cultivate the lands not devoted to grazing. As the farms were drained of their stock the city filled up and became corrupt and immoral. To relieve the tedium of lines given over to luxury, vast schemes of entertainment were devised, such as the circus, enlarged under Nero until it provided accommodation for from 250,000 to 385,000 spectators before who finally in combat games thousands of persons were slaughtered. The people lived chiefly to be amused and fed and the collapse of the nation followed. In a general way that indicates the tendency and history has a remarkable way of repeating itself.

Rural depopulation is not a Canadian peculiarity. In the United States it is probably more marked and menacing. A survey completed last year by Federal and State authorities showed that in New York there were 24,000 habitable farm houses vacant. From nearly all the agricultural areas of the republic come bitter complaints of insufficient farm help to produce the necessities of life for the towns. The States have not done so well in tenantry farm houses as in making city millionaires of whom our neighbor, Michigan, for example, has 150, while other states have still greater numbers. Californians are smarting under the humiliating experience of seeing their splendid lands passing into the hands of Japanese whom they detest and have been lately agitating for the importation of the more docile and less aggressive Chinamen to do the work that Americans will not perform because they want to live in town and share in its business. A similar issue has cropped up in British Columbia and the Dominion Government is asked to prevent orientals and undesirable aliens from owning, leasing or otherwise controlling lands in Canada. In England one of the first impressions of a visitor before the war, was the vast stretches of beautiful land unoccupied, while millions were huddled in cities. Nor has the trend ceased. Just lately a Manchester suburb contracted for the erection of 1,000 additional new houses. Across the Channel, France with all its superb natural advantages and its famous system of productive small holdings, which many Canadians have admired, is now experiencing rural depopulation. The other day the French Minister of Agriculture, deplored the stampede of thousands of agriculturists from fertile land for the ease of the city so that the republic was not producing half enough to feed its people.

Manifestly, it is not easy to prescribe quick cure remedies for an ailment so widespread and deep rooted. On certain aspects of this subject the views of Herbert Hoover deserve consideration. As American Food Administrator during the war, he had an extensive experience at home and in Europe and emerged with so good a reputation as to make him a Presidential possibility. Speaking recently before the Western

Society of Engineers at Chicago, he said unless Agriculture kept pace with Industry the States would be forced to resort to importing food stuffs. As the prime essential he laid it down that farming must be made so economically attractive that it will draw into its service its full proportion of American life. In other words agriculture and industrialism should fairly supplement each other. With that position, Canadians can certainly concur. In normal times the price of the farmer's main productions are adjusted along the Atlantic seaboard, in competition with other sources of the world's food supply. Notwithstanding his vast home market, he said the American farmer was getting less of the consumer's purchase price than the farmer of most other civilized countries. He, therefore, favored the removal of impediments to the free and speedy distribution of foods and incidentally the improvement of the St. Lawrence water way from the Great Lakes to the seaboard, and the development of co-operative distribution among producers. Freer access by the farmer to his supplies ought also to be beneficial, one might infer.

Coming nearer home a daily newspaper correspondent who probably has seen about as much as anybody of past immigrations campaigns puts the needs of Ontario alone at 200,000 farm workmen. Securing this help from Great Britain he dismisses as hopeless and looks to Europe for immigrants whose descendants will "remain on the land for two or three generations." If this country interposed no bars against disqualifications inimical to Canadian citizenship no doubt, thousands of Europeans would gladly escape here from their war-aggravated miseries. Coming with the understanding that they will conform with the laws and usages that have proven their value to a free people such as have made this country, then they should be made welcome and be generously used. But we have a right to protect ourselves from the ills that plague Europe. Canadians are averse to further augmenting foreign slums in the cities or duplicating un-Canadian farm groups as in the West. For Ontario, the writer referred to, advised the "continental system of intensive farming" but did not show how peasant habits and land tenure a century old are to be introduced here. Heretofore much of the immigration designed for rural Ontario simply reflowed like water through a sieve into commercial and industrial centres so that farmers grew sick and tired trailing to employment agencies.

Relying more upon the increase and nurture of our own native-born population, growth will be less rapid but in the long run better. Sooner or later, by the stern experience of high prices and hunger perhaps, thousands crowding the cities will get over the idea that the "chief end of man" is ease and entertainment. The natural advantages and security of rural life, persistently set forth, will yet be recognized. Town and country need to work together. We had better set our faces steadily against the mistaken disinclination to physical labor necessary in the production of milk, cream, poultry, pork, vegetables, roots, fruit, etc. As the principles involved are understood, intelligent practice become less irksome. When young people of the farm reach the age and thought of embarking in other occupations, they should be accorded definite and liberal compensation for their services with an interest in returns as has been suggested in these pages. Still more important, arrangements should be devised that they will have early access to land and a home of their own, without those vexatious delays that have driven so many into other pursuits in the past. With the many modern means of recreation now easily available, rural farm home life can be made as it ought to be, the most satisfying and joyous in the world. Pending remedial measures in relation to food transportation and tariffs the foregoing simpler suggestions which people can themselves adopt, will be found practical and effectual in counteracting the alluring tinkle, tinkle, tinkle of the towns' golden bell.

Middlesex Co., Ont.

ALPHA

### CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

#### An Effectual Handicap.

EDITOR "THE FARMER'S ADVOCATE":

Under the title, "A Modern Handicap," a writer in "The Farmer's Advocate" asserted that one of the difficulties present day rural young men are meeting is lack of proper agricultural education. In his eyes practical experience supplemented by book knowledge is ideal equipment for a would-be farmer, and he deplores the fact that, in so far as book knowledge is concerned, educational facilities have not kept pace with agricultural development, in proof of which he points to the Ontario Agricultural College as a sort of oasis in a desert. There may be a good deal of truth in what he says, but as a real difficulty it doesn't amount to much. To my way of thinking, lack of modern dollars is a far greater handicap than lack of education, proper or support this statement.

As an example of what I venture to say is common to hundreds of rural young men, take my own case. The good fortune of being born and raised on a farm, with the comforting prospect of unlimited help in the shape of live stock and implements from Dad when I staked my claim on a nearby hundred acres was not mine; and so, before I can make a start I must build up a

cash reserve. Building material, however, is very elusive and as yet no one has turned green with envy. I have raised a bank account to a point where, if it stretches its neck, it can view the promised land of respectability. At present, however, owing to the rising propensities of farms and farm necessities it seems as though it is going ahead backwards and the question, born of impatience, arises: Shall I borrow at six or more per cent. and pin my faith to pipe dream, bumper crops to square accounts?

I have viewed this question from a good many angles but I abhor debt, and consequently I have invariably sought to solve the problem by other means. At one time my blood leaped at the thought of a bush farm in New Ontario—"There", said I, "lies the solution!" After much cautious inquiry, however, and due consideration, I reached the conclusion that I wasn't born to be a pulpwood chopper where the mercury hibernates for the winter. I couldn't see any adequate compensation at all. Independence itself would be dear at the price. And then there came before my seeking mind the term, Golden West: Can't I help you? it seems to say. Without more ado I packed up my bag of tricks and hied away to where acres and bushels and dollars are spoken of in thousands; and where, according to some breezy Westerners I had met, an ordinary Ontario farm would merely pass for somebody's back garden.

Full of zeal and some C. P. R. box lunches I started in to canvass Western possibilities within the shadow of the mighty "Rockies" where the advent of the wheat farmer is, or was, bitterly lamented by the rancher—"an' sure it is the iligant country" with possibilities, especially climatic ones, as numerous as gophers, but—yes, but—I didn't boil over with enthusiasm. I always knew that the farming game was something of a gamble, but I found that Western farming is warranted to give you more thrills for your money. You back your money and labor against frost, hail, drought, wind, and more frost. Sometimes you win, and your creditors heave a sigh of relief. I also found that as "back East" you needed either a large sized nerve or a fairly respectable bank roll with which to begin operations. I had neither. I was a round peg in a square hole; and as a homestead a thousand miles from nowhere didn't appeal to me, the C.P.R. enjoyed the privilege of hauling me back to where apple trees grow, to face the same old problem in the same old way. I am still looking at it; still seeking some way to dodge round it—but alas! what else can I do? Can anyone tell me?

If anyone should, out of the largeness of their hearts, feel impelled to offer a few useful hints toward the solving of my especial problem I would have them bear in mind that, to me, Old Ontario is the finest place to have a farm and be a farmer; and also that, apart from the money question, I lack what some farmers assert is absolutely essential to a farmer—a wife. However, please don't advise me to marry, because, though it might prove a highly educative proceeding, if I have to furnish a house with a wife and furniture my farm dreams will suffer absolute extinction.

Wellington Co., Ont.

Hired Man.

#### Develop an Interest in Farming.

EDITOR "THE FARMER'S ADVOCATE":

You have a son on your farm. Has he ever expressed his ambition to abandon the occupation of his father for the mercenary gain and new interests of town life? Do you know definitely that his alert mind has never harbored such ideals? Few city boys dream of the luxuries of farm life, solely because they find sufficient interest and enjoyment in their several walks of life. Agriculture of to-day is undergoing a progressive revolution. Improved varieties and strains of grains and breeds are in popular demand, both as breeding and rapid money-making propositions. New local and foreign markets are being created and the necessary steps taken to supply their demands. Rigid enforcement of the Seed Control Act and the campaign in favor of the elimination of the scrub sire, are other forward steps in this new era. Heredity and environment are big factors in the life of all creatures, but we will surely be stretching the point by expecting our sons to successfully follow in our up-to-date footsteps, if we take no pains to arouse their interest and ambition in things agricultural.

There are many ways of doing this. Your brood sow has a litter of eight pigs. Make the boy a present of two of these weanlings with the understanding that when they are full grown, finished, and sold, he will repay you the cost of their feed from their selling price. If his hogs are judiciously handled and fed, under his father's guidance, he now has a little capital of his own with which to extend his business of profit-making. He will also possess a working knowledge of feeding and handling pigs, which he will always retain, his business ability is cultivated, and, best of all, his hitherto dormant ambition is stirred to its very foundation, and sent soaring skywards.

Colts, calves, lambs, bees, poultry and grain and vegetable crops are admirably suited for this purpose. From the start, our young farmer should be taught the fundamentals of simple farm book-keeping and made to balance his accounts monthly. He will become familiar with our present banking system and develop an all-round business head and commercial ability, so essential in the agriculturist of to-day.

The small initial expense will be materially repaid by the eager and interested manner in which he performs his various farm chores. This attempt to give the



boy a chance is not a mere experiment, but has repeatedly proven a success throughout the Dominion. Let us earnestly co-operate with the County Boy's Clubs and the School Fairs, and thus ensure the further development and expansion of the industry, and the success of the agriculturist of to-morrow.

Wellington Co. K. REGINALD DOUGLAS.

**AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.**

**Electric Motor.**

Could you tell me through the columns of your paper the difference between an electric motor and a dynamo or generator, and how each works? It is the difference in mechanical construction of the two that is required.

C. R. F.

Ans.—An electric generator is a machine which when driven from some source of mechanical energy, such as a steam engine or a gas engine, is capable of delivering an electric current. An electric motor is a machine which, having electric energy supplied to it in the form of an electric current from a source of supply, will deliver mechanical energy which may be used for doing mechanical work. To be brief, a motor takes in electrical energy, a generator delivers it.

Speaking of direct-current machines, the same machine may be used as either motor or generator. The word dynamo is usually applied to such a machine when no definite name plate is attached to it signifying for which of the two duties it is intended to be used.

In alternating-current machines the mechanical construction of motors and generators is sometimes quite different, and there are so many different makes of machines on the market, that to describe even in general the difference in mechanical construction of these would take many pages of printed matter.

**Empty Cisterns.**

EDITOR "THE FARMER'S ADVOCATE":

The shortage of water in our cisterns following the long period of cold weather this winter prompts me to suggest the following plan as a simple means of overcoming this difficulty for all who have windmills or other power for pumping from their hard water wells. Make a connection from the pipe that supplies the hard water to the house, to the pipe by which the soft water is drawn from the cistern. This latter connection must be made below any check valve and may be either a fixed pipe, or by having attachments to which you can fix an ordinary garden hose from one to the other, with proper stop cocks on each. You can then from time to time pump some hard water into your cistern as necessity calls for it. This has another advantage from the addition of some hard water to your cistern keeping the water in the cistern free from any taint or smell.

My plan with a windmill is quite frequently to turn the windmill on to the cistern the first thing in the morning, and after it has been running for some time to turn it on to my hard water tank. Then when the tell-tale shows that the tank is full, a signal is given to have the windmill turned off. By keeping a fair amount of water in the cistern there always will be a sufficient proportion of soft water so that the hot water front to your kitchen stove will not become choked with lime, and you are equipped to meet such conditions as have arisen this winter or through any period of protracted drought.

York Co.

L. H. BALDWIN.

**THE DAIRY.**

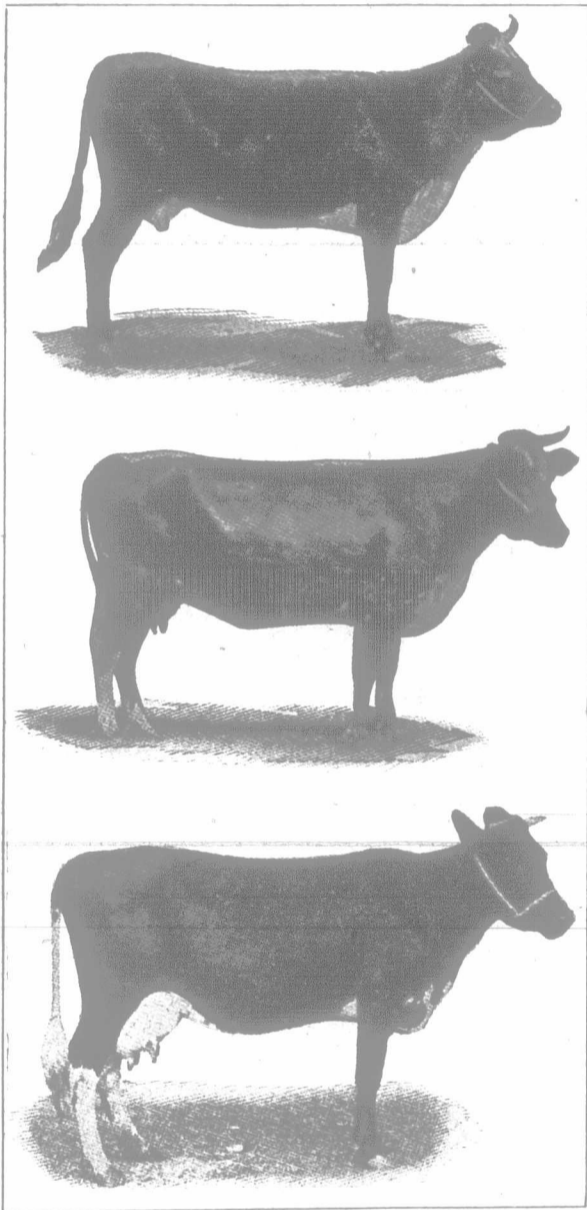
**Ten Years' Improvement by Grading Up.**

Federal statistics indicate that in July, 1919, there were in Canada slightly more than 3,500,000 milk cows. The most reliable estimates that can be obtained indicate also, that the average yearly production of these cows is about 4,000 pounds. Of course there are many, many cows that do much better than this and, in fact, most of the cows in the more prominent dairy districts will go 6,000 pounds or better, but there are comparatively few herds that will average over 8,000 pounds. Occasionally one runs across a commercial dairy herd where the average is close to 10,000 pounds, but this is rare unless the herd is practically all made up of pure-breds.

There are two outstanding reasons for this deplorably low average production the country over. The first and fundamental reason is undoubtedly the preponderance of cows of inferior or scrub breeding and the second is the prevalence of poor feeding methods and the use of insufficient or poor feeds. It has been pretty well proven that breeding is of more importance in determining the profit secured from the average dairy herd than feeding. This is shown by studies of the cost of producing milk in Western Ontario, the results of which have been recently published in these columns. It is shown first that by increasing the production per cow from below 4,000 pounds yearly to more than 7,000 pounds the cost of producing 100 pounds of milk was reduced in actual practice from \$3.96 to \$2.05. This indicates that the yield of milk per cow is undoubtedly the most important factor determining the cost of

production of milk. It is even shown that well-bred, poorly-fed animals will produce milk at a cost considerably less than it can be secured from poorly-bred, well fed animals, the difference, in actual results having amounted to over 75 cents per 100 pounds. The following sentence from the report of the farm survey is also shocking, namely, "With milk selling at an average price of \$2.36 per 100 pounds the cow which produced less than 5,000 pounds within the year could be classed as a 'boarder'."

But we do not want our readers to believe that it does not make much difference how a cow is fed so long as she is well-bred. This is far from being the case. In fact, we believe that by better feeding alone it would be easily possible to raise the average production per cow by from 1,000 to 2,000 pounds yearly without increasing the cost of production. This would increase the milk receipts per cow from \$25 to \$50 per year. Some herds are already overfed for profitability, but they are nearly all high producers by breeding. The studies of the cost of milk production referred to, show that it does not pay to feed cows at a cost of much over \$100 per year, but it is well known that two men may feed equally good cows at the same cost and yet get wonderfully different results both in milk yield and cost of production. Cows seem to differ also in the persistency with which they will milk, but we are



From Scrub to a Three-quarter Blood Cow.

The cow at the top is a scrub; the centre cow is a half-blood Holstein, and the bottom cow is a three-quarter blood.

convinced that the reason many cows fall down towards the latter end of the lactation period is because they are either being improperly or insufficiently fed or because they have not been fitted for a long period of milking. There is a common saying to the effect that a bag of meal before calving is worth two bags after calving, and in the case of an animal that is capable of producing well if properly handled, neglect of proper fitting is bound to result in a lower production than the cow is capable of. Many cows are qualified by breeding and milking ability to perform much better than they are ever made to do because their possibilities are not developing by the necessary feeding.

The influence of environment and breeding in increasing dairy production has been studied for ten years at the Iowa Experiment Station. These investigations were based on the fact that owing to the large amount of capital necessary to secure a herd of pure-breds, only a small percentage of farmers will have herds of this kind, notwithstanding a common desire for improvement. Most of the dairy products of the country come from grade herds and in improving such herds the problem is to decide whether to grade-up from the cattle already in the herd or to buy in better cattle from time to time. Commenting on this situation the authors of the bulletin in which these results are published say: "Everyone knows that a good dairy herd can be bought, but many have found that this method is not only

expensive, if really good cows are secured, but also hazardous, due to the liability of introducing disease. Many also buy up a herd before they learn from experience that proper feed and management must be given to the animals. The question of greatest importance and one frequently asked is 'Can such a herd be produced from a foundation of common cows where the initial expense is the price of a good pure-bred dairy sire?' It is important that this question be answered satisfactorily and with assurance of final success and also of a reasonable income from the heifers resulting from the mating with the first pure-bred sire, before many farmers will attempt to build up efficient and economical herds, using as the foundation, the cows they already own."

The work in Iowa was begun in 1907 and while still in progress has been reported on up to August, 1918. The scrub cattle used as a beginning "were very inferior individuals, being small, of exceptionally limited abdominal, udder and mammary vein development and exceedingly unprepossessing as far as quality and top lines were concerned. Available records showed that no pure-bred bulls had previously been used in the section of Arizona from which they were secured. The environment was not suited to the stimulation of heavy milk production as the cattle received little if any, grain or concentrates, being forced to subsist on the rather scanty supply of grass and hay available." At Iowa, pure-bred Guernsey Holstein and Jersey sires were used on these scrubs and all were given the same care and attention as was received by the pure-bred dairy herd. Moreover, it should be noted that the records throughout the experiment used in comparing scrubs, half-blood and three-quarter bred cows were all calculated on the mature basis, taking the following percentages of mature production as applying to heifers of different ages:

Age	% Mature Production
Yearlings.....	70
Two-year-olds.....	80
Three-year-olds.....	85
Four-year-olds.....	95

The influence of environment, (feed, care and housing) referred to above, was quite marked. Five out of seven cows of producing age when purchased were mature and the other two were four years old. An increase of 10 per cent. in milk and 8 per cent. in fat was expected of the latter at maturity, but under improved conditions the increase actually secured was 59 per cent. in milk and 54 per cent. in fat, although at even this they only produced at seven years of age 4,907.7 pounds milk 229.91 pounds fat. After seven years of age the decrease in production was quite noticeable. The cows that were mature at the beginning decreased in production in spite of good care and feed. Four yearling scrub heifers had also been purchased and by comparing the production of those that came to the station mature, with the mature production of those that came at four years of age and with those that came before first freshing, it was found that the cows receiving good care and treatment from before first freshing produced 27 per cent. more milk and 24 per cent. more fat than those that did not get good treatment until they were mature, while those that got good treatment after they were four years old produced 14 per cent. more milk and 8 per cent. more fat than those that came to the station when mature. This shows clearly "that the younger an animal is when subjected to good treatment, the greater is its response."

This point is further brought out by the behavior of three scrub calves. Two of these were dropped by cows that were mature when purchased while the third was out of a four-year-old cow. The calf out of the four-year-old cow did not produce when mature any more than her dam, except an increase of 6 per cent. in fat, which was counterbalanced by a decrease of 4 per cent. in milk. The other two averaged 44 per cent. more milk and 26 per cent. more fat than their dams. This result can only be attributed to liberal feeding of the heifers before producing age was reached.

**INFLUENCE OF PURE-BRED SIRES.**

A notable tribute to the influence of a pure-bred sire is developed by the result of ten years work in grading up from these scrub cows. As mentioned before, pure-bred Holstein, Guernsey and Jersey sires were used. With regard to these and the results secured through two generations of improvement, we read:

"The pure-bred sires used were with one exception the herd bulls in use at the college dairy farm where pure-bred herds of the different breeds are maintained. None of these sires were purchased at high prices, although they were well bred for type and yearly production. Young bulls of equal breeding are available for nominal prices, prices so reasonable that the man who milks cannot afford to use a scrub bull, however, cheaply he may be purchased. All the first generation grades sired by pure-bred Holstein bulls showed an increase over their dams in production. On the average it was an increase of 90 per cent. in milk and 59 per cent. in fat production. In the case of the first generation Guernsey grades, an even wider variation was found, but on the average the increase was 13 per cent. in milk and 39 per cent. in fat production. The Jersey grades showed an increase in fat over their dams in every case and an increase in milk in every case but one, while the average increase was 24 per cent. in milk and 39 per cent. in fat production. The grades of the first generation when taken as a group showed an increase of 39 per cent. in milk and 35 per cent. in fat production.

"When the second generation grades of the three breeds are taken together, a sufficient number of records are brought together to afford a more definite basis for determining the influence of a pure-bred sire in increasing milk and fat production. The average production of these cows proves to be 8,401.9 pounds of milk and 358.17 pounds of fat, or an increase in two generations of 130 per cent in milk and 109 per cent, in fat, which is a striking tribute to the pure-bred sire."

FEED PERSISTENCY AND CONFORMATION.

Commenting upon the relative monthly productions of the scrub cows as well as the two generations of grades descended from them and the pure-bred cows in the college herd, the investigators say: "It is evident that the scrubs decreased much more rapidly in production than did the pure-breds, while the first generation grades were intermediate between them: The second generation grades are not in sufficient numbers as yet to give a good curve of monthly production, but it is evident from the records available that so far as persistency is concerned, they will be better than the first generation grades and approximate closely the performance of the pure breeds. One of the main reasons for the poor production of the scrubs used in this investigation was their lack of persistence and the improvement in this point brought about by the use of good pure-bred sires is evident."

Feed costs were also studied and it was found that "the three-quarter bloods give cheapest production and the half bloods next, showing that grading up the herd through the use of pure-bred sires not only gives increased production but also lowers the cost of production." Improvement in conformation was also notable and we are told that "many of the second generation grades would be considered uncommonly good representatives of the breed the blood of which they carry." The accompanying table summarizes the results in production of the two generations of grades and their scrub ancestors.

INFLUENCE OF PURE-BRED DAIRY SIRE ON TWO GENERATIONS OF GRADES FROM SCRUB COWS.

Breed	Dams			Daughters			Granddaughters			Increase in production			
	No. of cows	No. of lactations	Average production	No. of cows	No. of lactations	Average production	No. of cows	No. of lactations	Average production	First generation		Second generation	
										Milk lbs.	Fat lbs.	M. %	F. %
Holstein	2	10	3782.0	2	11	6839.6	2	3	11126.7	81	55	194	138
Guernsey	2	6	3686.5	2	7	5101.5	2	2	5810.1	38	43	58	79
Jersey	1	7	3463.3	1	3	5009.0	1	1	5411.4	45	57	56	71
Average	5	23	3660.2	5	21	5998.7	5	6	8401.9	64	52	130	109

Holsteins at Dunnville.

Warren Stringer, of Dunnville, had a very successful sale on March 3, when he disposed of his herd of R. O. M. Holsteins. The herd was headed by Johanna Bonerges Lad, whose dam had a 29.11-lb. record. The highest price was \$355 for Woodslee Ormsby Burke, which figure was paid by M. Zavitz, of Ridgeway. The following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Thanksgiving Maid, P. J. Vollick, Canboro	\$245
Pearl Segis, Art Nevills, Dunnville	305
Corine Jane Houwtje, John Moote, Canboro	140
Lady Isco Houwtje Calamity, John Moote	155
Pontiac Beauty Calamity, E. C. Doan, Ridgeway	200
Lady De Kol Lindley, Miss McCallum, Dunnville	150
Gustava Beauty, John Moote	150
Maple Front Lady Lindsay, Asa Choate, Hamilton	150
Woodslee Ormsby Burke, Marshall Zavitz, Ridgeway	355
Woodslee Beauty Burke, C. V. Robbins, Wellandport	175
Woodslee Segis Hengold, Asa Choate	130
Woodslee Ormsby Artis, Albert Caster, Dunnville	180
Woodslee Segis De Kol, M. M. Sundry, Dunnville	200
Woodslee Ormsby Inka, Lincoln County Industrial Home, St. Catharines	325
Inka Artis Burke, John Hodges, Dunnville	205
Artis Inka Hengerveld, A. L. Mitchell, Woodburn	255
Sylvia Artis Hengerveld, Marshall Zavitz	260
Inka De Kol Burke, A. L. Mitchell	295
Johanna Bonerges Lad, L. Wilcox, Smithville	110
Veeman Starlight, John E. Logan, Dunnville	180

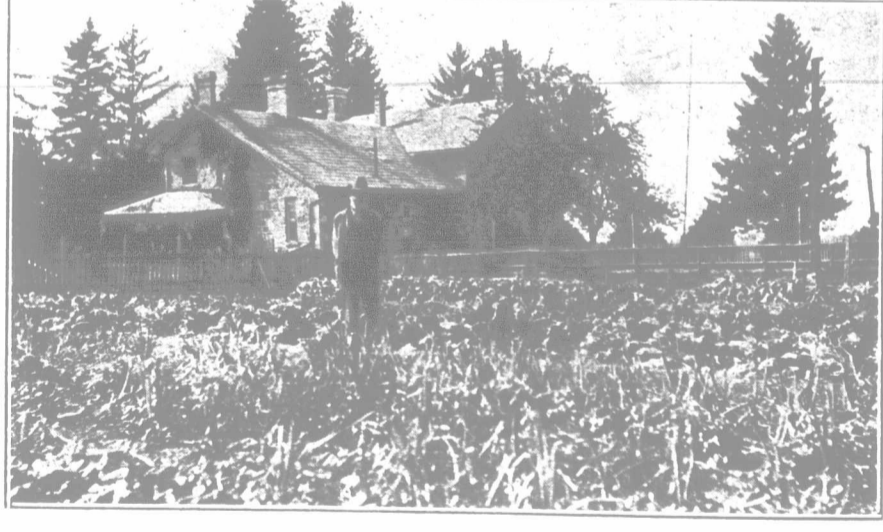
London District Holstein Sale.

On Tuesday, March 16, the London District Pure-Bred Holstein Breeders held an auction sale at the Western Fair Grounds, London, and disposed of fifty-two head of registered Holsteins. Some very good breeding was represented in the consignment, and quite a number of the mature cows had great capacity and splendid indication of milk production. Several two-year-old heifers were in nice condition, and there were two or three good males. There were too many entries that were not a credit to the sale, owing largely to the fact that they were not in condition. Undoubtedly many of these will turn out to be good propositions, and what the consignor lost by not fitting his animals more will be gained by the purchaser. L. H. Lipsitt, of Stratfordville, secured Princess Helbon De Kol, a five-year-old cow, for \$430. This was the top price

of the sale. She was a particularly big, strong cow with a good udder, and traces to Dutchland Colantha Sir Abbekerk and Colantha Johanna Lad. Belvoir Stock Farms secured a good young cow at \$330. The highest priced male was Maitland King Pontiac, consigned by J. D. Holtby. He was purchased by A. Keene, of London, for \$300. On his sire's side he traces to May Echo Verbelle and Inka Sylvia Beets Posch, while on his dam's side he traces to King Segis. The following is a list of the animals sold for \$100 and over, together with the names and addresses of the purchasers:

Sir Korndyke Rose, W. A. Bailey, Thorndale	\$100.00
Mabel Korndyke De Kol, A. Thompson, London	205.00
Victoria De Kol Netherland, A. Trott, Wilton Grove	205.00
Lady Netherland Abbekerk, W. Hodgins, Clandeboye	195.00
Netherland Posch Abbekerk, A. E. Wood, London	195.00
Waldorf Sarcastic Johanna, J. E. Bedggood, Thorndale	185.00
Glenwood's Princess De Kol, R. Johnston, Egmondville	250.00
Earl Helbon De Kol, G. B. Laidlaw, Wilton Grove	100.00
Allison Burke De Kol, E. A. Gough, Wilton Grove	125.00
Unique Mercedes Posch, J. E. Bedggood	120.00
Lady Pontiac Delta, O. Norton, London	135.00
Hengerveld Howtje Princess, Carmichael Bros., Ilderton	130.00
Ormsby Segis Hartog, J. Winter, London	125.00
Francis Fairmont Veeman, J. McMaster, Appin	130.00
Zimalinker Posch, T. Dicker, London	100.00
Lynnhurst Waldorf De Kol, E. Sipple, St. Thomas	170.00
Boutsje King, McTavish & Orchard, Shedden	185.00
Maggie Korndyke Canary, F. Adams, Southwold	235.00
Pauline Bell of Birnam, W. C. Prouse, Tillsonburg	175.00

Dora Hengerveld Segis, R. Johnston	200.00
Sir Tidy Korndyke, C. S. Adams, Southwold	135.00
Idaline De Kol Snowball, W. C. Prouse	200.00
Daisy Belle Payne, F. A. Bell, Hagersville	110.00
Sprucedale Lenora, W. Stewart, St. Mary's	170.00
Lady Roberts Faforit, T. Rosser, Denfield	170.00
Paul Echo Veeman, T. G. McClary, London	105.00
Calamity Faforit De Kol, Belvoir Stock Farm, Delaware	330.00



The Farm Garden Should be Spacious and Planned for Convenience.

Rosie Veeman Segis, LeRoy Siddall, Denfield	210.00
Winnie Canary Segis, A. E. Wood	225.00
Korndyke Belle Zeeman, R. Johnston	255.00
Pretty Polly of Willowbanks, Belvoir Stock Farm	160.00
Miss Aggie De Kol, F. A. Bell	125.00
Grace Mercena Ormsby, L. Learn, Wilton Grove	125.00
Grace Ormsby Hengerveld, W. Stewart	210.00
Topsy Canary, Neil Maitland	130.00
Queen Gretqui, G. W. Keyes, Hyde Park	155.00
Lady Clothilde Queen, J. E. Bedggood	230.00
Duchess of Hedgerow, Carmichael Bros.	122.50
Polly Beets of Hedgerow, Geo. McFayden, Suma	100.00
Duchess Beets of Bunyan, M. Marsh, Arkona	115.00
Rosalie, N. L. McNice, Byron	115.00
Princess Helbon De Kol, L. H. Lipsitt, Stratfordville	200.00
Maitland King Pontiac, A. Keene, London	300.00

Dairy Meetings Planned.

Announcement is made by the Minister of Agriculture that the butter-grading service of the Province will be extended so as to employ a larger number of graders, who will be linked up with the instruction work. In order to acquaint creamerymen and butter-makers with the plans of the Department, meetings have been scheduled as follows: Kirby House, Brantford, Tuesday, March 16; Chamber of Commerce, London, Wednesday, March 17; Royal Inn, Harriston, Friday, March 19. Practical dairy problems will also be discussed at these meetings, while a special course for butter-makers will be held at the Dairy Department, O.A.C., Guelph, during the three days ending April 1.

HORTICULTURE.

Officers of the Ontario Fruit Growers' Association.

The officers of the Ontario Fruit Growers' Association for the year 1920 were elected at a Directors' meeting, held in the Parliament Buildings, Toronto, on Tuesday, March 9. They are as follows: President, David Allan, Grimsby; Vice-President, H. Sirett, Brighton; Executive, A. Craise, St. Catharines, and C. R. Terry, Clarkson; Secretary-Treasurer, P. W. Hodgetts, Parliament Buildings, Toronto. Several matters pertaining to the fruit industry of Ontario were discussed at the meeting, chief among which was the proposal to have the Vineland Horticultural Station taken over by the Federal Department instead of the Province of Ontario, and the advisability of holding a National Apple Show in Toronto at the time of the Royal Agricultural Winter Fair. We believe the Board was unfavorable to the first proposition but favorable to the second.

Keep the Garden Soil Busy.

To have a successful home garden, one must make full use of the soil. The plot set aside for supplying the home garden with vegetables is usually not very large and yet its purpose is to keep the table supplied with fresh vegetables for as much of the season as possible. This may look very simple, but at the same time, to make the best use of the garden requires very careful planning, not only as to how much of each crop will be required but as to how best all of the space can be utilized throughout the whole season. One can make use of both succession and companion cropping; that is, more than one crop can be grown on the same soil in one season by following an early one with a late one or a later planting of an early crop, or, two crops may be grown together, which is known as companion cropping or intercropping. The principle is just the same as growing potatoes in a young orchard. Both succession and companion cropping must usually be considered together as, for instance, if lettuce and radishes are sown in rows between early cabbage plants, the radishes will be pulled first, and then the lettuce. These two out of the way the cabbages will have the ground to themselves. They, however, will be taken off as an early crop and beans can be planted immediately. Many different plans and combinations of crops can be made but soil and climatic conditions limit to a certain extent, what one can do.

In the farm garden the advantages should be nearly all on the side of companion cropping, especially where, as very frequently happens, a certain piece of ground is set aside as a garden spot. Sometimes we have seen gardens located long distances from the house, near the root field perhaps, where the horse cultivator could and would be used to eliminate some of the hoeing. This, however, must be poor economy and very hard on the women folk who are forced to walk long distances for a few vegetables for dinner. Besides it rarely happens that a little forethought could not provide a plot near the buildings where the horse cultivator could be used equally well. Where plenty of land is set aside for the

farm garden, companion cropping is not necessary, of course, but where space is no more than is actually needed several advantages are connected with this practice. Besides the fact that no ground is wasted there is an economy of plant food, the surplus applied for one crop being, used for another. Another point worth mentioning in this connection is that two crops rarely use the same kinds of plant food to the same extent and the drain on plant food of two crops grown in one year is not necessary, therefore, double the drain of one crop. When peas, beans, or other leguminous plants are planted along side other crops they act as nitrogen gatherers and thus help to enrich the soil. Moreover, the same tillage needed for one crop does for the crop planted alongside it. This factor, as well as some of the others mentioned, is naturally of greater importance to the market grader than in the home garden. Com-



retarded by the discount which the incoming settler must accept on the transfer of his money. If present conditions are to continue it is apparent that not only must we be prepared to accept the United States as our one and only creditor, but we must look to if for our immigration and for the money to carry on the development which immigration necessitates. This prospect raises a question of very serious concern to all Canadians. The Empire pooled its forces to win the War; why not to win Peace?

#### SELF-PRESERVATION THE FIRST LAW OF NATIONS.

Self-preservation is the first law of Nations as well as nature. In the present world upheaval it is the first duty of every country to take care of itself. Sentiment can no longer be permitted to govern. We are now eating the dessert course at the present gorgeous banquet of Expansion and Inflation and are about to be called on to pay the bill. It is madness to think that such a reckless feast can last indefinitely. We must get down to a cold realization of the situation and prepare to meet it. It has been said that Canada can solve her war problems easier than any other country in the War. With our great undeveloped natural resources, we are, so far as raw materials are concerned, undoubtedly in a more advantageous position than any of our allies, but our wealth, so to speak, is at the grass roots. To "cash in" we must have increased production, which means more population. Immigration and production, that is our problem. Undeveloped natural resources as they stand with us to-day cannot be "cashed" at the Bank.

#### PUT OUR HOUSE IN ORDER.

There is little assurance that the United States will rise to the occasion and discharge her duty to civilization by joining with the other nations in a sound business effort to maintain international trade. On the contrary the lack of understanding and the indifference of a great part of the American people to anything European, complicated as it is by a growing hostility to Europe (particularly to Great Britain) and with a presidential campaign under way, it is more than probable that America will fail to do anything material towards the relief of Europe this year. A continuance of trade under present conditions in Europe is unthinkable and at best a bold speculation which will soon become an impossible gamble. With such a rough road in prospect, should not our Government at once adjust its "shock absorbers" and get ready to apply the brakes.

#### RETRENCHMENT THE ORDER OF THE DAY.

There has been repeated urging of individual economy in Canada. Excessive government expenditures have had a great deal to do with our inflation and the falling value of money. So long as the Government fails to live within its income it is useless to admonish the individual to save. The Government must show the way. If Canada is to get through without a crash, retrenchment must be made the order of the day. We must live more within ourselves or our creditors are going to pull us up even shorter than they are doing at the present time. In the state, as in domestic finance, both ends must be made to meet. Public expenditure should be brought to the irreducible minimum. Drastic changes beginning with the ruthless reduction of government departments, bureaus and commissions and the insistence of efficiency in every branch of the Government service, should be put into effect at once. Resolute retrenchment and ruthless economy is the only sound policy. There must be such cutting down or postponement of government appropriations as will bring our expenditures within our revenue. Only by such means can we check the rise in the cost of living, and prepare to weather the storm.

#### ENFORCED PERSONAL ECONOMY.

Once the Government has set the example, they can insist on the individual getting into line. In these days when the value of money is so little appreciated by the average citizen, the Government might well impress economy on the wasters. It is surprising that in Canada where revenue is so badly needed, we have neglected to make use of the luxury tax (so generally in effect throughout the world) to force economy on our spenders and to compel our people to buy more at home.

#### LIMIT TO TAXES.

It is evident to the casual observer that there is a limit to the taxes which the business of the country can pay. Taxation in Canada is already near the point at which thrift, business enterprise and new capital for development becomes dangerously impaired. In some of our provinces that limit appears to have been reached. We must pay our War debt, not by taxing our existing business to death, but by developing new sources of wealth.

#### NO MORE BORROWING.

If the business of the Country is already carrying its full load of taxation and the present rate of expenditure is to continue, it is evident that further borrowing on the part of the Government must occur. Under the conditions we are likely to experience for this year at least, such borrowings will not only add to the present great burdens of the country but also will be disastrous to the credit of Canada. It should be made plain to our legislators that the country will tolerate no more Government loans.

#### CAN WAR GOVERNMENTS RETRENCH?

Can a War Government, concerned for years only in accomplishment regardless of expense, its officials schooled in the extravagance of War, its departments built up on a War basis, spending unlimited millions without any concern as to how it was obtained (money supplied without question by a patriotic people); can

such a Government effect the retrenchment and economies the present situation demands? Or must it be a new broom to sweep clean? It is nearly a year and a half since the Armistice when this question was first asked, and it still waits for a favorable answer.

#### NO TIME TO WASTE.

Inaction, timidity and procrastination on the part of our politicians will but confirm the uneasiness of the thousands of Canadians who are to-day living on the narrow margin in their experience. This is no time for "Mother Hubbard Governments" (covering everything and touching nothing). Popular opinion should not permit our legislators to mark time or wait for something to turn up. The call of the hour is for action.

#### NEED FOR A CITIZENS' UNION.

Has not the time arrived (in these days of unions) when the great body of Canadians, who know no class distinctions and who have at heart only the best interests of Canada as a whole, should join in a real Citizens' Union so that through organization, consolidation and co-operation, they can make their united voice heard and heard?

With the world approaching disaster there is urgent need for the active co-operation of all loyal Canadians to save our Dominion from "drifting" into the breakers ahead.

NOTE.—The above article, written by Major General McRae, is by no means optimistic, but it gives the state of affairs in Europe as seen by the writer, who has but recently returned from overseas. Evidently we are riding on the crest of the wave, and from facts stated in the article it is very uncertain what the future will reveal. When countries practically the world over are bankrupt, or on the verge of bankruptcy, the outlook for continued prosperity in this country is not luminous. Canada is undoubtedly in the best position of any of the countries as she has practically unlimited natural resources to develop, the returns from which will assist in meeting the obligations. But before these resources have collateral value they must be developed. The writer emphasizes the fact that in order to avoid a crisis there is great need for retrenchment in expenditure, and for increased production in every line. The conditions set forth in the article should be pondered on by our readers.—Editor.

### Ontario Legislature Not Yet Started to Work.

Whether or not it would be fair to criticize the Ontario Government for the fact that the debate on the address has already dragged out for two weeks, is not certain. Legislatures have apparently acquired a pernicious custom of regarding the opening debate of the session as a free for all, wherein members may try out their powers of oratory and spring anything they have no license to spring at any other time. Anything from religion to political hatred seems quite in order, to say nothing of humor, sedition, or remarks leading to international strife. The occasion seems one whereby members endeavor to "get set" for the session and we cannot see the efficiency of any legislative body that requires from two weeks to a month to do it in. It is only just to say that in the present instance the wasteful practice seems to be very much intensified through no particular fault of the Government. Instead of two political parties to take turns at sparring at each other there are now four groups in the House and it is common for representatives of each to take turns in speaking on any debate. So far there have been only ten speeches delivered in five days. The House has actually sat for eight days at the time of writing, but one day was taken up with the opening ceremony and two others given over to routine business such as the introduction of bills. Ten speeches in five days means two speeches per day which would seem to employ a rather extravagant valuation of the contribution made by each member. The House does not sit until three o'clock in the afternoon and so far there have been no night sessions, a fact which will make less pardonable any further extension of the debate, although it must be remembered that so far as the Government is concerned they have had only a very short time to prepare legislation and this must be done thoroughly before the real business of the House can proceed. Moreover, those who are not familiar with the business of legislative bodies may consider that the House should sit earlier than mid-afternoon, but in justice to Governments and members there would seem to be ample reason for the present practice. Ministers of the Crown have the regular business of their departments to attend to; the Cabinet Council must find time for daily meetings; the committees of the House must get their work done so that legislation can be presented to the House at the proper time; and members must have some time during the day to attend to correspondence and look after the work in their constituencies that must be done through the various Ministers or their officials. All this requires time and if members must sit until late hours in the House, especially later on in the session, it is only fair to leave the actual sitting of the House until 3 p.m.

"The Farmer's Advocate" has not much concern for the "political" situation so far as it relates to the ascending of any political group or party in the Province. The farmers of Ontario at the last election made a strong effort to gain adequate representation for rural constituencies and only the fact that the old parties had lost the confidence of the "people" to a greater extent than was thought for, created the present unexpected form of Government in the Province. As a farmer's Government through force of circumstances we are only

interested in seeing it get a fair chance to prove its ability to equalize and improve conditions as they affect all classes of people in the Province. Class legislation has no place in Ontario and we feel absolutely confident that it has no place in the platform of the farmer. Nothing could be more disadvantageous to his continued progress than to introduce it. At the same time there are so many things that farmers need to secure equalization with other industries that any attempt to secure them will almost surely be regarded as class legislation. The necessity for bitter political struggles would be at least minimized, if not entirely done away with, if the various classes in the country would only get together in a spirit of toleration. Canadians now are in a reckless mood, riding on a strong tide of inflated prosperity, but at the same time we are fearful of the general unrest which few can understand.

#### THE PREMIER'S MAIDEN SPEECH.

When Premier Drury rose to speak on Tuesday afternoon, March 16, everyone was wondering how he would do at his first attempt. He doubtless felt the curiosity and interest that centred about him on that occasion, but gave no sign of nervousness except for a few brief moments until he got his stride and became warmed up to the subject matter of his remarks. He hoped it would be possible to strengthen the legislation of the Province through the co-operation of all the members of the House and believed that the people now desire discussions of a higher order than has often been the case, previously. He also believed that the people want to be taken more fully into the confidence of the legislators. For this reason his Government would adopt a policy of open diplomacy between political parties in order that secretiveness would be minimized and the seething thoughts of the people controlled more easily by inviting a feeling of confidence in Governments. Personally he would favor making the Government the executive of the legislature and leave to the members in the House as much as possible of the legislative function. This Government would be willing to accept full responsibility for all measures they introduced but he wanted suggestions and free discussions from all sides of the chamber. His hope was, by building up precedent upon precedent if necessary, to abolish caucus rule and bring to bear upon the affairs of the Province, the legislative ability of the whole House. In this respect, however, he felt that Messrs. Dewar and Ferguson gave him little encouragement. He thought with the liberal leader that Liberal platforms in the past have been good, but that they had been built to get in on and not to ride on. In other words the element of performance has been lacking. He was on the same platform with Mr. Dewar in 1911 the latter was there because his party was there, while he himself was there because he had taken the same ground before any party had taken it up.

As regards his stand on conscription in 1917 he felt that the country was committed to conscription before the election and that Canada could not withdraw her promise. Moreover, he was surprised and not pleased that his candidature in North Simcoe was endorsed by Sir Wilfrid Laurier, with whom he could not agree. He stated that the U. F. O. movement had not sprung from an anti-conscription platform, because the roots of the movement go much deeper and farther back than the beginning of the war, and it is even now spreading through urban centres. With regard to charges of class legislation the Premier thought they would be in order only when such legislation was proposed by the Government. He was very strong against patronage and believed that if the angel Gabriel were to represent the purest constituency in the Province he could not advise as regards appointments to the civil service in a disinterested manner. He defended his choice of Hon. Mr. Raney, called attention to the open manner by which seats had been found for the unseated Ministers and declared that never before had members given up seats for the Ministers, with no promise of reward. He declared he would not be stamped on the question of an eight hour day, but the Government proposed to study the question thoroughly and then move forward. Regarding the Hon. Howard Ferguson's statement that the Government did not have the popular plurality at the last election, Mr. Drury said they represented 17 ordinarily conceded Conservative seats and 15 ordinarily conceded Liberal seats with six seats usually going Conservative and seven usually going Liberal. Moreover, eliminating double constituencies which were calculated in Mr. Ferguson's figures, the Government really had a substantial plurality. He thought the people had shown themselves about as much through with one party as the other at the last election.

As regards the Ontario Temperance Act, he felt that it was very unsatisfactory, but that as long as interprovincial trade existed it would always be so. If the temperance people would come together and make up their minds to ask for something the problem would be quickly solved. He believed that the Government should not go beyond the will of the people, but thought that the principle of the referendum was well established.

#### MR. DOHERTY FOR RURAL CREDITS.

The Hon. Manning W. Doherty, Minister of Agriculture also made his maiden speech in the House during the week. Mr. Doherty is more than a fair orator, while the Premier inclines more to ordinary public speaking. The Minister of Agriculture is fairly free with gestures and speaks very forcefully which is quite characteristic of his general temperament. The rise and fall and the inflections of his voice have, however, more or less of a sameness, which leads somewhat to monotony during the course of a lengthy speech so that his real ability as a speaker is more or less impaired. The Hon. Mr. Doherty emphasized the fact that the

fair chance to improve conditions as people in the Province, in Ontario and we feel no place in the platform be more disadvantageous than to introduce it. At any things that farmers with other industries that will almost surely be. The necessity for bitter least minimized, if not the various classes in the in a spirit of toleration, less mood, riding on as y, but at the same time rest which few can under-

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farmers had only entered politics as a last resort, in order to secure certain reforms so much required by Agriculture. The late Government, in his opinion, was opposed to the organization of farmers except in the form of separate farmer's clubs that were able to exercise very little more influence than the individual. Liberals it was thought were largely dominated by the big interests. He thought, moreover, that the farmer will be the salvation of the country if it ever comes to a showdown between the forces of construction and destruction. Over and above the sacredness of the ownership of property the farmer holds the sacredness of humanity. Farmers are prepared to pay their fair share of the indebtedness of the country, but they are also prepared to see that other classes pay their share also. As regards the tariff, the Minister declared that he is not a free trader, but the present tariff is, in his opinion, the most unscientific, the most unjust and the most iniquitous tariff facing the people of any country in the world.

Speaking of the work of his Department the speaker believed the farm surveys were started to show the fallacy of the statement that farming was not paying. But it was found to be true on more than a thousand farms in Peel, Oxford and Dundas counties. In fact, it had been shown that the United labors of the farmer, his wife and all children under 14 years of age had not returned more than 40 cents per hour as a labor income. It is intended to extend and improve the farm surveys now being carried out and the Minister contended that the people of cities and towns would appreciate the farmer's position better if the facts were placed before them. He further contended that these basic economic facts are necessary before intelligent agricultural development can be proceeded with. In the last analysis the salvation of Agriculture in Ontario and the Dominion will come through the co-operative marketing of farm products. We must improve the quality of our products by grading. Extravagant distribution must also be eliminated since in nearly every instance farm products cost the consumer nearly twice what the farmer receives. We must be careful to secure a desirable class of immigrants who will respect our laws and live by them. Hon. Mr. Doherty maintained that the best class of settler is the second, third or fourth son of a farmer, but heretofore the most of these have gone to the city because the father could not afford to establish them all on farms. Agricultural laborers should also be encouraged to own farms of their own and he proposed to ask the Legislature for money to investigate the question of rural credits. With reference to the Agricultural College at Guelph, the Minister believed it to be the function of that institution to turn out good farmers. In the past attempts have been made to tell farmers how to produce, but he believed that the farmer understands his business as well as the manufacturer.

The most effective speaker in opposition during the week was the Hon. A. E. Ross, Kingston. He is a Liberal-Conservative and said he was prepared to give the Government a fair chance. He thought, however, it had all the earmarks of a class of Government and declared himself in favor of sane patronage. He also entered upon a defence of the politician particularizing in favor of men of the past such as Mowat, Baldwin, Macdonald, Laurier and Whitney. He thought the parliament buildings would soon need enlarging and discussed some federal affairs among which was the treatment accorded to returned soldiers. The Hon. Mr. Ross criticized the Government for its lack of proposals regarding health legislation and specifically mentioned influenza and venereal diseases. With regard to the latter he declared that rural doctors are now forced to treat forty cases yearly whereas before the war they handled only about four. It is neglect of the soldier after he gets his discharge that is responsible for this increase. As Sam Clarke, West Northumberland remarked during the week, opposition members have very little to criticize the Government for because they have not been in power long enough. He himself found a great deal to talk about, but not very much to say. However, he was humorous, which served to make time go faster.

#### CLASSIFICATION OF THE CIVIL SERVICE.

There are probably some thousands of persons employed in the public service of Ontario of which probably 250 are officials or employees of the Ontario Department of Agriculture. Many of these come into direct contact with farmers either from the Ontario Agricultural College, through the Agricultural Representatives or from the various branches of the Department at Toronto. Naturally, therefore, farmers should have an interest in the salaries paid to these employees, in as much as their work is solely for the purpose of benefiting Agriculture. The late Conservative Government appointed a Civil Service Commissioner something over a year ago to equalize salaries and supervise appointments throughout the whole service and for some months this Commissioner has been compiling a report which would form a basis for readjusting salaries. During the past week this report was tabled in the House by the Provincial Secretary, Hon. H. C. Nixon and will no doubt form the subject of debate some time during the next two weeks. When it is said that this report provides for increases which will amount to probably \$500,000 yearly for the whole service, many persons who commonly suppose government employees to be overpaid will consider such an increase outrageous. It is true that there are many features of Civil Service that are very unfortunate in as much as salaries are nearly always graded according to the position and not according to the merits of the civil servant. It really seems impossible however, for Governments to adopt a system of paying each man according to his particular worth, largely because even the poorest employee has his friends and cannot only make it embarrassing for the Government,

but more difficult for other and more worthy employees to perform their duties, if they are paid on a merit basis. Thus it is that if the old patronage system is to be avoided—and it is needless to say that it should be avoided if efficiency is desired—some form of supervision by certain commissions or authorized officers of the Government is essential. Experience at both Ottawa and Toronto has shown that civil service commissions can be extremely unsatisfactory if only because no one, two, or three men can fairly adjust salaries and determine what salaries should be paid for a certain specific kind of work. Many instances of unfairness will creep in and while these have appeared in the Federal service to a shocking extent, there are, we have found, several instances in the report of the Ontario Civil Service Commissioner. If three positions call for the same type of work, but one has a maximum salary of \$2,000 another of \$2,400 and the third of \$2,700, the classification must be unfair. But it is not necessarily due to the fact that the Commissioner is a friend of the third man. It is almost certain to be due to the fact that he cannot know enough about each position in the service to eliminate the injustice. In view of the fact that many civil servants have for the past five or ten years been considerably underpaid we do not believe the salaries suggested are in any degree too high, at least in the Department of Agriculture. Low salaries inevitably mean a low standard of efficiency, while fair remuneration enables the Government to employ those who will do their best.

During the past two weeks not much actual business has been accomplished by the House. Some reports have been tabled by the various Ministers, among which was the report of the commission to investigate the condition of the returned soldiers at the Kapuskasing settlement in Northern Ontario. Conditions there are very unfortunate and will probably necessitate the removal of those who care to leave, to some more suitable section of the Province. Apparently many of the soldier settlers have lost considerable money by the venture, besides suffering more or less serious hardship. A great host of private bills have been introduced by members and some measures have been brought forward for first reading by the Government. Except for the formality of introduction there is never any discussion on the first of the three readings every bill must undergo. The bill itself is not even read, but is passed on its title only, unless some member, usually the leader of the opposition, should ask for a very brief explanation of the purpose of the bill. During the past week the Minister of Agriculture brought in a bill to amend the Act passed last year making provision for community halls and athletic grounds in rural districts. The present amendments provide that incorporated villages may also be included under the terms of the Act and that 3 acres of land need not be purchased for athletic grounds if a suitable area can be secured close at hand. An Act for the protection of milk and cream shippers was also introduced by the Minister in order that shippers may be assured of a fair test on their product. During the week also, Hon. Peter Smith told the House in reply to a question that there have been four loans secured by the Province since November 13, 1919, for sums totalling \$15,250,000. They were sold at 97.76, 90.44, 100.65, and 100 respectively. The rate of interest is 5 per cent. for the first two loans of \$3,000,000 each and another of \$5,000,000 and the fourth loan of \$4,250,000 from the Dominion Government for housing purposes bears interest at 5½ per cent. The first two for ten years, the third for five years and the fourth becomes payable on demand.

#### Canadian National Poultry Association Formed.

At a meeting of poultrymen held in Ottawa, on Thursday and Friday, March 18 and 19, the organization which has for the last year been known as the Canadian National Poultry Council was transformed into an organization known as the Canadian National Poultry Association, the object of which will embrace a consideration of all matters having to do with progress and improvement in the poultry industry. An essential part of the work of the Association will be the keeping of records of registered poultry, and the collection, preservation and publishing of data, information and documents relating to registration. Qualification in the Record of Performance for poultry will be the basis of registration. Application will be made shortly for the incorporation of the Association under the Live-Stock Pedigree Act. It is proposed that the directorate, which will consist of twenty members, including two representatives from each province, together with the Dominion Poultry Husbandmen and the Chief of the Poultry Division of the Live-Stock Branch, Ottawa, will act in the capacity formerly delegated to the Canadian National Poultry Council.

The following officers and directors were elected, the Provincial men being representative of the Provincial Poultry Associations and the Provincial Departments of Agriculture: President, Dr. R. Barnes, Ottawa; Western Vice-President, N. W. Kerr, Brandon, Man.; Eastern Vice-President, Dr. S. Lafortune, Gatineau Point, Quebec; Secretary-Treasurer, E. Rhoades, Ottawa; Directors: F. C. Elford, Dominion Poultry Husbandman, Ottawa; W. A. Brown, Chief of the Poultry Division, Live-Stock Branch, Ottawa; J. B. Millman, Long River, P.E.I.; J. A. Clark, Experimental Farm, Charlottetown, P.E.I.; W. W. Osborne, New Glasgow, N.S.; J. P. Landry, Agricultural College, Truro, N.S.; A. C. McCulloch, Department of Agriculture, Fredericton, N.B.; R. A. Snowball, Chatham, N.B.; Rev. Brother Ligouri, La Trappe, Quebec; Professor W. R. Graham, Ontario Agricul-

tural College, Guelph, Ont.; Professor R. K. Baker, University of Saskatchewan, Saskatoon; A. J. Gibson, Regina, Sask.; C. M. Baker, Calgary; J. H. Hare, Department of Agriculture, Edmonton; H. E. Waby, Enderby, B.C.; J. R. Terry, Department of Agriculture, Victoria, B.C.

#### Not Much Doing at Ottawa.

No discussions of outstanding importance have developed at Ottawa during the week. It seems apparent that the Government does not propose to take any decisive action with regard to the naval program as proposed in the report of Viscount Jellicoe. Members of the House have apparently advised the Government that the sentiment of the people does not favor the expenditure of any considerable sums of money on a naval program at the present time, even though such money were to be devoted to maintaining ships donated to Canada by the Imperial Government.

During a discussion on the question of an eight-hour day, which was introduced into the House by J. H. Burnham, West Peterboro, the Honorable C. J. Doherty, Minister of Justice, intimated that the Dominion Government does not propose to introduce compulsory legislation regarding the eight-hour day and the forty-four-hour week until the question of jurisdiction has been disposed of. The Minister stated that his personal opinion was that the establishment of an eight-hour day would, under ordinary circumstances, be outside the jurisdiction of the Federal Parliament. He said it would create a presumption that in all contracts of lease or hire of labor, where hours of labor were not specified, the working day should be eight hours. Legislation affecting contracts falls under the head of property and civil rights, which comes within the jurisdiction of Provincial legislation. The Federal Government, said the Minister, has a general right to legislate in order to carry out any obligation imposed upon Canada, or any of its provinces, by any treaty properly entered into by the British Empire. He pointed out that the parties to the Treaty at Versailles were required merely to bring its various conventions, such as the labor clauses to the attention of the competent legislative authorities within their respective countries. Honorable N. W. Rowell, in explaining the labor clauses of the Versailles Treaty, answered the objections of representatives of rural constituencies by pointing out that agriculture was exempted from the industries covered by the labor convention, and that each country was empowered to draw for itself the line between industry and agriculture.

In reply to a question, the Honorable N. W. Rowell stated that some applications have been received from rural mail contractors for increased remuneration on account of the high cost of living. Each application is considered on its merit, and the policy of the Government is to do everything possible to ameliorate the financial conditions of the rural mail carriers. Nevertheless, the Post Office Act prevents any increase in the rate paid without first inviting public tenders. Another question brought out the fact that there is a Canadian News Service in New York, the purpose of which is to supply Canadian news to United States newspapers. This office has cost \$10,185.79 during the last six months. It was also brought out that the Department of Militia has, at a cost of \$63,841.90, provided 230 institutions, colleges or schools in Canada with military uniforms for their pupils. Approximately 1,600 pupils were outfitted in this way. It also appears that since 1917, Cabinet Ministers at Ottawa have been appointed as acting ministers of other departments thirty-eight times since December 17, 1917. Some ministers have at one time or another been acting ministers of four or five different departments. During the week, also, severe criticism of the Department of Soldiers' Civil Re-establishment was heard from many different members, some of whom contended that Sir James Loughheed and his Deputy should both be replaced by returned soldiers.

#### Annual Meeting of Provincial Winter Fair.

The officers of the Ontario Provincial Winter Fair were elected at the annual meeting held last week. The feature of the meeting was the resignation of R. W. Wade, Director of the Live-Stock Branch, Department of Agriculture, Toronto, and Secretary and Manager of the Winter Fair. Mr. Wade's resignation as Secretary and Manager of the Fair came as a surprise to those present, but when he stated that he would not reconsider his decision, his assistant, J. E. Rettie, late of the Soldier Settlement Board, Ottawa, was appointed to succeed him. It will be recalled that the last Winter Fair was one of the best in the history of the show, but the financial statement showed a deficit of \$4,000. Honorable Manning W. Doherty, Minister of Agriculture, assured the directors that he was greatly interested in the Ontario Provincial Winter Fair and would be willing to continue assistance to it. The dates fixed for the 1920 show are December 3 to 10, and the officers elected for the present year are as follows: Hon. President, J. I. Flatt, Hamilton; President, John Gardhouse, Weston; Vice-President, W. J. W. Lennox, Toronto; Secretary-Treasurer, J. E. Rettie, Toronto; Superintendent, J. H. Saunders, London; Assistant Secretary, A. Leitch, Guelph. Executive Committee: W. McNeil, representing the Poultrymen, London; W. Dryden, Shorthorn Breeders, Brooklin; R. S. Stevenson, Dairyman, Ancaster; P. Christie, Heavy Horses, Manchester; J. D. Brien, Swine, Ridgetown; W. W. Whitlaw, Sheep, Guelph; T. H. Hassard, Light Horses, Markham; W. J. W. Lennox, Seeds, Toronto.

# Toronto, Montreal, Buffalo, and Other Leading Markets

## Market Comments.

### Toronto (Union Stock Yards.)

An offering of seventy-six hundred cattle on sale during the week constituted the heaviest run of the season, and with further liberal supplies in sight, packers were successful in reducing initial costs. Butcher cattle moved generally at a decline of 25 cents to 50 cents on Monday, when twenty-eight hundred cattle were on sale, and further weakness developed on Wednesday, values showing a depreciation ranging from 75 cents to \$1 per hundred from the high point reached on the closing market of the previous week. Trade became a trifle firmer on Thursday and a slight advance in values occurred. The approaching close of the Lenten Season should stimulate the fresh meat trade, while quotations on the American markets are again showing an upward tendency. More interest is being manifested in stocker and feeder cattle, and this should add strength to the cattle trade. The week's offering included many choice cattle, and female stock suitable for the Kasher trade commanded a premium a few extra good sales being made; one choice cow weighing thirteen hundred and ninety pounds sold at \$19 per hundred, a heifer of twelve hundred and thirty pounds sold at \$16, and several sales were made from \$14 to \$15 per hundred. Several carloads of heavy cattle were on the market and a pair averaging thirteen hundred and seventy pounds sold at \$15.50 per hundred, a load weighing twelve hundred and sixty pounds at \$14.35, and three loads of almost equal weight at \$14.25. Of steers between the weights of ten hundred and twelve hundred pounds, nine head which averaged eleven hundred and forty pounds sold at \$14.75 on Tuesday, while most of the sales were made from \$13.25 to \$14, several hundred cattle moving within that range, medium quality was weighed up from \$12 to \$13. Of handy-weight steers and heifers under ten hundred pounds anything showing baby beef quality was in good demand and \$14 to \$14.50 per hundred was paid in a few instances; most of that class, however, moved from \$12.25 to \$13.25 for good quality, medium stock sold from \$10 to \$11.50, and common steers and heifers from \$8 to \$9.50. Choice fat cows were in good demand for the Jewish trade; a few sales were made from \$12 to \$14.50, good cows selling generally from \$10.75 to \$11.75, best bulls moving within a similar range, and three or four bulls of extra quality selling at \$12. The stocker and feeder trade was more active, a good demand existing for grass cows at \$7.50 to \$8.50 per hundred, while feeding steers moved from \$10.50 to \$11.50 and stockers from \$9.50 to \$10.50. Choice milk cows had a good demand and as high as \$175 was paid for best quality with straight loads of choice selling from \$140 to \$150 per head. Calves are commencing to arrive more freely; the week's markets were fairly stationary and top quality sold at \$23 per hundred on every market but Thursday's when \$24 was paid for one calf; most of the offering sold from \$18 to \$22. Included in the receipts were quite a few common calves only a few days old, one load of fifty of these averaging seventy pounds sold at \$10.50 per hundred. This class of stock is undesirable and where possible should be held until more mature; very young calves are only suitable for tannage.

Lamb and sheep receipts were very light. A few choice lambs sold at \$22 and a deck of forty-five head weighing ninety-five pounds each moved at \$21 per hundred, with best light ewes up to \$15. There is an apparent scarcity of finished hogs in the country, and as a result values are moving higher. On Monday \$19.75 was paid for fed and watered hogs, but on the closing markets an advance of 50 cents to 75 cents was recorded, selects bringing \$20.25 and several decks went at \$20.50. Lights were quoted \$2 lower, and sows \$3 to \$5 lower. The total receipts from January 1st to March 11th, inclusive, were: 51,388 cattle, 7,367 calves, 67,979 hogs, and 12,849 sheep; compared with 69,059 cattle, 6,753 calves, 72,138 hogs and 24,092 sheep received during the corresponding period of 1919.

### Montreal.

There were ten hundred and sixty-

one cattle, one hundred and twenty-six sheep and lambs, twenty-one hundred and forty-four hogs and seventeen hundred and twenty-four calves, on the two market during the week. Cattle arriving Friday and Saturday are nearly always held for the following Monday's market. There were two loads of choice cattle on the market during the week; these averaged eleven hundred and fifteen pounds per head and brought \$14.25 per hundred for twenty-seven of the best steers. A few steers were sold for \$13. The balance of the steers on the markets were of fair quality and moved within a pretty narrow range of price, nearly all sales being made between \$11.75 and \$12.50. Very common light steers brought around \$10. A few of the best heifers and cows were weighed up with steers at \$12.50, while good cows sold up to \$11; fairly fat cows of dairy type brought from \$8.50 to \$9.50, and any cows that were better than canners from \$7 up. The common bulls brought \$8.50 to \$9, and heavier bulls, not fat, sold around \$10. There were about five hundred more calves for sale than during the previous week. Prices for good milk-fed stock declined from \$18 on Monday to \$17 or less on Thursday. One lot of nine calves brought \$19 and a few small lots that were of doubtful age and quality, were disposed of from \$10 to \$13 per hundred. A considerable number of young unfit calves were confiscated by the city officials.

Sheep and lambs reached a top of \$14 and \$18 respectively. Hogs sold steadily throughout the week at \$21 per hundred weighed off cars. There was very little grading, excepting in the case of sows. An odd light sow got through at select prices. The general cut on sows was \$4 per hundred. The market closed a little uncertain in tone.

PT. ST. CHARLES.—The total receipts from January 1st to March 11th, inclusive, were: 4,466 cattle, 2,977 calves, 11,019 hogs and 4,628 sheep; compared with 8,011 cattle, 5,094 calves, 12,607 hogs and 4,931 sheep, received during the corresponding period of 1919.

EAST END.—The total receipts from January 1st to March 11th, inclusive, were: 8,151 cattle, 3,996 calves, 7,030 hogs and 3,737 sheep; compared with 9,671 cattle, 2,836 calves, 6,948 hogs and 5,383 sheep, received during the corresponding period of 1919.

## Toronto Produce.

Receipts of live stock at the Union Stock Yards, Toronto, on Monday, March 22, numbered 240 cars, 4,202 cattle, 1,024 calves, 2,586 hogs, and 181 sheep and lambs. Slow market, prices fifty to seventy-five cents lower than last week's close. Best steers, \$13 to \$14, with a few at \$14.25. Choice butchers' steers and heifers were \$11.50 to \$12.50. Best cows were \$10.50 to \$11.50; Kasher cows were up to \$16. Calves were steady to one dollar lower. Choice veal was \$20 to \$21. Sheep steady, and lambs \$1 lower; choice, \$19 to \$20. Packers quoted \$19.75, on fed and watered hogs.

### Breadstuffs.

Manitoba Wheat.—(In store Ft. William). No. 1 northern, \$2.80; No. 2 northern, \$2.77; No. 3 northern, \$2.73. Manitoba Oats.—(In store Ft. William). No. 2, C. W., \$1.00; No. 3, C. W. 97; Extra No. 1 feed, 97; No. 1 feed, 96; No. 2 feed, 95.

Manitoba Barley.—(In store Fort William). No. 3, C. W., \$1.75; No. 4, C. W., \$1.56; rejected, \$1.42. Ontario Wheat.—(f.o.b. shipping points according to freights)—No. 1 winter, per car lot, \$2 to \$2.01; No. 2 winter, per car lot, \$1.98 to \$2.01; No. 3 winter, per car lot, \$1.92 to \$1.93; No. 1 spring, per car lot, \$2.02 to \$2.03; No. 2 spring, per car lot, \$1.98 to \$2.01; No. 3 winter, per car lot, \$1.95 to \$2.01.

American Corn.—(Track, Toronto, prompt shipment). No. 3 yellow, \$1.96; No. 4 yellow, \$1.93, nominal.

Ontario Oats.—(According to freights outside).—No. 1 white, \$1 to \$1.02.

Peas.—(According to freights outside).—No. 2, \$3.

Barley.—(According to freights outside).—Malting, \$1.80 to \$1.82.

Buckwheat.—(According to freights outside).—No. 2 \$1.05 to \$1.07.

Rye.—(According to freights outside)

No. 3, \$1.85 to \$1.88. Manitoba Flour.—(Toronto)—Government standard, \$13.25.

Ontario Flour.—(In jute bags, prompt shipment)—Government standard \$10.80 to \$11 Montreal; \$11 Toronto.

Millfeed.—(Car lots, delivered, Montreal freights bags included)—Bran, per ton, \$45; shorts, per ton, \$52; good feed flour, per bag, \$3.60 to \$3.75.

Hay.—(Track, Toronto)—No. 1, per ton, \$27 to \$28; mixed, per ton, \$25.

Straw.—(Track, Toronto)—Car lots, per ton, \$16 to \$17.

### Farm Produce.

Butter.—Butter was slightly firmer the past week, selling as follows, wholesale: Fresh-made creamery squares, 68c. per lb.; creamery solids at 65c. per lb.; and choice dairy at 55c. to 60c. per lb.

Eggs.—New-laid eggs again declined in price and are weak at 58c. to 60c. per dozen, wholesale.

Honey.—There are only very light offerings in honey; the strained selling at 25c. to 28c. per lb., and comb from \$5.50 to \$6.50 per dozen, (wholesale).

Cheese.—Sold at practically unchanged prices, wholesale. The old at 32c. per lb., and new at 29c. per lb.

Poultry.—Receipts continued to be light, and prices firm, on chickens, ducks and turkeys, but both live and dressed hens declined in price. The following prices being quoted for liveweight and dressed varieties to the producer. Live-weight prices—Chickens, spring, 30c. per lb.; chickens, milk-fed, 35c. per lb.; ducklings, 40c. per lb.; hens, under 4 lbs., 30c. per lb.; hens, over 5 lbs. 35c. per lb.; roosters, 25c. per lb.; Guinea hens, per pair, \$1.25.

Dressed.—Chickens, young, 35c. per lb.; chickens, milk-fed, 40c. per lb.; ducklings, 40c. per lb.; hens, under 5 lbs., 30c. per lb.; hens over 5 lbs., 35c. per lb.; turkeys, young, 55c. per lb.; roosters, 25c. per lb. Guinea hens, \$1.50 per pair.

Seeds.—Following are the prices that wholesalers were paying for alsike and clover at country points: alsike, No. 1 fancy, bushel, \$33 to \$34; No. 1, \$32 to \$33; No. 2 choice, bushel, \$31 to \$32; No. 3 bushel, \$29 to \$30.

Red Clover, No. 1 fancy, bushel, \$34 to \$35; No. 1 bushel, \$33 to \$34; No. 2, bushel, \$31 to \$32; No. 3, bushel, \$29 to \$30. Sweet clover, No. 1 fancy, \$21 to \$22; choice, \$19 to \$20.

### Seeds Retail.

Dealers quote the following retail prices for clover and timothy seeds.

Red clover, high grade No. 1, Government, \$18 per bushel; No. 2 Government, \$15.60 per bushel; No. 3 Government, \$12.60 per bushel. Alsike, high-grade, No. 1 Government, \$45.60 per bushel; No. 2 Government, \$43.80 per bushel; No. 3 Government, \$41.40 per bushel. Alfalfa, high-grade, No. 1 Government, \$39 per bushel; alfalfa, Canadian-grown, No. 1, \$42 per bushel; sweet clover white blossom, fancy, \$29.40 per bushel; sweet clover white blossom, choice, \$27.60 per bushel; timothy, high-grade, No. 1 Government, \$11.52; No. 2 Government, \$10.32 per bushel.

### Vegetables.

Onions, \$7 to \$9 per sack (around 100 lbs.) Parsnips.—\$2.50 to \$2.75 per bag. Potatoes.—\$4.50 to \$4.75 per bag. Turnips.—\$1 to \$1.25 per bag.

## Buffalo.

Cattle.—Cattle market at Buffalo the past week was strong on butchering grades, but, as the result of a very high price list the previous week on shipping steers and the fact that all of the Western markets were lower, prices on these grades ruled from a quarter to half dollar lower, best native steers ranging from \$14 to \$14.50, with the best heavy Canadian steers running from \$12 to \$13. Handy butchering cattle were very ready sale and mixed butchering lots sold to good advantage. In fact sellers generally are of the opinion that the decent to good, handy, butchering cattle are selling to better advantage—in comparison—than the weightier steers. Bulls of all kinds showed good, firm prices. Supply of stockers and feeders was light and the feeling strong. As spring approaches prices will no doubt be stronger. A good,

strong demand was in evidence on milk cows and springers and general impression among sellers is that these will sell at higher prices a little later on. Receipts for the week totaled 3,800 head, as against 3,475 for the previous week and as compared with 5,575 head for the corresponding week last year. Quotations:

Shipping Steers — Natives — Very choice heavy, \$14 to \$14.50; best heavy, over 1,300, \$13.50 to \$14; fair, over 1,300, \$12.50 to \$13; best, 1,200 to 1,300, \$13.50 to \$14; good, 1,200 to 1,300, \$12.50 to \$13, plain, \$11 to \$11.50.

Shipping Steers — Canadians — Best heavy, \$12 to \$12.50; fair to good, \$11 to \$11.50; medium weight, \$10.75 to \$11; common and plain, \$10 to \$10.50.

Butchering Steers.—Yearlings, fair to prime, \$12.50 to \$14.25; choice heavy, \$12.50 to \$13; best handy, \$12.50 to \$13; fair to good, \$11 to \$11.50; light and common, \$9 to \$10.

Cows and Heifers.—Best heifers, \$10.50 to \$11; good butchering heifers, \$8 to \$9; fair butchering heifers, \$8 to \$9; light, common, \$6 to \$7; very fancy fat cows, \$10.50 to \$11; best heavy fat cows, \$9.50 to \$10; medium to good, \$8 to \$9; cutters, \$5.50 to \$6; canners, \$4 to \$4.50; old rims, \$4 to \$4.50.

Bulls.—Best heavy, \$9.75 to \$10.25; good butchering, \$8.50 to \$9; sausage, \$8 to \$8.50; light bulls, \$7 to \$8; over, \$9 to \$11.50.

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 car loads, \$90 to \$100; medium to good, small lots, \$85 to \$100; in car loads, \$75 to \$85; common, \$50 to \$55.

Hogs.—Prices were lower the first two days of the past week, but after Tuesday a reaction was had. Heavy hogs, for which there was an indifferent demand all week, had to sell to a big margin under the handier grades. Monday the spread on hogs weighing above 240 pounds was from \$15 to \$16.30 and the more desirable weights brought from \$16.60 to \$16.75, with several decks on the yorkorder \$16.85, packers getting the bulk of the mixed grades at \$16.60. Tuesday heavy hogs sold from \$15.25 to \$16.15, with the yorkers and mixed grades landing mostly at \$16.50; Wednesday the spread on heavies was from \$15 to \$16.35, with handier weights selling at \$16.50 and \$16.60; Thursday light hogs sold from \$16.75 to \$16.90, with heavies ranging on down to \$15, and Friday heavies sold from \$15.50 to \$16.50, with yorkers and mixed grades bringing up to \$17 and \$17.25, few \$17.35. The week opened with pigs selling at \$16.25; Wednesday they ranged from \$15 to \$15.75, and Friday the bulk brought \$16. Light pigs, which were discriminated against, ranged as low as \$10. Good roughs sold around \$13.50 and \$13.75, and stags \$10 down.

Receipts the past week were 27,300 head, being against 27,042 head for the week before and 20,100 head for the same week year ago. Sheep and lambs.—On the opening day of the past week top lambs sold at \$20.50, Tuesday's top was \$20.25, with majority \$20, and the next three days none sold above \$20. It was a slow market all week and the close of each day showed several loads, going over unsold. On cull lambs the range was from \$18.50 down, skips selling as low as \$13.00. Sheep were scarce and prices on these were steady all week. Top yearlings were quoted from \$18 to \$18.25, although one load sold Monday up to \$18.75; best wether sheep were ranged from \$15.50 to \$16, and tippy ewes \$13.50 to \$14.50. Receipts for the week were 16,210 head, the week before there were 16,210 head and for the same week a year ago the run totaled 18,300 head.

Calves.—A good active market was had all of the past week. Monday tops sold at \$23.50 and Tuesday the bulk brought \$24. Wednesday the general market was 50 cents to a dollar lower; Thursday tops moved at \$23 and \$23.50, and Friday the bulk made \$24. Wednesday and Thursday some Canadian veals sold with a light sort at \$21 and \$22. Cull grades were little changed all week, selling mostly from \$17 down. The week's receipts totaled 5,300 head, as compared with 4,178 head for the week previous and 4,300 head for the same week a year ago. (Continued on page 578)



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Markets

in evidence on milk and general impression that these will sell at the later on. Receipts totaled 3,800 head, as against 3,750 head for the corresponding week of the previous year. Quotations: Natives—Very good, \$14.50; best heavy, \$14; fair, over 1,300 to 1,200 to 1,300, \$13.50 to 1,300, \$12.50 to \$13.

Canadians—Best heavy, \$10.50 to \$11; weight, \$10.75 to \$11; \$10 to \$10.50. Yearlings, fair to \$14.25; choice heavy, \$12.50 to \$13; light and handy, \$11.50; light and fat, \$11.50.

Best heifers, \$10.50 to \$11; light, \$8 to \$9; very fancy fat cows, \$8 to \$9; m to good, \$8 to \$9; \$6; canners, good, \$4 to \$4.50.

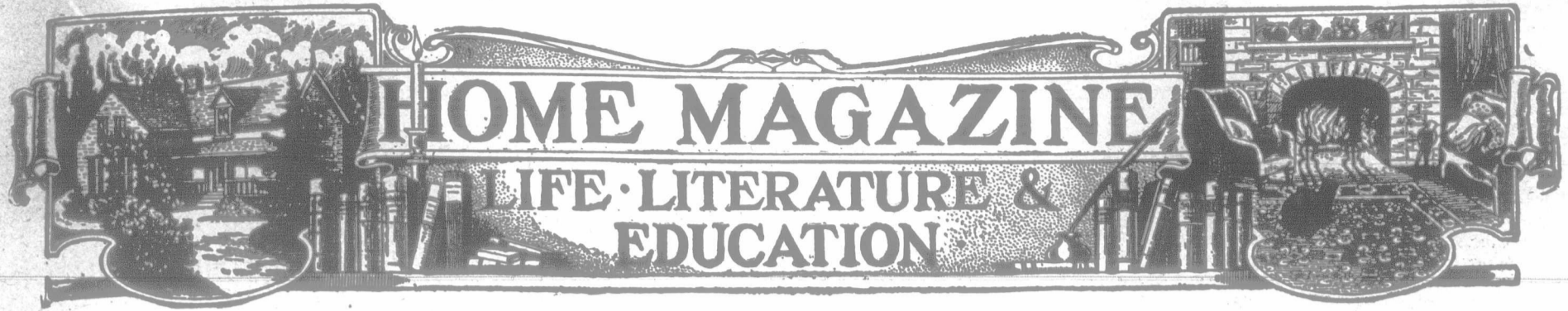
Best feeders, \$8 to \$9; non to fair, \$8 to \$9; \$8.50; fair to good, \$6 to \$7.

Good to best, \$135; in car loads, \$130; small lots, \$75 to \$85; com-

lower the first two weeks, but after Tuesday and. Heavy hogs, for an indifferent demand to a big margin under Monday the spread above 240 pounds was the more desirable from \$16.60 to \$16.75, the york order \$16.85, the bulk of the mixed Tuesday heavy hogs \$16.15, with the yorkes landing mostly at the spread on heavies \$16.35, with handier \$16.50 and \$16.60; sold from \$16.75

On the opening day lambs sold at \$20.50, \$20.25, with majority three days none sold as a slow market all of each day showed over unsold. On age was from \$18.50 as low as \$13.00, and prices on these were Top yearlings were \$18.25, although Monday up to \$18.75; were ranged from \$15.50 to \$14.50. \$15,400 head, were 16,210 head week a year ago the

active market was week. Monday tops Tuesday the bulk Tuesday the general to a dollar lower; \$23 and \$23.50, made \$24. Wednesday some Canadian veals sort at \$21 and \$22. The week's changed all week, 17 down. The week's 10 head, as compared the week previous the same week a year continued on page 578)



Our New Colony.

BY "M. E. R."

Wee little warblers, so tuneful and gay, That come with the buds in the glad month of May.

With quick, eager pleasure we welcome you here On the very same day we first heard you last year.

Without forecast of weather, of wind or of tide, Or even the old-fashioned almanac guide,

You know, in some marvellous, magical way That it's time to be moving, and the call you obey.

You spread out your wings, so fragile and small, And away to the northland, deserted last fall,

You fly through long days over mountain and lake. Oh, would that we too such a journey could take.

But we are so cumbersome, and you are so light.

We are but human, you-things of delight, Compact little parcels of feathers and song,

So fine and, so frail, so amazingly strong.

So we welcome you back to the homes we provide, Six charming wren villas, all cosy inside. As of yore, you will find them conveniently planned.

All modern improvements, no rent we demand,

But only request that you come back each year, To gladden our hearts with your sweet songs of cheer.

Laying Out the Rural Home Grounds.

WHEN planning rural grounds three things should be kept in mind. (1) That an appearance of clutter and confusion will ruin the best grounds going. (2) That the place must be planned for convenience. (3) That such trees, shrubs, etc., should be chosen as will give a good effect with the least possible trouble. Farmers have not much time to spend on flowers and shrubbery, but by careful selection they will find that they can have both flowers and shrubbery with comparatively little effort after the first planting.

Draw out a number of plans on paper, using a ruler and measuring carefully to a scale to get the right proportions. Mark the position of the buildings and boundaries, then proceed to indicate imaginary walks, driveways, clumps of trees and shrubbery, etc. It is not hard to do all this—on the contrary the work is very interesting. When a number of plans have been completed choose the one that looks best. When planting time comes keep to it.

When drawing your plan you will find it well to remember a few things in addition to those listed at the beginning of this article.

Trees are very necessary to the home-like appearance of any home, but they must not be set in rows, orchard fashion. Indeed, the only place where a row is permissible is along the "road fence" and along each side of the driveway; but they should not be put in either of those positions if they interrupt a fine view. Usually a clump of them looks exceptionally well behind the house, forming a setting for it and screening off the barns. Also, in this position they may give a fine sky-line. Evergreens are, as a rule, excellent here; also a clump of Lombardy

poplars, in addition, may give a fine effect. For the edge of the front lawn a group, or even one or two single specimens of the maple or beech will be found very satisfactory; and if the place already has a fine old elm or two guard it as a gift of the gods.

The lawn should be unbroken by flower-beds or shrubbery, which make it look smaller, but clumps of shrubbery, wherever they look natural and graceful, not stiff and spotty, may be introduced, in corners, to screen unsightly fences, and about the foundations of the house. If the lawn is very large most of it can be cut with the mower, or with a one-horse lawn mower, so don't have many flowers at the front except those of the flowering shrubs. A few close to the house will be enough. Vines, however, should trail along the porch or verandah, over the bit of stone fence, up the shed wall, about the windows. If the wall is stone or brick the Boston ivy will cling to it; trellises may be supplied for others not so clinging in nature, and a piece of poultry netting run about beneath the verandah roof to support the trumpet vine, clematis or wistaria vines adds greatly to the coziness of any home.

But flowers need not be banished. A long, gracefully undulating (not scallopy) border of perennials may run along one or more borders of the lawn, or may follow the driveway, while the back yard may be filled with all sorts of flowers. One enjoys them twenty times a day there for every once one would have a chance to see them were they all in the front yard. Besides here may be kept the annuals which bloom all the better for frequent cutting—such as sweet peas, poppies, and cornflowers. It is easier to attend to them when one has not to go around the house to do it.

When you are planning the walks and drives be sure to have them run, if

possible, by the very "shortest cut" to the house and barns. It is human nature to rebel against having to take even half a dozen unnecessary steps, and the place that compels one to do so is marred. True, the curve, has been called the "line of beauty," but don't curve a path or road just for the sake of having it curve. If it is necessary to give it a broad, sweeping curve to avoid cutting up the lawn, or to get away from a line of unprepossessing straightness, then by all means supply some obvious reason for making the turn; plant trees, or shrubbery or run a low stone fence covered with vines. Use your taste, if you have any, and, even then, proceed prayerfully. If you don't take care about this you may make an awful botch. Remember this: that straight lines are not always ugly; sometimes they are to be recommended. As a rule curves are more attractive, but they should be broad and sweeping, avoiding the slightest appearance of wriggle. Usually one curve in an ordinary road or path is sufficient. If the grounds are very large, approaching the dimensions of a park, more may be indulged in, and all the delightful expectancy of "what may be about the bend" given full play; but few farms can afford such park-like grounds, so must cut according to their cloth.

Use common sense as well as good taste in planning the home grounds. Don't clutter. Plan for convenience. Study nature. Achieve the artistic.

Where do the Birds Come From?

ALMOST any day from early in March onward for several weeks the birds continue to arrive. "I heard a robin this morning!" is usually the true herald of spring.

Everybody knows the robin, and almost everybody recognizes new trills and warblings and twitterings as the other members of the great feathered family come about. Very few, however, can name a great number of birds either by sight or song, and this is a great pity, for it is absorbingly interesting to be able to exclaim with surety: "I saw a nuthatch to-day!" "Yes the kingbirds are back, building, as usual, in the apple-tree." "I heard a veery in the swamp!"—or a whitethroat, or one of the thrushes. To learn to know the birds—even a fair number of them—is like opening another eye which has been blind as a bat's before. Nor is it so very hard to learn to know them. An investment of \$3, in Chester Reed's *Canadian Bird Book* with a reasonable amount of observation and application afterwards will do the trick. Even a little pocket manual on birds (Chester Reed's costing \$1) will be a great help, and, of course, if you want to spend the money, a pair of good field glasses will be a joy forever. (There are many good bird books besides those mentioned).

But, where are the birds coming from every day of these fine spring days? All of a sudden they seem to appear, first thing in the morning, flitting about on the hunt for bugs in the most natural way in the world. Where have they been?

\*\*\*

To answer that question for oneself in detail would mean a great deal of reading and a great deal of reference to charts—for charts have been prepared showing the chief routes of travel which the migrants take when coming north to their nesting places in spring and going back south in the fall. A very interesting study is this subject of migration of the birds, but in this short sketch it must be sufficient to state, roughly, that during our Canadian winter most of the birds seen here in summer have been very far to the south. Indeed Louis A. Fuertes tells of having seen the Blackburnian warbler and some other warblers well known in Canada as far south as Colombia, at the equator, even as late as 27th of April, flying about among the orchid-draped branches of the luxuriant tropical forests the brilliant blue butterflies and screaming tropical birds, apparently as much at home as they would be, two weeks later, among the maples and beeches of the quiet northern woods.

Most of our birds, however, do not go so far south in the fall. They winter in the Southern United States or in Mexico. Then as the time for spring in their far northern nesting places nears, the urge to move enters their little hearts. What sort of longing it is we cannot even conjecture. We only know that they set off on the long, long journey, flying usually by night and pausing to rest and feed during the day. On the way many of them fall; some are shot, others become prey to cats and other enemies, some are dashed to death against lighthouses, or other tall buildings, or against cruel wires unseen in the dark.—Truly it is a way of many perils and much weariness. . . . But at last the remnants of the pilgrims arrive: the robin chirrup his lovesong as cheerily as if he had not come so long and fearsome a way; the oriole trumpets from the apple-tree beyond; the little song-sparrow trills his "hymn of faith" from the fence; the meadow-lark reiterates his plaintive cadence from the grass-lands, and the bobolink gurgles his joyous outburst of melody from the top of the tall old mullein stalk. All the woods birds, too, have their representation among the maples on the hill and the balsams and spruces of the marsh-lands; the whitethroat, the veery, the fly-catchers, the bluebirds, the warblers, the peewee, the vireo, the "teacher-lark," the "whippoor-will,"—but the name is "Legion."



"The Delightful Expectancy of What May Be About the Bend."

Some of the very longest journeys have been made by the tiniest birds. The humming birds, for instance, that appear with the flowers in our gardens, winter in Mexico and even in South America, —and come back to us by their own tiny wings and, as Sir Edwin Arnold has said in his beautiful poem about the swallows "no other compass" but their "small red hearts."

All through the summer the birds named above may be found in the Northern States, and ranging across Southern Canada, especially from the Great Lakes region eastward; but there seem to be extra venturesome spirits among the number, for some of the whitethroats, winter wrens, and warblers push on to visit the "whisky-Johns" in the dense jack-pine forests of Northern Ontario and Quebec, a few even keeping right on, with the Canada geese and the wild ducks, as far as the Labrador and Hudson's Bay.

As a rule the northward flight in spring is very rapid and soon over, but the return movement southward begins for some birds early in July and is in progress until late fall. Some birds move over a wide area; others keep to a narrow channel. Fuertes tells that the red-poll warblers that winter in Louisiana come northeast up the Atlantic seaboard to Labrador, while those from Florida start northwest for Alaska, their paths crossing in Georgia at right angles. A few species leave the north in August or September, making enormous flights even over the sea towards their winter homes in the south. For instance we are told that the golden plover leaves Nova Scotia and flies straight to South America, where it winters on the pampas of Argentina. On the Pacific side this bird leaves the Aleutian Islands and goes 2,500 miles to Hawaii. But the golden plover reverses the usual order by making its return northward trip for the summer very slowly.

It may be interesting to "Ontarians," just here, to note that a very favorite crossing place for the birds that come via Lake Erie is Pelee Island and Point Pelee, to which bird-lovers resort during the migrating seasons, for observation. The birds seem to know that these outcrops of land form a sort of stepping-stone that shortens, considerably, the trip across the big lake. Also the Canada geese now know that Jack Miner's safe ponds and free-lunch counters are just over the way.

The first man to collect accurate information on the subject of the night flight of birds was a German, Herr Gatke. He lived on the little island of Heligoland (the now dismantled fortress that was once a proud stronghold of the Germans) and the island of Heligoland is a sort of stepping stone in Europe for the birds, as it is in the direct route of migration between the South and Great Britain and Scandinavia. Here Gatke, who was devoted to bird-study, was able to observe and verify many facts. He pointed out that birds often fly from one to two miles high at night, with very great speed; and so he accounted for the fact that certain species were never, or rarely, seen in the countries between their winter and summer quarters. For example the blue-throat, which winters in Africa and breeds in Scandinavia, is rarely seen in Italy, Greece or Southern Germany. Great flocks of them, however, arrive in Heligoland during the migrating season, apparently very much exhausted.

Between 1880 and 1887 the British Association granted some money to a special committee for the study of migration, and this committee collected much information about birds killed annually by the coast lights. Subsequently, both in Europe and America, much more information was gained by the practice of ringing the legs of birds with aluminum rings, requesting any finder to send back the story to the addresses given thereon. In the United States much valuable information in regard to the habits of birds has been gathered by the "Audubon Society," which has worked, also, to greater purpose, in having measures taken to prevent indiscriminate slaughter of birds and afford them sanctuary and encouragement.

Surely it is "up to us," considering the terrible hardships endured by our little feathered friends in coming back to us each season, to make things easy for them while they are here by affording

them every protection in our power. It is to our interest to do so, even if compassion for them have no weight with us, for the birds have been well-named "the policemen of the fields," ceaselessly on the lookout for the worst enemies of field and orchard, the insects.

### Among the Books.

**Book Notes.**  
THE following books have been received for review: *Broad Horizons*, by W. Everard Edmonds, (The Musson Book Co.,

bringing order out of chaos and stability out of anarchy. The same principle still holds. Individuals must co-operate with individuals to form a class. Why cannot a class co-operate with all other classes to form a social unity? No one class is alone essential or self-sufficient. Agriculture is sometimes called the basic industry, but fuel and clothing are as necessary to conserve life as a well-filled granary. Practically every class in our complex society is now organized. For what purpose? Warfare? That has raged too long. If we do not begin to co-operate now, the late war will be succeeded by a social and economic war, the issues of which are too tremendous to contemplate. Only one thing will

Several deal with Western Canada. *Every Step in Canning*, by Grace Viall Gray. (Published by Forbes & Company, 443 So. Dearborn St., Chicago. Price \$1.25). A very complete manual on canning fruits, vegetables, fish and meats, with extra chapters on making jams and jellies, smoking and preserving meat, drying vegetables, storing and marketing them.—A valuable book to every housewife.

### Your Health.

By "MEDICUS".

#### Goiter.

Mrs. K. S. Grey Co., Ont. "I have a small goiter (neck measurement 14 inches), which has developed in the last two or three months. My eyeballs are not prominent, and I am not especially nervous. There are two cases of Graves' disease in the immediate vicinity and I wondered if it could be caused by the drinking water. During pregnancy I suffered from headaches."

Ans.—Your description does not suggest Graves' disease, but rather a simple goiter. It has been found that during pregnancy there is a great demand in the body for iodine, which is manufactured by the thyroid gland. (The thyroid gland when enlarged is called goiter.) The gland naturally enlarges to supply the extra demand. The diet should supply the extra iodine, and so you will hear of women craving very unusual things to eat during pregnancy. There is a reason for it. The body requires something that is in that particular food. Sodium iodide may be taken by mouth, just a small dose, 1 to 3 grains daily for a period of three months. School girls are prone to develop goiter, especially at puberty. At Akron, Ohio, a medical inspection of the High School girls showed the prevalence of goiter, and all of the pupils that were willing were given sodium iodide and the following year when these same girls were examined the goiters had practically all disappeared. Now how do we normally get our iodine?—food and drinking water. So it is just possible that the water may be the cause, but of that I cannot say.

I would suggest that you ask your doctor to examine you carefully and decided if you are suffering from Graves' disease, noting especially a tremor in the outstretched fingers, a rapid pulse, bulging of the eyeballs, sweats, loss of weight. If it is a case of simple goiter sodium iodide should be helpful.

#### Shingles.

Mrs. F. H. F., Middlesex Co., Ont.—"I had an attack of shingles four months ago, and still suffer pain. Kindly give a little talk on the subject of shingles."

Ans.—Running along the lower border of each rib is a nerve which gives off three branches, one near the back bone, one on the axillary line (axilla, an armpit.)



"Straight Lines, in a Border, are not Always Ugly."

Toronto. Price \$1.50). A series of essays, the first and second of which deal especially with Canada, tracing first the history of Confederation, and then the present outlook. Co-operation, the author concludes is the only solution of the industrial dissatisfactions that have given so much anxiety since the War. "Co-operation is the golden thread that has run through every stage of industrialism

prevent it—class co-operation, and what is that but the Brotherhood of Man? That is the ideal of democracy and democracy is on trial to-day. It is a Christian conception, for democracy was born, not at Bunker Hill as Carlyle said, but in Bethlehem of Judea." Succeeding chapters deal with a variety of subjects ranging from "Good Manners" to a history of the Hudson's Bay Company.



"If the Place Already Has a Fine Old Tree or Two, Guard It as a Gift of the Gods."

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**Health.**

**Goiter.**

Grey Co., Ont., "I have (neck measurement 14 as developed in the last months. My eyeballs, and I am not especially are two cases of Graves' immediate vicinity and could be caused by the During pregnancy I adaches."

Description does not suggest, but rather a simple been found that during is a great demand in the which is manufactured land. (The thyroid gland is called goiter.) The enlarges to supply the The diet should supply and so you will hear of very unusual things to any. There is a reason body requires something particular food. Sodium taken by mouth, just a o 3 grains daily for a months. School girls develop goiter, especially Akron, Ohio, a medical he High School girls valence of goiter, and that were willing were and the following year the girls were examined ractically all disappeared normally get our iodine? nking water. So it is t the water may be the I cannot say.

rest that you ask your ine you carefully and e suffering from Graves' specially a tremor in the agers, a rapid pulse, eballs, sweats, loss of a case of simple goiter ould be helpful.

**Shingles.**

Middlesex Co., Ont.—"I shingles four months ffer pain. Kindly give he subject of shingles." along the lower border rve which gives off ne near the back bone. y line (axilla, an armpit.)

the third one in the front of the chest. If this nerve is inflamed from any cause, you have pain along the course of the nerve, and usually three tender spots where the branches come off. Often a rash appears, having almost the same appearance as a cold sore on the lips. Now what is the cause of the inflammation? Probably the most recent work on the subject has been done by Rosenow at the Mayo Clinic. He finds a "local infection" is the most common cause. There is a pocket of pus somewhere in your body, and toxins or poisons are being absorbed into the blood. These poisons pick out the parts of the body that are poorly nourished, e.g. the joints, and we call it "neumatism," and of course it is not rheumatism at all. Nerves may be affected also and neuralgia or neuritis may result. You have heard, no doubt, about people having severe neuralgia in the face, and having all their teeth out. If the poison attacks the nerves between the ribs (intercostal neuralgia) and a rash appears we call it "shingles."

So your problem is to find out if you have a focus or pocket of pus. One naturally thinks of the teeth. Have you any crowns, or a bridge that cannot be removed? Devitalized teeth (where the nerve has been killed) are prone to be-

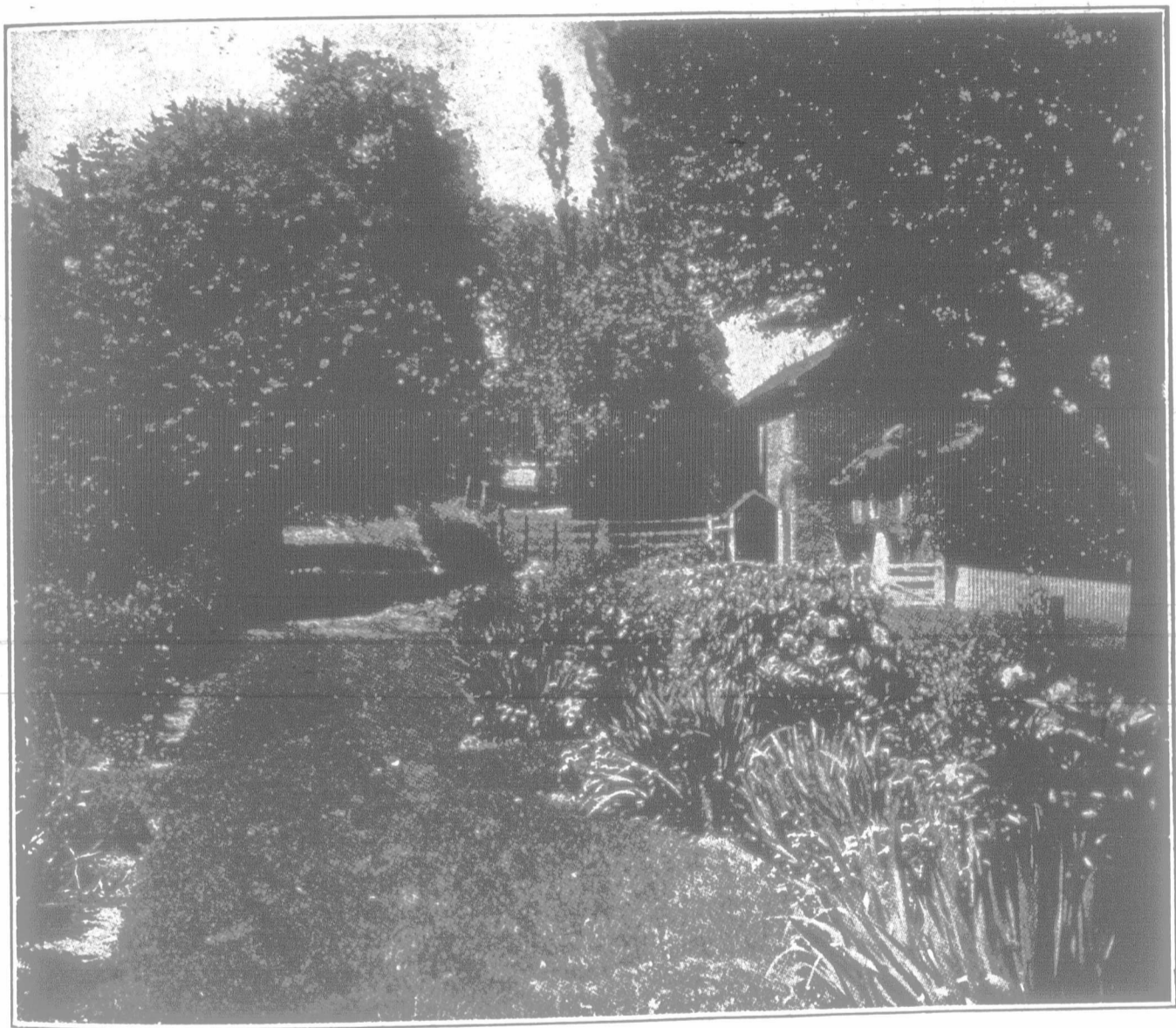
Ans.—There is a cause for your insomnia and unless the cause is removed it is impossible to cure you. A common cause is worry. The more you worry the less you sleep—the less you sleep the more you worry. (There is an interesting book "Why Worry?" that is likely in your Public Library. If it is not, your librarian will get it for you). I remember well a preacher who came to me with very much the same story as yours, except that he blamed the whole trouble on his poor liver. In reality it was his poor congregation that was to blame. They did not appreciate him, they did not pay him a decent wage. (The preachers and public school-teachers are the greatest philanthropists on the American continent to-day. Take them out of our country for five years and what would happen? Where would your boy be, or your girl? Pay them a wage that will make them happy and contented in their work.) Well, to come back to the preacher: He was working hard, he was undernourished and underpaid, and naturally was worrying and of course, not sleeping. I advised him to eat a bowl of bread and milk before going to bed, and to repeat it every 3 hours if awake. He rapidly put on flesh, got his mind off his insomnia and was able to break the vicious circle—the more insomnia the

**Hope's Quiet Hour.**

**Increase Our Faith.**

The apostles said unto the Lord, Increase our faith.—S. Luke 17:5. Our Lord had been holding up before the disciples an ideal of marvellous love. He had told them to forgive, when a brother sinned against them seven times in a day, if called upon to do so. If their answer had been: "Increase our love," we should not have been surprised. But it was the appeal of our text: "Increase our faith." God's answer to that prayer is not to suddenly endow us with perfect faith. The prayer itself—if it be sincere shows that there is already living faith in the heart, though it may be weak and insignificant as a grain of mustard seed. When a mother kneels beside her sleeping baby and prays: "Lord make him a good man!" she is not disappointed because there is no startling visible answer to her prayer. She knows that long years will pass before the helpless child can serve his generation with a man's powers.

depression—it shrinks in our sight until it is more like a grain of mustard seed. The prophet Habakkuk declared that he would "rejoice in the Lord", even though all his harvest should be a failure and all his cattle should die. Yet it was the same prophet who said hopelessly: "O Lord, how long shall I cry, and Thou wilt not hear! even cry out unto Thee of violence, an! Thou wilt not save!" If you and I belonged to that suffering Christian nation, which has been so long tortured by the Turks, we might find it very hard to keep our faith in a loving God. For many years the Armenians have cried out unto their heavenly Father of violence, and yet He has not saved them—as far as we can see. When we are led along a sunshiny path we don't really know whether our faith is weak or strong. When the hour of testing comes we find it necessary to throw ourselves on Almighty power, and cry: "Increase our faith!" While St. Peter was safe in the boat he thought himself quite strong enough to walk on the stormy sea; but when the waves tossed about him he cried in fear: "Lord, save me!" There was faith in that prayer. There is always faith in the heart when a cry for help goes up to God. But St. Peter did not know how weak his trust in his Master was, until the hour of testing revealed his weakness to himself. In the Sermon on the Mount our Lord has shown us the hollowness of surface religion. The righteousness which is done to win the praise of men, the display of piety and the long, eloquent prayers which go no higher than the ceiling, the fasting and almsgiving which are intended to impress the world—if all these He has said: "Ye have no reward of your Father which is in heaven." There is no faith in God inspiring them. They are a sham. We all despise hypocrisy—let us pray earnestly: "Increase our faith!" lest we forget the invisible God and spend our lives in piling up treasure on earth. It is worth while studying (in order to avoid) the method one man suggested of putting money into the plate in church. He said: "If you feel particularly mean, and have only a penny to bestow, keep it well covered with your hand and let your mite fall so that it shall escape observation. If you have a quarter, hold it in plain sight and let it drop so that it may make a musical jingle. If you contemplate offering a bill, you must not take the money out of your pocket until your neighbor can best see your unparalleled generosity."



"The Back Yard May Be Filled with All Sorts of Flowers."

come infected. An X-ray is very helpful to decide if there is pus at the roots.

Then tonsils: Are you subject to repeated attacks of tonsilitis or sore throat? Do you catch cold easily? Is your voice husky at times? Then ulcer of the stomach, gall-bladder, appendix, mastoid, should all be considered. So consult your family physician and ask him to carefully examine you to find out the cause of your trouble. In the meantime you will find the pain will not be so troublesome if you can put on 5 or 10 pounds in weight. Eat an extra slice of bread and butter after each meal, drink a quart of milk a day. Avoid tea and coffee, don't worry, and lie down an hour after dinner.

**Insomnia.**

From "M. R.", Lanark Co., Ont.—"I have been troubled for years with sleeplessness. Sometimes I don't get more than two or three hours sleep of a night. Have numbness in feet and legs, and take hot sweats."

more worry, the more worry the more insomnia.

I would suggest that you try the same treatment—put on from 10 to 25 pounds of flesh. Then in addition take a hot sponge bath just before going to bed. I would avoid all drugs that would make you sleep. Build up your general health by an abundant diet, especially milk (1 quart daily), vegetables (raw and cooked), good home-made bread and butter,—three good substantial meals a day and a lunch at bedtime.—And if at all possible one mile of oxygen a day, i. e., go for a walk.

Planning a Profiteer's Home.—Architect—"Have you any suggestion for decorating the study, Mr. Quickrich?"

Mr. Quickrich (war-profiteer)—"Only that it must be brown. Great thinkers, I believe, are generally found in a brown study."—Boston Globe.

When a farmer sows his seed, burying it in faith that God will give large increase, he is not discouraged because he has to wait for the harvest.

We can wait patiently for the increase in physical things, let us learn to trust God also when spiritual progress is slow, secret and hidden—trust Him for ourselves and for others.

Faith is the great foundation virtue. If we live in the consciousness of God's presence we can't help growing in love and truthfulness, in honesty and gladness. The trouble with us is that we have so little faith. When everything is smooth and easy we feel satisfied that God is our Father, strong and loving; and our freedom from anxiety makes us think that our faith in an overruling Providence is not to be shaken. Perhaps, while we think we are trusting God to order our lives, we are only trusting in a bank account, and a habit of health and worldly prosperity. Sometimes we fancy that our faith is like a great tree; and then—in some hour of physical, mental or spiritual

What a pity it seems that, after all one's care to carry out such sarcastic advice, the gift should be rejected absolutely by God. He will gladly accept any real kindness—though it may be only a cup of cold water—but it is a terrible mockery to lay at His feet such hypocritical alms as are described above. If we have ever insulted the Master we profess to serve in that fashion—let us face the question honestly!—then we must humbly ask forgiveness, and also ask for an increase of faith. If we believe that our gifts are laid in the hand of God, and that He knows whether they are gold or only a poor imitation, we shall care very little what our neighbors think about us. St. Paul believed that he was a steward of God, and cared only to be faithful in his Master's sight, therefore he considered it a very small thing to be judged—or mis-judged—of men.—1 Cor. 4:1-5.

I can't see into your hearts—God can, and does!—but I know enough of my own heart to say penitently:

"Not for our sins alone Thy mercy, Lord, we sue; Let fall Thy pitying glance On our devotions too, What we have done for Thee, And what we think to do. The holiest hours we spend In prayer upon our knees, The times when most we deem Our songs of praise will please, Thou Searcher of all hearts, Forgiveness pour on these."

What a difference it would make in the business world if we always realized that we are doing business with God! I was in a corner grocery a few days ago and the proprietor spoke sadly about his "bad debts." He remarked: "One family has run up a bill of nearly a hundred dollars. No attempt is made to pay

Continued on page 572.

# Melotte

## Back on The Market

After 5 years of war-enforced idleness, the original European Cream Separator factory has resumed production of

### The World-Famous Melotte Separator

and all models of this famous Cream Separator are back on the Canadian Market with a complete line of repairs and equipment, for Canadian users.

#### Our Great Pre-War Offer is Continued

Easy terms—duty free—so you who have wanted the world's greatest cream separator, write for catalogue now. Find out why 500,000 Melotte separators are in continuous use to-day. Read how in England there are more Melotte separators in use than all other makes combined. More than 50,000 users in Canada are daily profiting from its use.

Before buying any separator find out how the Melotte has won 264 International prizes, and why for efficiency of skimming, ease of turning, convenience of operation, and durability, it is unequalled.

#### The Increased Profits You Get

from the Melotte will surprise you. In reality you don't pay for the Melotte at all. It pays for itself out of your increased profits.

#### Why the Melotte Excels

The Bowl is the vital part of a cream separator—the part where the cream separation takes place. Vibration of a cream separator's bowl will soon cost you more money in cream waste than the price of your separator. A perfectly true motion of the bowl is absolutely necessary.

#### A Self-Balancing Bowl in the Melotte

Jules Melotte, the inventor—with his wonderful, patented self-balancing bowl—has solved the problem of perfect skimming. The Melotte bowl is the only ball-bearing bowl. It cannot get out of balance—can't cause currents in cream—can't remix cream with milk. It is simple—durable—fool-proof. It hangs down from a single perfect bearing and spins like a top. It will continue spinning for half an hour after you stop turning the crank, unless you apply the brake. The Melotte bowl is made of special quality steel, the bowl chamber is made of special cast iron, porcelain lined with white bathtub enamel that never wears off.

**Just a Few Words, Mr. Farmer!** You have been thinking of buying a "Melotte" Separator for the past two or three years—or perhaps you did think about it once, but were persuaded to take some other make, guaranteed "just as good and not half the price." Every month the "Melotte" is replacing scores of these "just as good" machines which find their last resting place on the junk-pile or in our "cemetery."

If you have never used a cream separator, don't be a "back-number" any longer. If you are using some hard-turning, troublesome, top-heavy bowl separator which is causing as much waste of valuable butter-fat as the old pan-setting or gravity system, throw it out and install in its place a Money-maker—The "Melotte."

**There is Only One Melotte—Make no Mistake**—Other manufacturers have tried to copy the design of Melotte separators, but without success. One has only to see the original Melotte, alongside the copied design of other makers, to know and appreciate the great superiority of the original make.

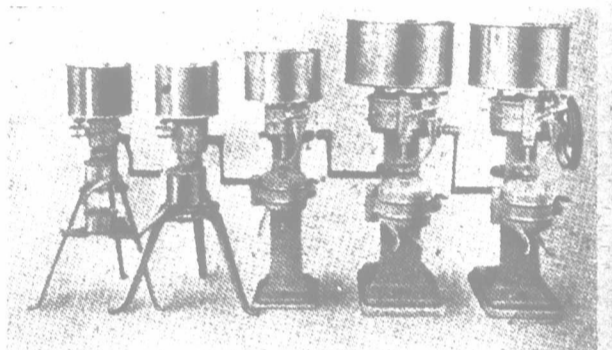
**Easiest to Clean**—The 250 and 400-lb. capacity machines have only one and two spirals, larger sizes have a few plain discs, all alike, go back in bowl in any order. Bowl Chamber is PORCELAIN-LINED. Has smooth, rounded surface, no crevices. Easy to clean as a china plate, perfectly sanitary. Can't rust. One-half less tinware to keep clean.

**Easiest to Turn**—Owing to its suspended bowl, which hangs on a ball-bearing spindle, friction is reduced to a minimum. Bowl spins 25 minutes after you stop cranking, unless you apply brake. No other separator need a brake.

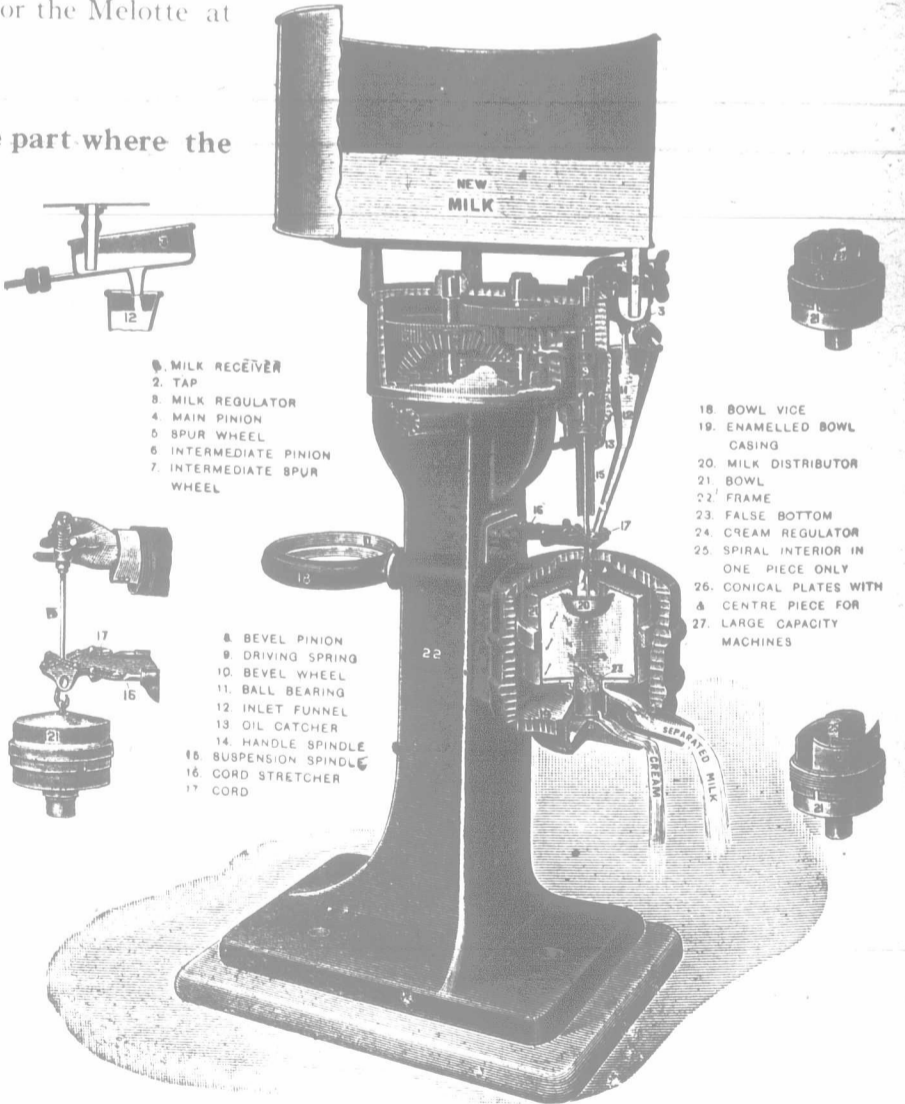
**A "Melotte" will Last a Lifetime**—There is no new or out to the Melotte. There are hundreds of Melottes which have been in use for 20 and 25 years, and are still in as perfect order as when first they were offered for sale.

**DO IT NOW**  
 Clip the Coupon and get our free illustrated catalogue.  
**R. A. LISTER & CO. (CANADA), LTD.**  
 Toronto, Ont.  
 Without cost to me or obligation in any way, please send me illustrated catalogue of "Melotte" cream separators.  
 Name \_\_\_\_\_  
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 Farm Location \_\_\_\_\_ Prov \_\_\_\_\_

**OTHER LISTER LINES:**  
 Lister Premier Separators; Lister-Bruston Automatic Electric Lighting Plants; Lister Mowers; Lister Gas Engines; Stationary and Portable; Ensilage Cutters; Saws; Sawing Outfits; Pumps; Farm Tractors, etc.



There are 6 Models of Melotte—15 Sizes



**R. A. LISTER & CO. (Canada) Ltd.**  
 50-60 Stewart Street Toronto

The Rules for Departmental paper only, with common the real name enclosing a letter in a stamp (4) Allow answers to

Dear J what help others, so assistance. Late in parlor and get settle and paint. painted white and furniture is library ta etc. My ru with con colorings. in regard parlor has and one to room is lon to the wes parlor has I will be which I at Pr. Ed.

Aren't y the "living furniture is "society" have a livi You see to start v you will, which may below the board, if y dominant room wall color; or, there is a is quite a you might paper in and chint Or, if you flowered pe cream or v As so arriving, w furnishing

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### 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 the real name will not be published, place enclosing a letter to be forwarded to anyone, place in a stamped envelope ready to be sent on (4) Allow one month in this department for answers to questions to appear.

#### Wall-Papering.

Dear Junia.—I have often noticed what helpful suggestions you have given others, so I am coming to you for assistance.

Late in the fall we moved, and the parlor and bedroom adjoining I did not get settled; they both needed paper and paint. I thought I would have them painted white, and there is a pretty white and gold molding for the parlor. My furniture is more of the living room type, library table and brown wicker chairs, etc. My rug is a wood brown Axminster with conventional design in dark colorings. I would like your opinion in regard to curtains and paper. The parlor has two windows facing the south and one toward the west while the bedroom is long and narrow and has a widow to the west and one to the north. The parlor has an area of 15 x 17.

I will be very grateful for your ideas which I am eagerly looking for.

Pr. Ed. Co., Ont. BROWN THRUSH.

Aren't you glad your furniture is of the "living-room" type? Drawing-room furniture is of so little use except to the "society" class in cities, who always have a living-room as well.

You seem to have a good foundation to start with. With a patterned rug you will, of course, need plain paper, which may be enlivened by a banding below the moulding and above the base-board, if you like. As brown is the predominant color of your rug the living-room wall would look well done in sand color; or, if you prefer a lighter shade there is a sort of parchment paper that is quite attractive. For the bedroom you might use a pretty almost plain paper in cream, with a flower border and chintz inside curtains to match. Or, if you like, you could have a dainty flowered paper, cream ceiling and "drop," cream or white muslin curtains.

As so many furnishing queries are arriving, we have decided upon a "house-furnishing number" at an early date.

#### To "Would-be Nurse."

Dear Junia.—It was truly a pleasure for me to read "A Would-be Nurse's" letter. I too, like her would be a nurse and I am hoping that I will be able to enter training this coming autumn.

Could you tell me Junia the requirements to enter the Toronto General Hospital. I have a year and a half high school, but have never found any one to tell me what was required to enter the General.

Would-be Nurse, I have seen an advertisement in some paper about the Salvation Army offering training in Maternity nursing. I do not know how long the course is but here is the address: "Women's Social Secretary, S. A. Headquarters, Albert Street, Toronto." You could write them and it may be the very course you want. I forgot to mention the advertisement says for (Salvationists or otherwise.) I must also say that I know a girl with public school education (not even the entrance to high school) that is training in an American hospital. Maybe though you are like me, preferring to train in a Canadian hospital.

I hope, dear Junia, I have not taken too much of your valuable space, but when I read "Would-be Nurse's" letter I felt if I must write and tell about the course and ask information regarding the Toronto General.

Welland Co., Ont. "NURSE-TO-BE."

For information regarding training in the General Hospital, Toronto, write to the Superintendent of that institution. The "General" is on College St.

Did "Would-be Nurse" not see the note which appeared two or three weeks ago, asking that her address be sent again to this office?—We can't find her original letter, and there is quite a budget of mail here waiting to be sent on to her as soon as her address is received.—Junia.

#### Soap Troubles.

For "Subscriber's Wife," Welland Co., Ont.

Possibly the reason why your soap



**THEY PLAY SO HARD**, they burn up so much energy, the children must have energy-producing foods to grow on. And CROWN BRAND Corn Syrup spreads so evenly, so smoothly on sliced bread—so convenient—so reasonable! Little folks don't know that CROWN BRAND Syrup is a wonderful energy-producer, that it is practically predigested. They don't care! Since I discovered "the great sweetener" and how safe it is for children, I am delighted they like it so well.

*Aunt Mary*

If you have not yet discovered "the great sweetener,"—if you have used CROWN BRAND Syrup only as a spread for daily bread or griddle cakes, try it now for baking and candy making.

The Canada Starch Co. Limited  
Montreal

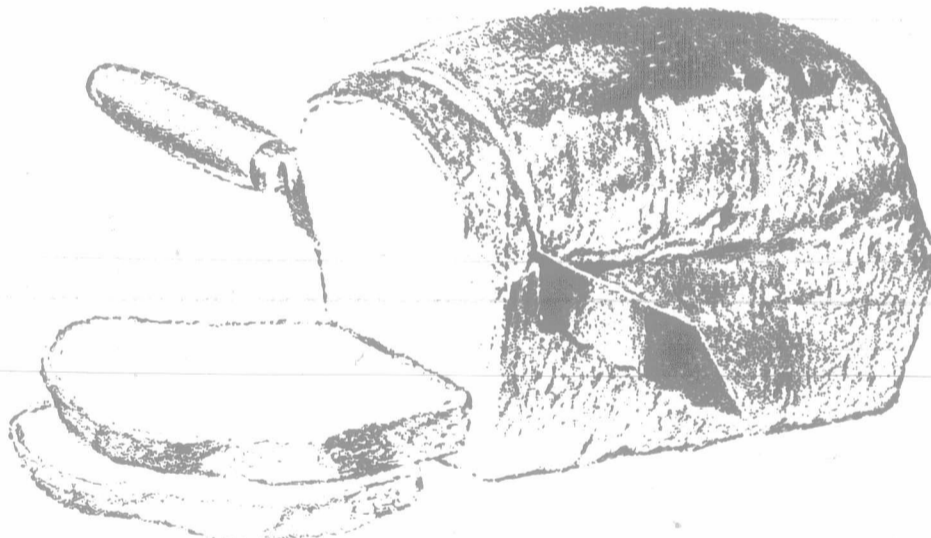


At your Grocer's in 2, 5 and 10 lb. Tins

## Crown Brand Syrup

## FIVE ROSES FLOUR

for Breads - Cakes - Puddings - Pastries



**C**ARVE thick, satisfying slices for famished children—cut thin, dainty slices for the "five-o'clock"—all from the same fat FIVE ROSES loaf. A nutritious and economical bread-producer, FIVE ROSES makes a luxury out of a necessity.



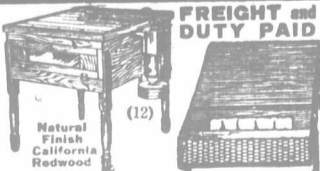
## WISCONSIN INCUBATOR AND BROODER

BOTH FOR \$19.50

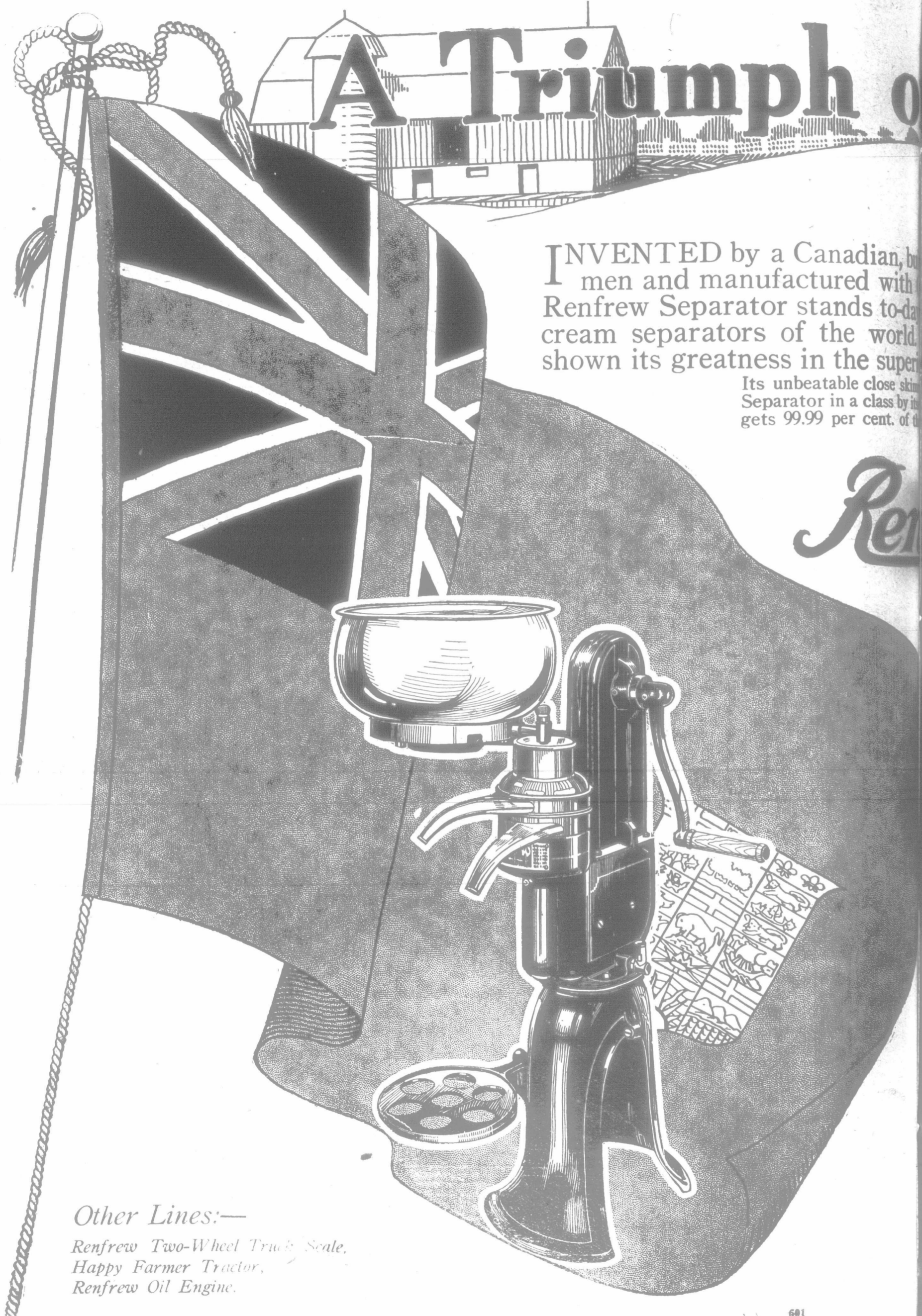
130 Egg Incubator  
130 Chick Brooder  
BOTH FOR

\$19.50 Freight and Duty PAID

If ordered together we send both machines for only \$19.50 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climates. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$19.50 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.



Write Us Today--Don't Delay  
WISCONSIN INCUBATOR CO. Box 224 RACINE, WISCONSIN, U. S. A.



# A Triumph of Canadian Skill

**I**NVENTED by a Canadian, by Canadian workmen and manufactured with Canadian capital, the Renfrew Separator stands to-day foremost among the cream separators of the world. Canadian skill has shown its greatness in the superiority of the Renfrew. Its unbeatable close skimming record places the Renfrew Separator in a class by itself. It gets 99.99 per cent. of the cream fat.

The Renfrew is in Competition throughout the world with all foreign makes of separators. It has a large sale in the United States and is also to be found in the dairy sections of South America and in Europe.

When the Renfrew Separator is used no cream is lost through imperfect skimming. In an Experimental Farm Bulletin Mr. Barr, the Chief of the Dairy Division at Ottawa, says, "A good separator properly handled will deliver cream testing anywhere from 20 to 35 per cent. fat and not leave over .02 per cent. fat in the skim milk." The Renfrew Separator does better than that. On a test under ordinary farm conditions it leaves only .01 per cent. in the skimmed milk.

## Renfrew Cream Separator

Every part is made of the highest grade material, accurately manufactured and carefully fitted. Because of the patented Clutch which enables the gears of the separator to stop while the bowl is running down it should last one-third longer than an ordinary separator. This means that it is a  $33\frac{1}{3}$  per cent. better investment from the standpoint of durability and cost per year of service.

in a dustproof and oil tight frame casing. No dust or dirt can enter and all the gears run in a bath of oil. Oiling is only necessary four times a year. No oil can ever leak on the floor. Think what this means in cleanliness, easy running and longer life of the machine.

### Interchangeable Capacity

The frame and driving mechanism is standard for all capacities, ranging from 350 lbs. to 1000 lbs., and made in weight and size for the largest capacity. When, by increased milk production, it is found that the capacity of your separator will have to be increased, all that is necessary is to send back the old bowl and bowl fittings for which an allowance will be made and deducted from the price of the new bowl and fittings of the size required to handle the larger capacity. Thus the Renfrew Separator will last a life time.

### A Money Maker

The Renfrew requires little attention and time is money.

It needs oiling but once in four months.

No constant cleaning necessary of oil cups or places where oil leaks out.

The wide open bowl and smoothly polished steel discs are easily scalded and rinsed.

The anti-splash milk can prevents milk splashing out and is at a conveniently low height, only three feet from the floor. Women appreciate this as it makes it so much easier to lift milk into.

The driving crank is high to make it easy to drive and there is no stooping or backaches caused when running a Renfrew.

The working parts of the Renfrew are enclosed

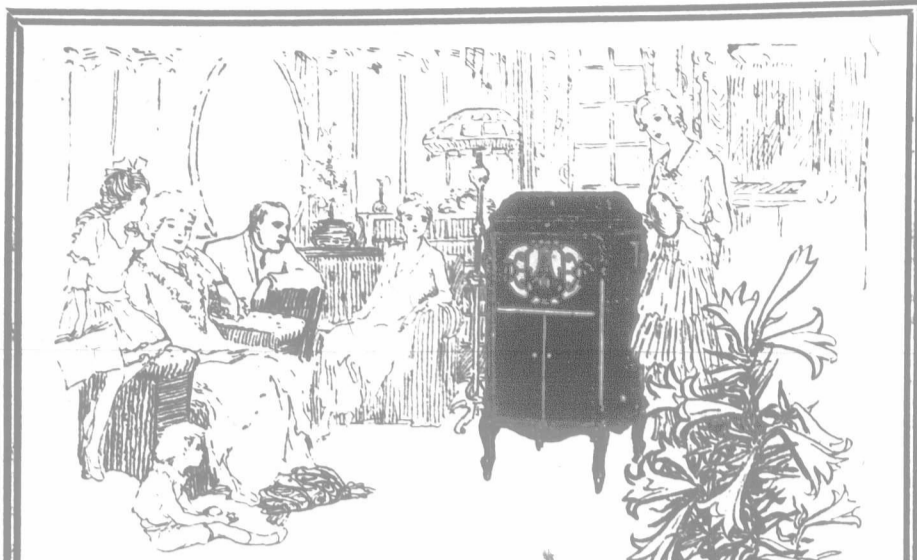
*Write for catalogue of this All-Canadian Separator, and pamphlet showing Dairy School tests.*

*Other Lines:—  
Renfrew Two-Wheel Truck Scale,  
Happy Farmer Tractor,  
Renfrew Oil Engine.*

## The Renfrew Machinery Co., Limited

Head Office and Works, Renfrew, Ontario

Branches: Montreal, P.Q., Sussex, N.B., Milwaukee, U.S.A.



A musical Easter  
in your home with

The  
**Brunswick**

WITH a Brunswick "All Phonographs In One" in your home you can express the gladness of Easter with music from all the world's greatest artists. For the Brunswick has no restrictions. It plays ALL records CORRECTLY. The exclusive Ultona plays each make of record with the proper needle, the precise diaphragm and the exact weight. And the Brunswick's all-wood oval horn—built like a violin—brings out richer, sweeter, truer tones from all records.

"Let Your Ears Be The Judge"

Just you hear the Brunswick—that's the test! There's a Brunswick dealer near you.

**The Musical Merchandise Sales Co.**

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Have Your Cleaning  
Done by Experts

Clothing, household draperies, linen and delicate fabrics can be cleaned and made to look as fresh and bright as when first bought.

**Cleaning and Dyeing**

Is Properly Done at Parker's

It makes no difference where you live; parcels can be sent in by mail or express. The same care and attention is given the work as though you lived in town.

We will be pleased to advise you on any question regarding Cleaning or Dyeing. WRITE US.

**Parker's Dye Works Limited**  
Cleaners & Dyers

791 Yonge St., Toronto

**BOY'S** You can earn a lot of money by securing a subscription to  
**THE FARMER'S ADVOCATE AND HOME MAGAZINE**  
**AND** You can do it in your SPARE TIME. Write for instructions.  
**GIRL'S** **THE WILLIAM WELD CO., LTD.,** London, Canada

refusen to thicken and harden as usual is that the lye is weaker than the lye you used before. Try adding more lye to the mixture in which the grease seems to stay on top." Here is a recipe that has been recommended: 2 quarts soft water. Heat until blood warm and into it stir 1 can Gillett's lye. Melt 4 lbs. tallow and stir the lye and tallow together until it thickens a little, then cover and leave until next day. Cut it up and into it put 4 quarts soft water and boil until all the grease is dissolved, then put in a tub or box and leave until next day. Cut in cakes and set on a board to dry, turning occasionally. Three tablespoons ammonia and 1½ of borax added improves the soap. Always pour the lye into the grease. You can use rough fat fried out.

### The Scrap Bag.

#### Home-made Clothes Hanger.

Dresses, coats and waists should always be hung on hangers, if they are to keep their shape. If you have not hangers to go round roll a newspaper up firmly about a stick and tie a loop of heavy cord at the middle to suspend. The paper should go beyond the ends and be bent slightly downward at the ends. Another plan is to use old barrel hoops cut in two, each hoop making two hangers. Cover with strips of cotton woad about to cover the roughness of the wood, and tie a loop in the middle to suspend.

#### Judging Materials.

Satin should be judged by the weave of the back. If loose and uneven do not buy, as the satin will soon rough up, no matter how glossy it is on the right side, due, probably, to the pressure received from a hot roller.

To tell the difference between real linen and cotton damask, boil a sample. If cotton the surface will be fuzzy; if linen it will be smooth.

Serge, tricotine and garbardine should be soft and show an even weave. A poor grade is rough and stiff because mixed with wood pulp.

Velvet should be judged by the depth of the pile and the evenness of the weave at the back. Corduroy should be pulled a little at the end to test its strength; it may tear easily at the creases.

The best way to test fastness of color is to wash a small sample, dry and iron it. Usually if the pattern is clearly defined on the wrong side it will not fade quickly if given care when laundering.

### To Make While the Range is Going.

#### Meat and Vegetable Pie.

2 pounds beef (chopped) 2 carrots (sliced thin)  
1 pt. potatoes (sliced fine) 1 onion (chopped)  
thin 6 tablespoonfuls flour  
3 cupfuls stock.

Cook the meat two hours, add vegetables and cook one-half hour. Drain off the stock (should be three cupfuls). Mix the flour with cold water, blend thoroughly and add to stock. Cook until smooth and thick. Place meat and vegetables in a baking-dish. Pour over gravy and cover with baking-powder biscuit dough. Bake.

#### Vegetable Beef Stew with Dumplings.

2 lbs. brisket, rump, 1 cupful cubed carrots  
or chuck beef 2 tablespoonfuls  
fat for searing beef vinegar  
1½ cupfuls boiling water 2 cloves  
1 small onion 1 cupful cubed potatoes (chopped)

Sear meat on all sides in hot fat, cover with boiling water. Add onion, carrots, vinegar, and cloves. Simmer three and one-half hours. Add cubed potatoes and cook twenty minutes. Add dumplings and cover. Boil ten minutes without removing the cover.

#### Hot Pot of Mutton and Barley.

1 lb. mutton 4 potatoes  
3 onions Celery tops or other  
1 cup pearl barley herbs  
1½ cupfuls salt

Cut the potatoes in small pieces and brown with the onion in fat cut from the meat. Add 2 quarts of water and the barley. Simmer for 1½ hours; then add the potatoes, cut in quarters,

seasoning herbs, and seasoning, and cook 1½ hours longer.

### Grandmother's Suet Pudding.

1 cup molasses 1 cup raisins  
1 cup milk 1 teaspoon each of  
1 cup chopped suet soda, salt, cin-  
3 cups flour namon and cloves

Beat the soda into the molasses, add milk, salt and spices. Cover the raisins and suet with some of the flour. Stir all together. Steam 3 hours in a pail or mould set in a kettle of boiling water. Serve hot with cold sauce made of 1 cup sugar and ½ cup butter creamed together. Grate a little nutmeg over the top.

## The Windrow

Walter Von Vogelweide, the great lyric poet of the middle ages, so loved the birds that he left a bequest to the monks of Wurtzburg, on condition that they should daily feed them on the tombstone over his grave.

"Through a London bedroom window there came yesterday evening (March 10) rapid, automatic, wireless automatic messages that were being sent out by a Bolshevik operating in Moscow." (Wireless to the Globe and N. Y. Times). This sentence prefaces the first report that has come to this country of a wireless telephone, invented by H. Powell Rees, which is so small that it can be contained in a tiny box, is inexpensive to manufacture, yet carries sounds with remarkable clearness over long distances. Every Sunday Rees, who lives in London, listens to a concert in Italy. The only aerial needed is a wire 85 feet long hung between an upper window and a tree in the garden.

One of the most efficient relief services during the War and since has been maintained by the Friends' War Victims' Relief Committee, which was founded in 1914, with the especial purpose of helping civilian sufferers by the War. About 750 English men and women have taken part in the work, in addition to a large number of Americans, and the branch of endeavor chosen by them has been especially appropriate, as the "Friends" (one time commonly known as "Quakers") do not believe in war at all. At present this Committee is very busy at reconstruction work in the devastated regions of France, helping the people to secure seed and tools to build huts to live in, plough the land, start home industries, etc. A few days after the signing of Peace four Friends were allowed to go to Germany to see conditions, and since then food, clothing and other necessities (especially for babies, children and nursing mothers) have been sent to Germany, Austria and Hungary. At present, owing to the endeavors of the Friends' workers, about one-third of the children in Austria and Hungary are receiving one good meal a day. Help is also being given steadily in Poland, Serbia and Czecho-Slovakia. Everywhere the need is terrible. Europe will need much more assistance, through many agencies, before she is even able to help herself.

### Smiles.

Two small boys in a family of Friends, writes a contributor, had a disagreement, during which the older boy became very much incensed.

Finally, no longer able to control himself, he took his brother by the shoulder and shook him, with the exclamation, "Oh, thee little you, thee!"

Then as the enormity of his offense came over him, he said, in a changed voice, "Don't tell mother I swore."

And men relate that Mrs. Newlywed went to the grocery store to do her morning marketing. And she was determined that the grocer should not take advantage of her youth and inexperience.

"These eggs are dreadfully small," she criticized.

"I know it," he answered. "But that's the kind the farmer brings me. They are just fresh from the country this morning."

"Yes," said the bride, "and that's the trouble with those farmers. They are so anxious to get their eggs sold that they take them off the nest too soon!"—Cleveland Plain Dealer.

seasoning, and cook  
**Suet Pudding.**  
 1 cup raisins  
 1 teaspoon each of  
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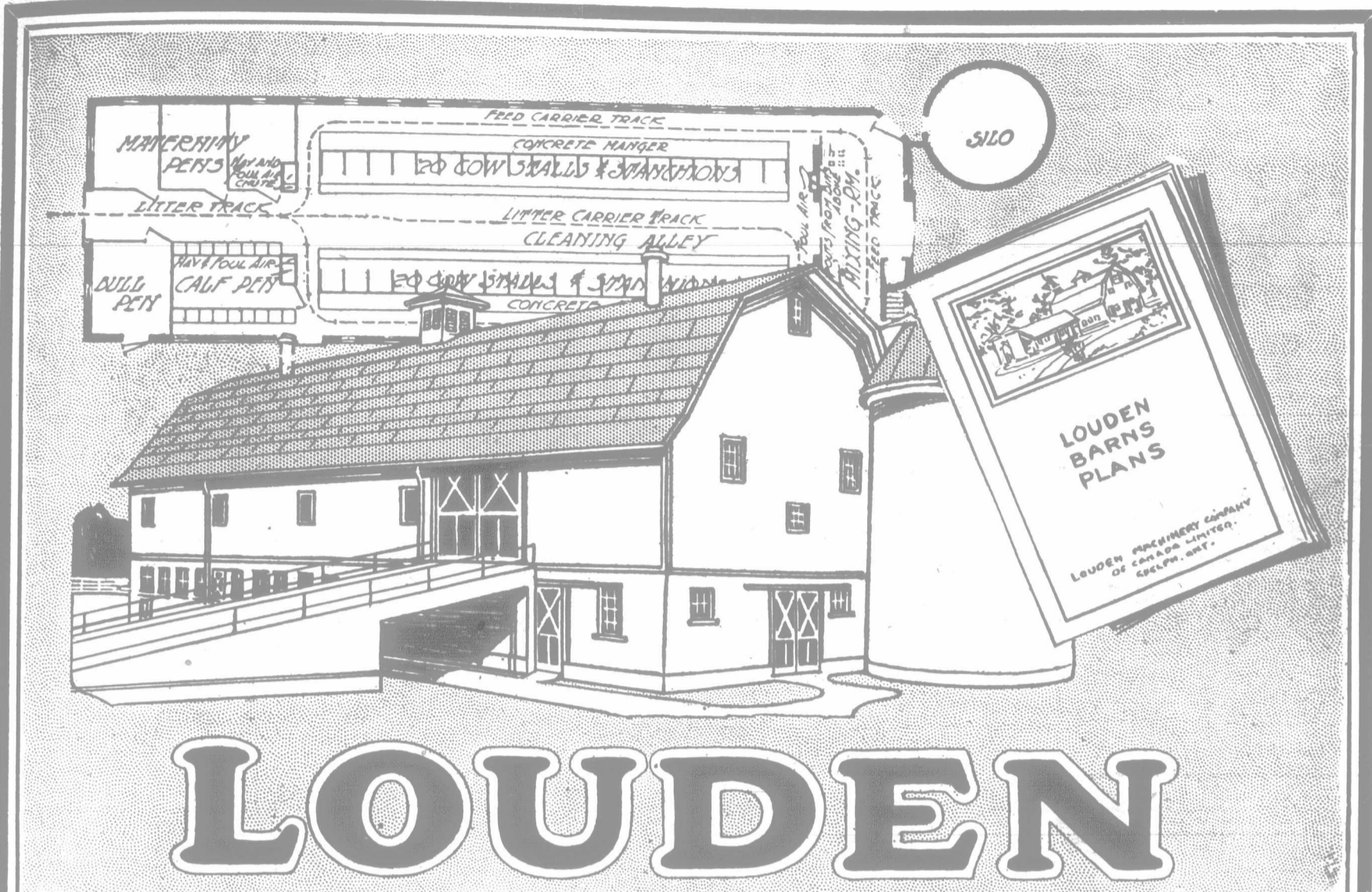
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# LOUDEN

## Barn Plans Will Save You Money

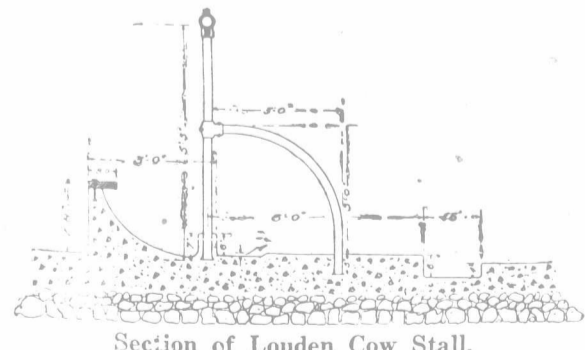
**L**IKE many other farmers, dairymen and stockmen, you are going to build a new modern barn or remodel the old one.

If you go to a regular architect and have him draw up plans for you, it will cost you a lot of money. And a regular architect has very little, if any, experience in planning barns and is unqualified to give you the best advice on the construction of a modern barn. If you make the plans yourself you will make some technical mistakes that will prove costly.

It was to save money for farmers and to help them build more satisfactory barns that the Louden Architectural Department was organized.

This Department is in charge of an architect who specializes on planning barns. He has planned so many Canadian barns that he knows just the kind that are most suitable to Canadian farming conditions and Canadian weather. His advice would be worth scores of dollars to you.

Tell him what kind of stock you want to house, the number of animals, and your ideas of what would best suit you, and if possible, if you are remodeling, send a rough sketch of your old barn, showing location of windows, doors, supporting beams and columns, etc., and indicate the roadway, the well, the south side of the barn, and the location of your house.



Section of Louden Cow Stall.

Our architect will supply you free floor plan suggestions.

If you are not quite ready to go into particulars, send for our Barn Plan Book. Send for it anyway. We will mail it FREE to those who fill in and send the coupon.

This big 112-page book is not our catalogue. It is a book of 74 barn plans carefully selected from hundreds of Louden-planned barns that have been erected in Canada and the United States. It will give you the very latest ideas in modern barn planning and construction.

Besides barn plans, it is a regular encyclopaedia of information on the values of different kinds of building materials. It deals with ventilation, drainage, and lighting. The chapter on the mixing and laying of concrete is worth many dollars to the man who is going to build a modern barn. But we cannot tell you about this big barn plan book here, so send for it and see for yourself.

And when ordering equipment for the new barn remember that a Louden-equipped barn is even more important than a Louden-planned barn.

Louden Steel Stalls and Swinging Stanchions are easy to keep clean. There are no dirt catching nooks and corners—no wood to absorb moisture or odors. The smooth, steel-tubing construction is handsome, durable and sanitary.

Louden Y Stalls are patented and are obtainable only from us. They combine

the strength and convenience and feed saving qualities of the double and triple post stalls, while giving all the freedom of the single post stall. They permit the use of the feed-saving Built-up Manger Curb.

Louden Swinging Stanchions give cows all that head-turning, body-moving freedom that is so necessary to keep an animal comfortable and contented. By replacing your old stiff stanchions with Louden Swinging Stanchions there will be an increase in the milk flow that will soon pay for the new equipment.

Louden Stalls and Stanchions, as well as other Louden lines, are fully described in Louden's General Catalogue. If requested we will include it with the Barn Plan Book if you will fill in and send us that coupon.

That is the easiest thing you can do to-day—to send that coupon. It will only take a very few minutes. When you get the books you will agree that you never spent so short a time to such good advantage, for these books will show you how to save money by better planning and proper equipment.

### The Louden Machinery Co. of Canada, Limited

No. 630 Crimea St., Guelph, Ont.

Branches at Winnipeg, Man., St. John, N.B., Quebec, Que., and Vancouver, B.C., also the Alberta Dairy Supplies, Limited, Edmonton, Alberta.

The Louden Machinery Company of Canada, Limited.  
 No. 630 Crimea St., Guelph, Ont.  
 Please send me, postpaid, the book(s) checked below:  
 Louden Barn Plan Book.  
 Illustrated Catalogue.  
 I expect to build (or remodel) a barn about (date) .....  
 for ..... cows ..... horses.  
 Name .....  
 P.O. ....  
 Province .....

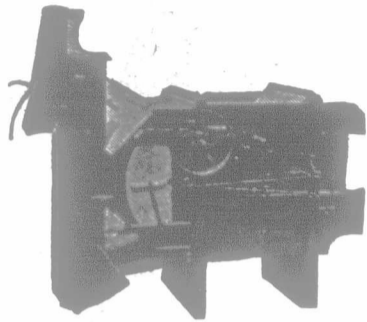
Worth Every Cent  
of its Cost



# "SALADA"

Black, Green  
or Mixed....

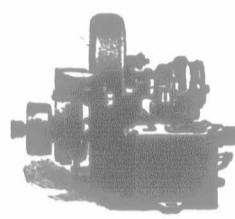
Sealed Packets Only.  
Never Sold in Bulk.



Are you looking for the best FANNING MILL made, the World's Champion hand and power mill, will do work others will not do.

**Kline Fanning Mill Co.**  
480 Crawford St., Toronto, Ont.

## COMET JUNIOR GASOLINE ENGINE



Sold under an absolute guarantee. Ideal for running Washing Machines, Cream Separators, Churns, Grain Graders and similar small tools. The only engine, we know of, specially adapted for women to use. No hard cranking. Step on the Pedal and it starts. Nothing could be more simple. Safe, sturdy, reliable. Send for circular T.

PERKINS' ENGINE CO.  
P.O. Box 368 London, Canada

When writing please mention Advocate.



A



B



C

## Waterman's Ideal Fountain Pen

Do you ever write letters, orders, receipts, or instructions? Do you sign papers, make notes, write cheques? Do you keep accounts and records?

Then you are interested in the above features of the Waterman's IDEAL Fountain Pen, which help to put business methods into your writing.

(A) The iridium-tipped gold pen made in ten grades of points

(B) The lever which fills or empties the pen—no unscrewing, or inky fingers.

(C) The Clip-Cap which holds your Waterman securely in your vest pocket.

Go to any good dealer and select the Waterman that is IDEAL for your hand.

**\$2.50 and up.**

The L. E. Waterman Company, Limited,  
179 St. James Street, Montreal.



## Hope's Quiet Hour.

Continued from page 570.

anything on that bill, and yet the children are constantly buying candy."

Those who have faith enough to know that if they deal dishonestly with their fellows they are stealing from God, will do their very best to pay all their bills. Religion which is packed away for six days of the week, with the Sunday clothes, is likely to grow musty and mouldy.

Faith is like the muscles of our body, it grows stronger with daily exercise. And Faith can't see the great Vision out of clouded windows. Only the pure in heart can see God. We must keep our hearts always open and ready for the Master. We dare not invite Him to help us in any doubtful enterprise. We can't allow worry to spoil our peace if we have really given Christ the command of our lives.

I was waiting for a street-car the other day when I heard a lady say to a companion: "You know I am a great worrier." That was a confession I should be ashamed to make—and yet the giant worry too often makes himself at home in my heart. Christ will not accept a divided throne. If we allow worry to rule us we are shutting out the Prince of Peace—and we don't want to shut the door in His face, do we?

We want a faith which can cling to God even when He hides His face and gives no sign of hearing our prayers. Like our Leader we want to hold fast to our Father even when He seems to have forsaken us. And we have no confidence in a fair-weather faith. Faith is a gift worth praying for and worth fighting for. Are you passing through a dark and shadowed valley of testing? Listen!

"Couldst thou love ME  
When creeds are breaking—  
Old landmarks shaking  
With wind and sea?  
Couldst thou refrain the earth from  
quaking  
And rest thy heart on ME?"

What is your answer to that searching question? My answer to it is the earnest appeal: "Lord, increase my faith."

DORA FARNCOMB.

## Serial Story

### "His Family."

BY ERNEST POOLE.

(Serial rights reserved by the Farmer's Advocate and Home Magazine.)

#### CHAPTER XXIX.

But later in the evening, when Allan and Deborah came in, Roger, who in the meantime had had a good hour in Japan and was somewhat relaxed and soothed, decided at once this was the time to tell her and have done with it. For Deborah was flushed with triumph, the meeting had been a huge success. Cooper Union had been packed to the walls, with an overflow meeting out on the street; thousands of dollars had been pledged and some big politicians had promised support; and men and women, rich and poor, had volunteered their services. She started to tell him about it, but noticed his troubled expression and asked him what was on his mind.

"Oh, nothing tremendous," Roger said. "I hate to be any damper to-night. I hadn't meant to tell you to-night—but I think I will now, for you look as though you could find a solution for anything."

"Then I must look like an idiot," his daughter said good-humoredly. "What is it?" she demanded.

"It's about John." Her countenance changed.

"Oh, is he worse?"

"Edith thinks he is—and she says it's not safe."

"I see—she wants him out of the house. Tell me what she said to you." As he did so she listened intently, and turning to Allan at the end, "What do you say to this, Allan?" she asked. "Is there any real risk to the children?"

"A little," he responded. "As much as they take every day in the trolley going to school."

"They never go to the trolley," Deborah answered dryly. "They always go on the top of the bus." She was silent

for a moment. "Well, there's no use discussing it. If Edith feels that way, John must go. The house won't be livable till he does."

Roger looked at her in surprise. He felt both relieved and disappointed. "John's only one of thousands to her," he told himself aggrievedly. "He isn't close to her, she hasn't room, she has a whole mass meeting in her head. But I haven't, by George, I like the boy—and I'm the one who will have to tell him to pack up and leave the house! Isn't it the very devil, how things all come back on me?"

"Look here, father," Deborah said, "suppose you let me manage this. And Roger's heavy visage cleared.

"You mean you'll tell him?"

"Yes," she replied, "and he'll understand it perfectly. I think he has been expecting it. I have, for a good many weeks," she added, with some bitterness.

"And I know some people who will be glad enough to take him in. I'll see that he's made comfortable. Only—" her face clouded.

"It has meant a lot to him, being here," her father put in gruffly.

"Oh, John's used to getting knocks in this world." Her quiet voice grew hard and stern. "I wasn't thinking of John just now. What frightens me at times like this is Edith," she said slowly.

"No, not just Edith—motherhood. I see it in so many mothers these days—in the women-downtown, in their fight for their children against all other children on earth. It's the hardest thing we have to do—to try to make them see and feel outside of their own small tenement homes—and help each other—pull together. They can't see it's their only chance! And all because of this mother love! It's so blind sometimes, like an animal!" She broke off, and for a moment she seemed to be looking deep into herself.

"And I suppose we're all like that, we women are," she muttered, "when we marry and have children. If the pinch is ever hard enough—"

"You wouldn't be," said Allan. And a sudden sharp uneasiness came into Roger's mind.

"When are you two to be married?" he asked, without stopping to think. And at once regretted his question. With a quick impatient look at him, Allan bent over a book on the table.

"I don't know," Deborah answered. "Next spring, I hope." The frown was still on her face.

"Don't make it too long," said her father brusquently. He left them and went up to bed.

Deborah sat motionless. She wished Allan would go, for she guessed what was coming and did not feel equal to it to-night. All at once she felt tired and unnerved from her long exciting evening. If only she could let go of herself and have a good cry. She locked her hands together and looked up at him with impatience. He was still at the table, his back was turned.

"Don't you know I love you?" she was thinking fiercely. "Can't you see it—haven't you seen it—growing, growing, —day after day? But I don't want you here to-night! Why can't you see you must leave me alone? Now! this minute!"

He turned and came over in front of her, and stood looking steadily down.

"I wonder," he said slowly, "how well you understand yourself."

"I think I do," she muttered. With a sudden twitching of her lip she looked quickly up at him. "Go on, Allan—let's talk it all over now if you must!"

"Not if you feel like that," he said. At his tone of displeasure she caught his hand.

"Yes, yes, I want to! Please!" she cried. "It's better—really! Believe me, it is—"

He hesitated a moment, his wide generous mouth set hard, and then in a tone as sharp as hers he demanded,

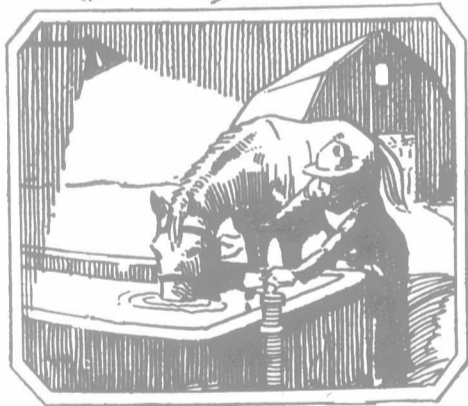
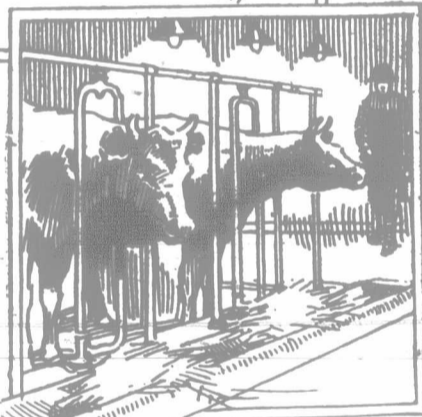
"Are you sure you'll marry me next spring? Are you sure you hope you will next spring? Are you sure this sister of yours in the house, on your nerves day and night, with this blind narrow motherhood, this motherhood which frightens you—isn't frightening you too much?"

"No—a little—but not too much." Her deep sweet voice was trembling.

"You're the one who frightens me. If you only knew! When you come like this—with all you've done for me back of you—"

Continued on page 574.

# What the "F" Power and Light Plant Means to You on the Farm



**It means first of all, bright, cheerful, stables and stock sheds—cleaner and more congenial to work in, and work done in less time, because you can see what you are doing in every nook and corner.**

It means safety for yourself and your property, as it does away with dingy passages and dark stairways. No risky lanterns to be knocked over or explode; and no source of worry when you are away.

It means willing and satisfied help, who take more pride in doing things right, and have more respect for you as an up-to-date farmer.

It means you can have running water in your buildings for your stock—running water to help along your garden-plot—running water for lawn and flower beds.

It means an end to turning your separator by hand, and ready power for your grindstone, your workshop, your churn and washing machine.

It means better light for your boys and girls to study by, and an abundance of light in every room of the house.

It means less work for your wife, with no lamps or lanterns to clean. It means she can have all the household conveniences of a city home—running water, vacuum cleaner and electrical appliances.

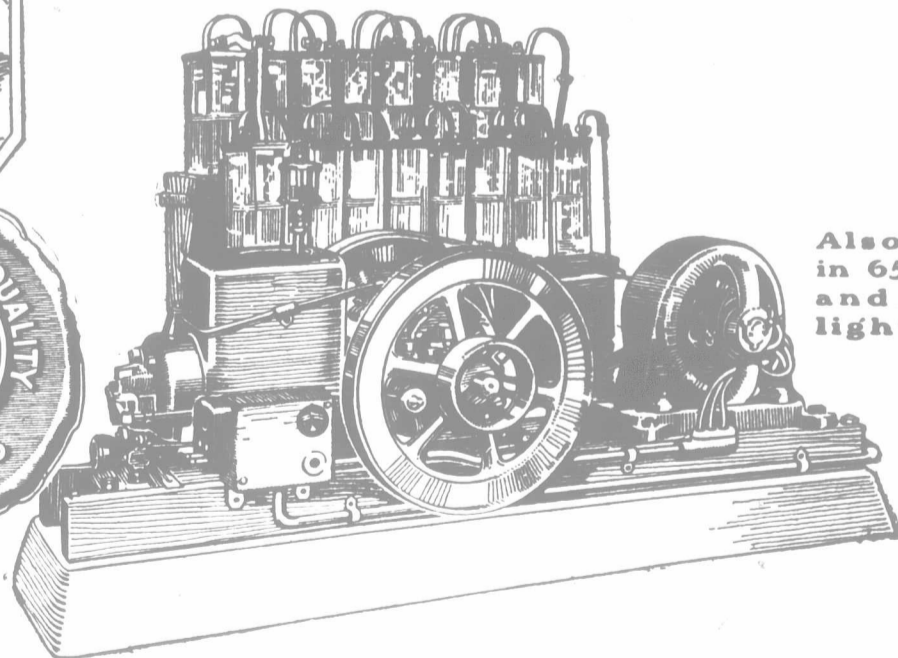
It means a more comfortable home and a more prosperous farm, where things go along smoother and with less effort than before.

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**Agents Wanted**  
in every district to handle this biggest and easiest selling proposition and give owners the kind of service which has built the reputation of this Company.

Well, there's no use Edith feels that way, The house won't be  
her in surprise. He ed and disappointed, of thousands to her, grievedly. "He isn't hasn't room, she has meeting in her head. George, I like the boy—who will have to tell and leave the house! devil, how things all  
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d on page 574.





### Mother Meant What She Said

"What do you think of my bread, Mother?"

"Why, these loaves look perfectly lovely. Since you have a home of your own you have become a wonderful cook. I'm getting envious, Edna. Why, I believe I like your bread and

biscuits better than my own!"

"Mother, you old flatterer!"

"No! I mean it. I've really never eaten better bread than yours."

"Well now, I refuse to take all the credit. I'll let you in on the secret, Mother. I use

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*the hard wheat flour that is guaranteed for bread*

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10

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Ask for prices.

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WM. WALKER, Port Burwell, Ontario

### Alfalfa Seed For Sale

A quantity of No. 1 Grimm's Alfalfa Seed, procured by a member of the Grand River Alfalfa Seed Centre. Price \$50.00 per bus., 60¢ each extra. Cash with order.

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Reserve Fund - 18,000,000  
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WRITE OR CALL AT NEAREST BRANCH.

"Deborah! Don't be a fool!"  
"Oh, I know you say you've done nothing, except what you've been glad to do! You love me like that! But it's just that love! Giving up all your practice little by little, and your reputation uptown—all for the sake of me, Allan, me!"

"You're wrong," he replied. "Compared to what I'm getting, I've given up nothing! Can't you see? You're just as narrow in your school as Edith is right here in her home! You look upon my hospital as a mere annex to your schools, when the truth of it is that the work down there is a chance I've wanted all my life! Can't you understand," he cried, "that instead of your being in debt to me it's I who am in debt to you? You're a suffragist, eh, a feminist—whatever you want to call it! All right! So you want to be equal with man! Then, for God's sake, why not begin? Feel equal! I'm no annex to you, nor you to me! It has happened, thank God, that our work fits in—each with the other!"

He stopped and stared, seemed to shake himself; he walked the floor. And when he turned back his expression had changed.

"Look here, Deborah," he asked, with an appealing humorous smile, "will you tell me what I'm driving at?"

Deborah threw back her head and laughed, and her laughter thrilled with relief. "How sure I feel now that I love him," she thought.

"You've proved I owe you nothing!" she cried. "And that men and women of our kind can work on splendidly side by side, and never bother our poor little heads about anything else—even marriage!"

The next moment she was in his arms. "Now, Deborah, listen to reason, child. Why can't you marry me right away?"

"Because," she said, "when I marry you I'm going to have you all to myself—for weeks and weeks as we have planned before! And afterwards, with a wonderful start—and with the war over, work less hard and the world less dark and gloomy—we're going to find that at last we can live! But this winter couldn't be like that. This winter we've got to go on with our work—and without any more silly worries or talk about whether or not we're in love. For we are!" Her upturned face was close to his, and for some moments nothing was said. "Well?" she asked. "Are you satisfied?"

"No—I want to get married. But it is now a quarter past one. And I'm your physician. Go straight to bed."

She stopped him a minute at the front door.

"Are you sure, absolutely, you understand?"

He told her he did. But as he walked home he reflected. How tense she had been in the way she had talked. Yes, the long strain was telling. "Why was she so anxious to get me out of the house," he asked, "when we were alone for the first time in days? And why, if she's really sure of her love, does she hate the idea that she's in my debt?"

He walked faster, for the night was cold. And there was a chill, too, in this long waiting game.

Roger heard Deborah come up to bed, and he wondered what they had been talking about. Of the topic he himself had broached—each other, love and marriage?

"Possibly—for a minute or two—but no more," he grumbled. "For don't forget there's work to discuss, there's that mass meeting still on her mind. And God knows a woman's mind is never any child's play. But when you load a mass meeting on top—"

Here he yawned long and noisily.

His head ached, he felt sore and weak—

"from the evening's entertainment my other daughter gave me." No, he was through, he had had enough. They could settle things to suit themselves.

Let Edith squander her money on frills, the more expensive the better. Let her turn poor Johnny out of the house, let her give full play to her motherhood.

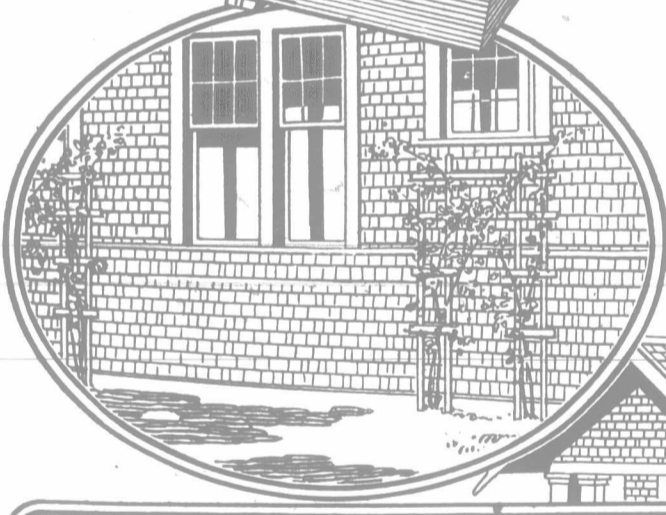
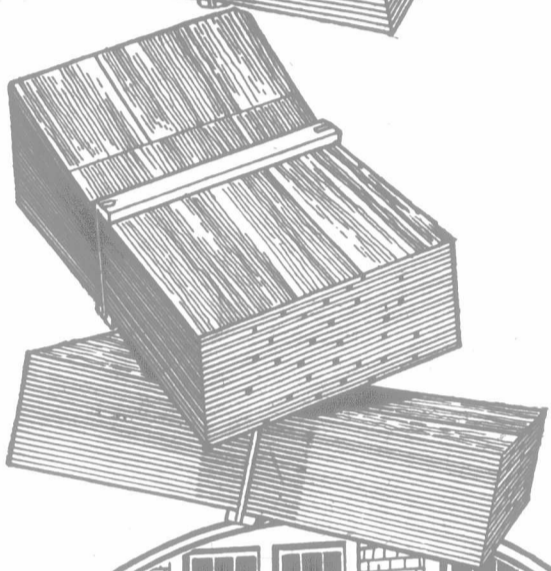
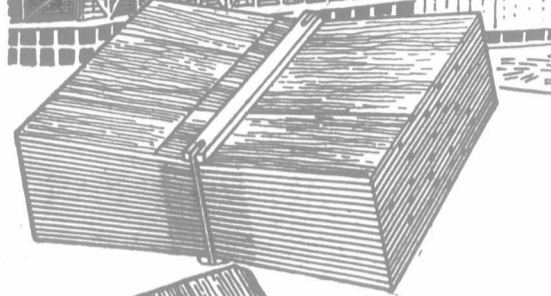
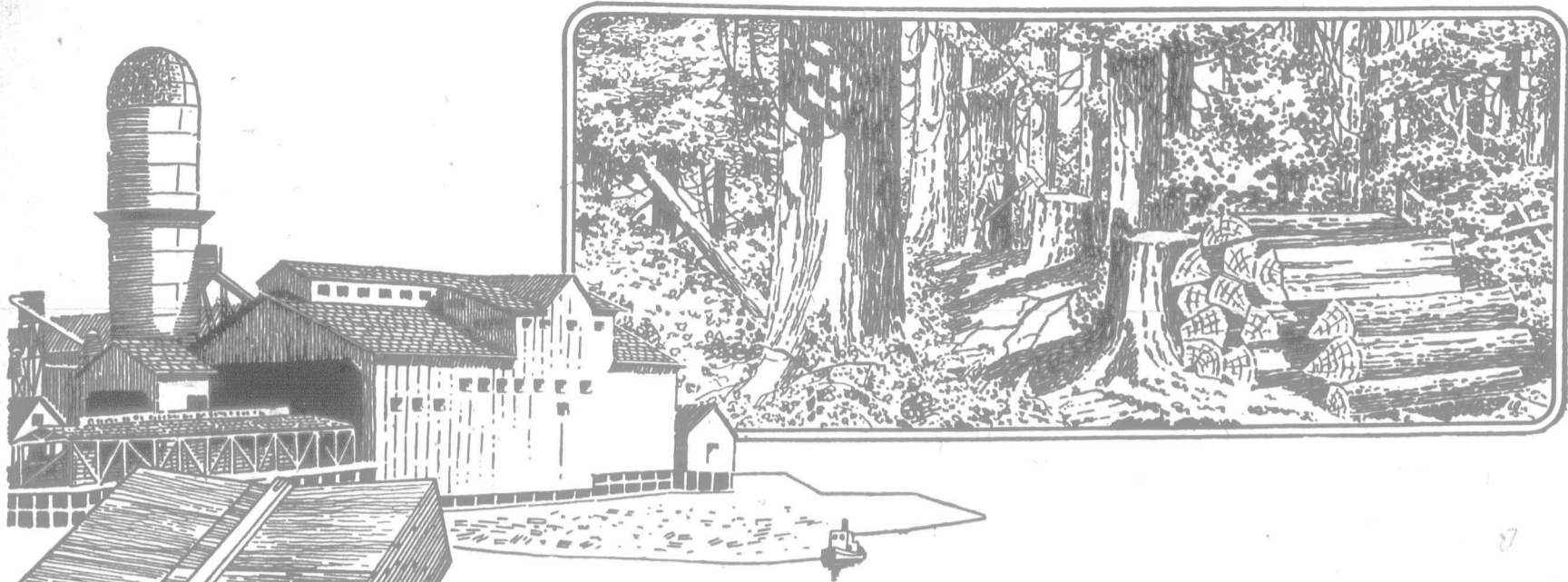
And if that scared Deborah out of marrying, let her stay single and die an old maid. He had worried enough for his family. He wanted a little peace in his house.

Drowsily he closed his eyes, and a picture came into his mind of the city as he had seen it only a few nights before.

It had been so cool, so calm and still.

At dusk he had been in the building

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**2.** In BT Sanitary Steel Hog Pens, neither lice nor disease germs get a chance to breed. The bright hard surface of the galvanized steel affords them no corners in which to live. The steel can be cleaned off easily and thoroughly.



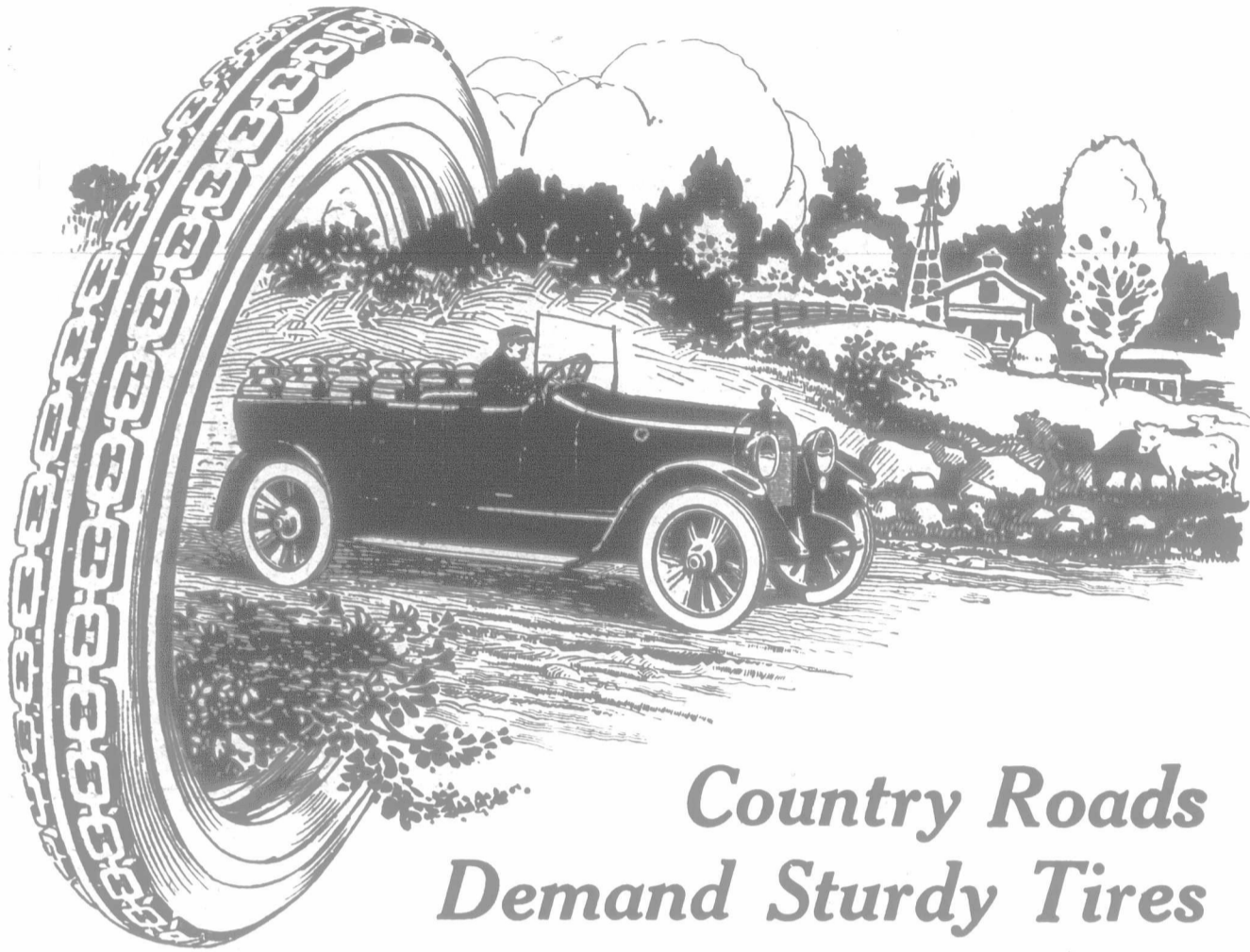
**3.** Send in the coupon for full particulars. You don't want to waste feed. Nor do you want Hog Cholera to get a start. If your hogs had to be burnt for hog cholera, it would cost you many times more than the sanitary equipment.



Send this coupon for our 352-page Barn Book. Tells how to plan, build, frame and ventilate the Hog Barn. How to save time, labor and feed in caring for the hogs. It will save you hundreds of dollars and is free.

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 I keep..... Hogs  
 My name is.....  
 My Post Office is.....  
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of the great tower on Madison Square; and when he had finished his business there, on an impulse he had gone up to the top, and through a wide low window had stood a few moments looking down. A soft light snow was falling; and from high up in the storm, through the silent whirling flakes, he had looked far down upon lights below, in groups and clusters, dancing lines, between tall phantom buildings, blurred and ghostly, faint unreal. From all that bustle and fever of life there had risen to him barely a sound. And the town had seemed small and lonely, a little glow in the infinite dark, fulfilling its allotted place for its moment in eternity. Suddenly from close over his head like a brazen voice out of the sky, hard and deafening and clear, the great bell had boomed the hour. Then again had come the silence, and the cool, soft, whirling snow.

Like a dream it faded all away, and with a curious smile on his face presently Roger fell asleep.

To be continued.

## Current Events

The Canadian Trade Commission is urging housewives to begin laying in a supply of sugar.

Siegfried Sassoon, one of the most famous of the newer English Poets, will speak in Convocation Hall, Toronto, on March 31.

Much trouble and damage has been caused near Chatham, Ont., during the past week by floods.

The Provincial G. W. V. A. in Convention at Peterboro, Ont., pledged moral support to Labor in all just demands.

A Union Church was formally opened at Niagara Falls, on March 14, with packed audiences.

Indian reserves in Saskatchewan totaling 42,846 acres are to be thrown open about the end of April for soldier settlement.

A memorial tablet to the memory of the five Nursing Sisters of the Ontario Military Hospital unit, who gave their lives in the war, has arrived at the Parliament Buildings, Toronto. The names of the Nursing Sisters are: Mary Agnes McKenzie, Toronto; S. E. Garbutt, Oshawa; Nursing Sister Lowe, Bircastle, Man.; D. M. Baldwin, Paris, Ont.; M. E. Greeve, Harmsworth, Man.

Lady Astor, at a meeting of women employees of the Civil Service, held in London on March 19, made a declaration in favor of Socialism.

Cash registers and agricultural implements are now being manufactured at the Krupp works.

The Senate at Washington on March 19th for the second time refused to ratify the Peace Treaty, and sent it back to President Wilson.

Premier Lloyd George, Bonar Law and other Coalitionists are seeking to form a permanent political party of the Right, to be called a "National Democratic" or "National Reform" party. The proposal is that the Coalition Liberals and Unionists unite to oppose Labor and the extremists. Mr. Lloyd George, who is backed by Winston Churchill, has declared for opposition to revolution, the creation of a powerful League of Nations, and state purchase of the liquor trade.

Great Britain and France refuse to recognize Prince Feisal as King of Syria. He has been summoned to Paris to explain his position to the Peace Conference. He is suspected of uniting with Abdulla, King of Iraq (which includes the city of Bagdad and Mesopotamia) to arrange an Arab Federation to defy the Allied Powers. Feisal declares that he advocates the assistance of British and French advisers.

At time of going to press the Ebert-Bauer administration is again on top in Germany, but the country is in chaos, and no one knows what a day may bring forth. After three days Dr. Kapp and Ebert came to terms, but not until after

Ebert temporarily his general strike with instar at the act that this st collapse; of resigned, a the first, accepted he present for a new "profession tions within the Reichst Assembly, for an "Im ple, Ebert r Considerabl the "revolu still causing many, but armed and now is whet the collapse hold out ag to which h its power. Left under the overtur off the strik declaring th soldiers ar Minister of soviets (cou and it is rep is asking to domination central rul step was ta interest of worked to tion, and worst blow

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Madison Square; shed his business e had gone up to wide low window nts looking down. falling; and from through the silent looked far down ous and clusters, n tall phantom l ghostly, faint bustle and fever to him barely a had seemed small w in the infinite ted place for its Suddenly from e a brazer voice nd deafening and had boomed the come the silence, ing snow. ed all away, and his face presently

Ebert sent forth from Stuttgart (temporarily his headquarters) an appeal for a general strike, which the workmen met with instant response. It is hard to get at the actual facts. Some reports state that this strike was the cause of the Kapp collapse; other affirm that Dr. Kapp only resigned, as he had said he would from the first, because the Ebert Government accepted all the principal conditions that he presented. The agreement provides for a new Cabinet which shall include "professional Ministers," or experts, elections within two months for members of the Reichstag and the Prussian National Assembly, and subsequently an election for an "Imperial President" by the people, Ebert meanwhile to remain in power. Considerable loss of life occurred during the "revolution," and the Radicals are still causing riots in various parts of Germany, but Kapp's troops are being disarmed and discharged. The question now is whether, if the strike really caused the collapse of the coup, Ebert can now hold out against the proletarian machine to which he gave the chance of finding its power. Leaders who swung far to the Left under the influence of the events of the overturn show no inclination to call off the strike, and have issued a manifesto declaring that it must continue until the soldiers are all removed and Noske, Minister of Defense dismissed. Many soviets (councils) have been proclaimed, and it is reported that Southern Germany is asking to be independent of Prussian domination as expressed in Berlin's central rule. If the Kapp-Luettwitz step was taken, as many affirm, in the interest of von Hindenburg, it certainly worked to the very opposite of its intention, and gave the Conservatives the worst blow they have yet received.

On March 17 Constantinople was occupied by Allied forces under Gen. Sir George F. Milne of the British army, who will continue to direct the troops in that city, although D'Esperey still remains Commander-in-Chief in the Near East. The forces included 4,000 bluejackets and marines from British warships, with contingents from the forces of all the Allies, also Indian detachments which include a number of Moslems. French and Senegalese troops are patrolling Stamboul. Probably the movement was immediately occasioned by Mustapha Kemal's action in the attack upon a number of French soldiers stationed in Cilicia to prevent further massacre of the Armenians; and so determined has it been that the Turks are now said to be thoroughly alarmed. Representatives of the Turkish Government have been summoned to Paris.

Gossip.

Attention is drawn to J. B. Hanmer's sale of Holsteins on April 7. The advertisement appearing in this issue describes the animals being offered, and a card or letter sent to Mr. Hanmer, of Norwich will bring a catalogue giving full details of the breeding. Since the first advertisement of this sale appeared, the two-year-old daughter of Prince Colanthus Abbecker has crossed the 22-lb. mark for seven days. The sale is to be managed by H. H. Bailey. Some of the best things of the breed will be offered to the public.

Sale Dates.

- March 25, 1920.—F. A. Legge, Jefferson, Ont.—Holsteins.
- March 31, 1920.—Belleville District Holstein Club, Belleville, Ont.
- March 31, 1920.—Brant District Holstein Breeders' Club, Brantford, Ont.
- April 1, 1920.—Norfolk Holstein Club, Hagersville, Ont.
- April 6, 1920.—Dr. A. E. Ramsay, Eden Mills, Ont.—Shorthorns and Oxford-Down ewes.
- April 7, 1920.—J. B. Hanmer, Norwich, Ont.—Holsteins.
- April 8, 9, 1920.—Canadian National Sale of Holsteins, Union Stock Yards, Toronto, Ontario.
- April 20, 1920.—Aberdeen-Angus cattle, Albany, New York.
- 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 10, 1920.—Second National Ayrshire Sale, Chicago, Ill.
- June 15, 16, 17 and 18.—Live-Stock Breeders' Association of the District of Beauharnois, Limited, Ormstown, Que.

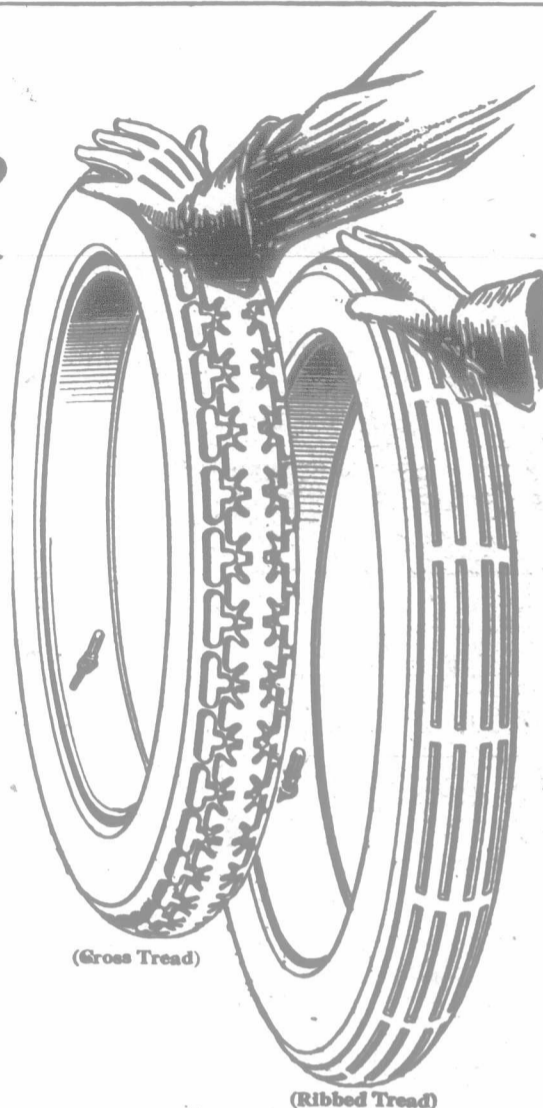
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THOSE who use Gutta Percha Tires find them remarkably free from punctures or blowouts. The Gutta Percha Tire will measure up to the highest ideal of a tire your mind can conceive.

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H. C. HOGARTH, Tillsonburg, Ontario

**EXPERIENCED HERDSMAN WANTED TO** take charge of dairy cattle, hogs and sheep at the Kemptville Agricultural School. Comfortable house supplied. Apply, giving references, experience and salary expected, to W. J. Bell Principal.

**FARM, 105 ACRES, TOWNSHIP OF CLINTON,** County Lincoln—70 acres cultivated, balance pasture and bush. Soil sandy loam. About 15 acres in fruit, 300 peach trees, 300 young cherries and plums, 3 acres of grapes, 50 apple trees, 50 pear trees, plums, raspberries and small fruits. Buildings—2 frame dwellings. Bank barn, 50x30 feet, room for 12 cows, 3 horse stalls and loose box, pig pens, silo, chicken houses. Water supply good, spring in pasture, and another supplying house and barn—water can be got almost anywhere in the place. Farm is on hill above main road from Hamilton to Niagara. Trolley line stops ¼ mile from house, 1½ miles to village of Beamsville, 3 miles from Grimsby, 22 miles from Hamilton, good motor road, to close an estate. Immediate possession. Apply, Smith, Rae & Greer, Solicitors, Toronto.

**NEW YORK STATE FARMS—FROM \$10 TO \$100 per acre.** All sizes and locations. Stock and tools included on many of them. Write for complete list. Mandeville Real Estate Agency, Inc. Dept. O, Olean, N.Y.

**PUPIL NURSES WANTED—BETHESDA** Hospital, London, Training School for Nurses. One and a half years' course, obstetrical and children's nursing as specialties. Applications should be made to Miss V. Keene, Supt. of Nurses.

**WANTED—COMPETENT HERDSMAN TO** look after herd of Scotch Shorthorns with a chance to fit for fall shows. Reference required. State wages and full particulars in first letter. Box 94, Farmer's Advocate, London, Ont.

**WANTED—MAN (SINGLE) EXPERIENCED** with milking machine or farm tractor. For particulars apply, stating wages per month, with board, to Manager, Eaton Co. Farm, Islington.

**WANT TO HEAR FROM PARTY HAVING** farm for sale. Give particulars and lowest price. John J. Black, Advocate St., Chippewa Falls, W.

**WANTED—RELIABLE EXPERIENCED** herdsman. Must be a good milker, capable of developing pure-bred Holsteins in R.O.M. and R.O.P. test. Single man preferred. Apply at once, stating salary expected. D. A. McPhee Crystal Spring Farm, Vankleek Hill, Ont.

**WANTED—A SINGLE MAN THAT CAN DO** any kind of farm work and milk cows. Address J. W. Hall, Meadowvale.

**WANTED—ON OR BEFORE 16 OF APRIL A** reliable young man to work on farm one mile from town for 8 or 12 months; one who can milk if necessary. Highest wages paid to right man. Single man preferred. State age and experience. F. E. Weir, Collingwood, Ont.

**200-ACRE FARM FOR SALE—SOIL CHOICE** clean gravel loam; good water supply, new basement barn 45x100; good nine-room frame house, 25 acres hardwood timber, mostly sugar maple. This is a splendid dairy farm. Apply Nathaniel Carrothers, Wilton Grove, Ont.

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Don't worry about perfect results. Use "Diamond Dyes," guaranteed to give a new, rich, fadeless color to any fabric, whether wool, silk, linen, cotton or mixed goods,—dresses, blouses, stockings, skirts, children's coats, draperies,—everything!

A Direction Book is in package. To match any material, have dealer show you "Diamond Dye" Color Card.



**A BEAUTIFUL FREE MATING LIST READY** of trap-nested White Leghorns (wonderful producers). Baby chicks, eggs for hatching, choice pedigreed cocks, cockerels for sale. Drop a card. Bradley Linscott, Seven Acres, Brantford.

**AM BOOKING ORDERS FOR EGGS FROM** pure-bred imported, prize-winning White Holland Turkeys; \$5.00 for 9. Frank Cooper, Angus, Ont.

**BARRED ROCKS—YEARLING COCK AND** seven cockerels, \$4 each—utility birds. Roger Hedley, Ilderton.

**BABY CHICKS—BRED-TO-LAY BARRED** Rock, 25c. each; S.-C. White Leghorns, 20c. each; hatching eggs, \$2 and \$1.75 per 15. Circular. G. W. Grieve, Parkhill, Ont.

**BEAUTIFUL WHITE ROCKS, BRED-TO-LAY,** large brown eggs; two dollars fifteen eggs. S. Hastings, Schomberg.

**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.

**BABY CHICKS—SINGLE-COMB WHITE** Leghorns, bred-to-lay in fall and winter. Book your order now for April, May and June delivery; safe arrival guaranteed; 25 \$7.50, 50 \$14, 100 \$25. Walnut Glen Poultry Farm, R.R. 4, Chatham, Ont.

**BEULAH FARM WHITE WYANDOTTES, AT** the North American International Egg-Laying Competition, are first pen White Wyandottes Dept. of Agriculture, Delaware, U.S. One of my customers has leading pen White Wyandottes at Alberta contest, another customer has second pen at Manitoba contest, another customer has leading pen White Wyandottes Nova Scotia contest, and yet another customer has leading pen White Wyandottes Prince Edward Island contest. Mating list free. N. Y. McLeod, Stoney Creek, Ontario.

**"BRED-TO-LAY" BARRED ROCK EGGS;** O.A.C. strain. \$2.50 per fifteen. \$13.50 per hundred. Homestead Farm, Downsview, Ontario.

**BRED-TO-LAY S.-C. WHITE LEGHORNS—**Chicks 25c. each, \$23 hundred; eggs \$2 setting. Free literature. Cooksville Poultry Farm, Cooksville, Ont.

**BRED TO LAY S.-C. W. LEGHORNS; GEO.** B. Ferris' strain and L. R. Guild's. Good layers, large-sized birds. Eggs for hatching—April and May \$2.50 per 15. Guaranteed ninety per cent. fertile. F. E. Van Loon, Box 217, Delhi, Ont.

**BARRED ROCKS—EGGS FOR HATCHING** from trap-nested pedigreed layers. Ten pullets laid 2,044 eggs in eleven months. Few cockerels left. F. Coldham, Box 12, Kingston, Ont.

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

**CHOICE, HEALTHY UNRELATED TRIO,** Pure-bred Mammoth Bronze turkeys, twenty-eight dollars. Jos. A. Spence, Brewer's Mills, Ont.

**GOOD BARRED ROCK COCKERELS—\$5,** two \$9.50, three \$14. Eggs—Fifteen \$2.50, thirty \$4.75, fifty \$7.50, \$14 hundred. From well barred and grand laying hens. Order direct from this advertisement. W. Bennett, Box 43, Kingsville, Ont.

**POULTRY FOR SALE—BABY CHICKS** from choice pens of White Leghorns. Twenty five dollars per hundred. Eggs \$2 per fifteen. E. E. Charlton, Ilderton, Ont.

**RHODE ISLAND WHITES, BOTH COMBS,** Meat, eggs, beauty. Stock and eggs for sale. Send for mating list. Dominion Poultry Yards, 288 St. James St., London.

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

**S.-C. ANCONAS—EGGS FOR HATCHING,** \$3 and \$4 for fifteen, from my best laying and exhibition strains. E. Brown, 502 Grosvenor St., London.

**TRY BUFF ROCK SETTINGS FROM** selected winter layers, with size; \$2.75 per 15; Mammoth Pekin Duck Eggs. Chas. Nicholson, Mount Forest, Ont.

**VESPERA FARMS—BARRED PLYMOUTH** Rocks, Single-Comb Rhode Island Reds and Single-Comb White Leghorns. Pure-bred, reliable stock, bred for heavy winter egg production. Hatching eggs and baby chicks. Send for circular. Our motto: "We're not satisfied until you are." J. F. McDonald, Barrie, Ont.

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

## Markets

Continued from page 566.

### Montreal.

**Horses.**—The condition of the roads still calls for the use of a larger number of horses than usual, in order that the delivery of goods may go forward with anything like regularity. In consequence there has been a fair demand for horses for some time past and prices were firm at previous quotations. Heavy draft horses, weighing from 1,500 to 1,600 lbs., are \$250 to \$300 each; medium, 1,400 to 1,500 lbs., \$200 to \$250; light horses, \$125 to \$175; culls, \$75 to \$100 and fine saddle and carriage horses, \$175 to \$250 each.

**Dressed Hogs.**—The market for dressed hogs continued steady, quotations for country dressed, light weights, being from 26c. to 26 1/2c. per lb.

**Poultry.**—Cold storage stock is being called upon more and more as the season advances and arrivals from the country become lighter, and there has been some export to the United States, this latter business receiving encouragement from the premium on the American dollar. Chickens ranged from 38c. to 40c. for fine. Turkeys were quoted at 53c. to 54c. per lb., dressed.

**Potatoes.**—The market for potatoes has been quite firm and prices have been marked up in some instances. Quebec white stock was quoted at \$3.60 to \$3.65 per 90 lbs., ex-track, in car lots, and at \$4 to \$4.15 in a wholesale way.

**Honey and Maple Syrup.**—It cannot be said that any new maple syrup or honey has been received as yet, in a market way, though some limited arrivals may have taken place. Meantime, nominal quotations were \$1.50 per gal. for syrup and 35c. per lb. for sugar. Honey prices were also nominal and no trading was reported though prices may be repeated as follows: Light comb, 25c. to 30c. per lb., strained 24c. to 27c. and dark strained 22c. to 25c. per lb. in 30-lb. tins.

**Eggs.**—Prices are coming down quickly and after Easter may have quite a drop. Meantime, Canadian fresh eggs were quoted at 60c. per dozen, and Americans at 58c. Consumption is heavy and shipments from the country are being held up to some extent by reason of the bad roads.

**Butter.**—Prices of butter were higher than for the previous week and there was a fair demand. Finest creamery was selling at 65c. to 66c. per lb., and lower qualities ranged to 2c. and 3c. below.

**Cheese.**—Small cheese were quoted at 27c. to 28c. here.

**Grain.**—The market for oats shows considerable firmness and No. 2 Canadian Western oats sold at \$1.19 1/2c., No. 3 and extra No. 1 feed being \$1.15 1/2c. ex-store.

**Flour.**—No change of importance took place in the market for flour during the past week. Manitoba spring wheat flour was \$13.25 per bbl., in jute bags, ex-track, for shipment to the country or to the city trade, smaller lots being 10c. to 15c. higher and a discount being allowed all round of 10c. for spot cash. Ontario winter wheat flour was not in active demand and prices were on the easy side. Broken lots were quoted at \$11.30 to \$11.40 per bbl., in cotton bags. White corn flour was firm at \$10.50 to \$10.60 per bbl., in jute.

**Millfeed.**—Bran in mixed car lots was steady at \$49 per ton, in bags, shorts being \$56. Pure barley meal was \$80, ground oats \$75, mouille, \$78 and \$64 for mixed grain. Dairy feed was \$65, delivered.

**Baled Hay.**—No. 2 timothy hay was \$29 to \$30 per ton, No. 3 was \$27 to \$28, and clover and clover mixed \$25 to \$26.

**Seeds.**—No change took place in prices during the week. Timothy seed was 17 1/2c. to 20c. per lb., red clover was 65c. to 75c.; sweet clover was 40c. to 45c.; alsike, 65c. to 75c., and alfalfa, 58c. to 60c., ex-track, Montreal.

**Hides.**—Steers and cow hides were 28c. per lb., bulls, 22c.; calves, 65c. to 67c., kips 25c., sheep skins, \$4.25 each, and horses, \$10.

### Victory Bonds.

Following were the values of Victory Bonds on the Toronto market, Saturday, March 20: Victory Bonds maturing 1922, 98 3/4 to 98 3/4; Victory Bonds maturing 1923, 98 3/4 to 98 3/4; Victory Bonds maturing 1933, 99 3/4 to 99 3/4; Victory Bonds maturing 1937, 100 3/4 to 100 3/4.



## A STUDY IN FACES

ONE need not be an over-discerning student of facial expression to be impressed with the joy that has come to the young lad of our picture as he listens to the music from a

### HEINTZMAN & CO. Art Piano

played by "big sister", whilst the other children show their pleasure down to their toes.

It's a pretty home scene—but more. One can hardly fully estimate the education, culture and refinement that comes to anyone who possesses one of these instruments—not a mere medley of noises—for the piano that an artist like Tetravini—and many others—insist on using, necessarily and obviously is a different and superior instrument—and it is.

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### WANTED Crate Fed Chickens

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Also

Large Hens Alive or Dressed

Write for price list.

WALLER'S 702 Spadina Ave. TORONTO

### STURDY CHICKS

From superior strains, free range flocks, the profitable kind that live and grow. White Wyandottes, Barred Rocks, White Leghorns, Mottled Anconas, R. I. Reds. We ship strong, healthy chicks, and guarantee safe arrival.

Write for catalogue and price list.

QUEEN CITY HATCHERY

Linnemore Crescent & Danforth Ave. TORONTO, ONT.

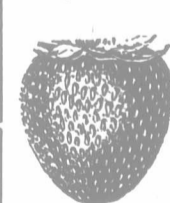
### 1,000 Live Hens Wanted

We have a special market for heavy live hens which enables us to pay the very top market price. It will pay you to sell your live poultry and eggs to

C. A. MANN & CO.

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Big crops of big berries are procured only from strong healthy plants. For profitable and pleasing results use Mallory's Vigorous Healthy Northern-grown Plants. Send for Price List.

N. E. MALLORY, Gravenhurst, Ontario

**FOR SALE Barred Rock Cockerels**  
The O.A.C. bred-to-lay strain. Finely barred, single-comb, rich yellow legs; sisters laid at 3 months. Price \$5 each.  
A. H. CROZIER, Meadowvale, Ontario

Please mention Advocate.

Questions and Answers. Veterinary.

Miscellaneous.

1. What would be the symptoms shown by a calf whose shoulder joint is dislocated? Would it be possible to reduce the laxation and treat successfully after 4 or 5 weeks?

2. Have been feeding calves on calf meal, milk, oat chop, pulped roots and clover hay. Is this a correct manner of feeding?

3. Calf meal is too expensive, what will make a mixture for them?

4. Are bloating and indigestion the same trouble in a cow? Should they have the same treatment?

5. Does raw linseed oil, coal oil and salts make a good drench for bloating or indigestion?

6. Give prescription for a good tonic for a cow with poor appetite. F. J. S.

Ans.—1. Calf would be unable to move the leg. If forced to move would drag the leg. There might be swelling and soreness of the parts, but neither would be well marked for a time. Manipulation of the parts and moving the leg backwards and forwards would reveal conditions very abnormal. Reduction and treatment would not likely be successful after 4 or 5 weeks.

2. This feeding should give fair results.

3. 100 lbs. ground oats and 30 lbs. each of ground oil-cake meal and corn-meal gives good results.

4. There are many forms of indigestion. The trouble may be in either the stomach or small intestine. Bloating is a form of the trouble which consists in the formation of gas in the rumen. The best treatment for bloating is the administration of 2 to 3 oz. oil of turpentine in a pint of raw linseed oil. The other forms of indigestion require treatment according to the nature of the attack and the organ or organs involved.

5. A veterinarian would not consider the administration of such a mixture.

6. A tablespoonful 3 times daily of equal parts of powdered sulphate of iron, gentian, ginger, nux vomica and bicarbonate of soda.

Diseased Bull—Breeds of Collies.

1. My 3-year-old bull has a swollen sheath. His penis has blotches of a greyish color and seems sore. When ready to breed he draws back, kicks and switches.

2. Are there two distinct breeds of Collies—the Scotch and the English?

3. What are the points of a good individual of each? N. H. T.

Ans.—1. The bull has venereal disease. On account of infection it will be very unwise to breed him until thoroughly cured. Keep him isolated. If any accumulation be in the sheath remove it by moistening with warm water and then flush out the sheath well twice or three times daily, with a warm solution of sulphate of zinc 6 drams to a pint of water. Continue treatment until cured.

2. Only one variety of Collie is recognized, and he is usually known as the "Scotch Collie." There is a breed of dogs known as the "English Sheep Dog" essentially different from the Collie, and another breed known as "The Bob-tailed Sheep Dog."

3. Briefly the desirable points of a Collie are as follows: Head—Skull flat, wide between ears, gradually tapering to eyes, long-pointed muzzle. Eyes—of medium size, intelligent expression. Ears—Rather small and pointed, when in repose, folded lengthwise, when on the alert, carried 3/4 erect. Neck—Of medium length and muscular. Body—Rather long, ribs well rounded, chest deep and broad, loins slightly arched. Tail—moderately long, carried low when dog is quiet, gayly when excited, but not carried over his back. Coat—Except on head and legs should be abundant, the outer coat harsh to touch, the inner coat soft, furry and very close, mane and frill abundant, fore legs slightly feathered, hind legs smooth below hocks, hair on tail very abundant and on hips long and bushy. Color—Black and tan with white frill and collar or sable with white markings. Size—22 to 24 inches at shoulder for males, 20 to 22 inches for females. Weight—45 to 60 lbs. for males, 40 to 50 pounds for females.

Upon Your "To-day" Depends Your "To-morrow"

WHAT you can save to-day is the foundation upon which you will lay your life-work.

The man with capital, even be it small, is the man who is ready when opportunity arises.

The savings habit is not as easy to acquire as the spending habit, but most things worth while require an effort to attain, and the capital for your day of opportunity can only be obtained by hard work, economy and saving.

THOMAS F. HOW General Manager

Open a Savings Account with the Bank of Toronto. Your Savings are protected by a strong national institution, and earn a fair rate of interest without risk of loss.

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**"THAT NEW HOUSE ON OUR STREET"**  
 "Is not really new."  
 "It has been standing there for many years  
 "Age has not destroyed, nor snow, rain or sun lessened the beauty and solidity of its surfaces.  
 "Its owner has always given me the job of protecting and preserving its surfaces with  
**MAPLE LEAF PAINTS AND VARNISHES**  
 "You, too, can make your house last longer, look better and increase in value, by using Maple Leaf Paints.  
 "They are made from white lead, zinc oxide, best pigment colors and linseed oil, mixed in the right proportion. This ensures great wearing qualities.  
 "Don't gamble with paints and varnishes. Buy and use the brand in which value is determined by service. That's Maple Leaf Paint.  
 Demand this label and you will know you are getting the best paint value.

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 WINNIPEG TORONTO VANCOUVER  
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The Old Time Painter says:  
 "Maple Leaf Paints and Varnishes make good because they're made good."



ent of facial joy that has he listens to

children show

can hardly finment that instruments—that an artist using, necessary instrument

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OF BERRIES

g crops of big berries are secured only from strong healthy plants. For profitable and pleasing results use Mallory's Vigorous Healthy North-grown Plants. Send for price List.

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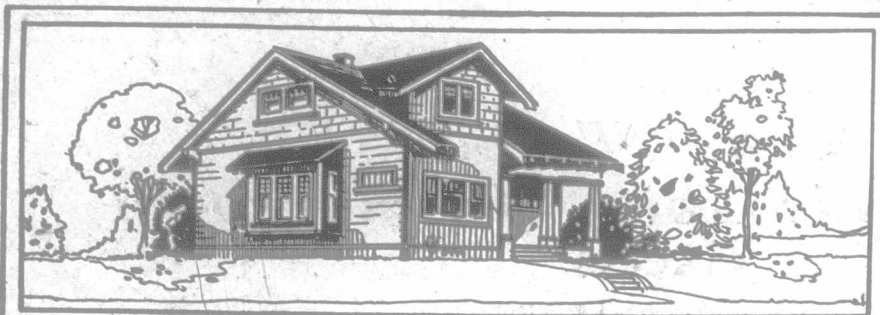
SALE

ock Cockerels

lay strain. Finely barred. Flow legs; sisters laid at 3 each.

CROZIER Ontario

ion Advocate.



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The shortage of raw materials and railroad cars is making it an ever increasing problem to keep up our output of SHUR-GAIN.



"Making two blades grow where only one grew before."

If you would be sure of your supply, place your order now. Our stocks will go, first come, first served. Get your supply of SHUR-GAIN and cash in on big crops.

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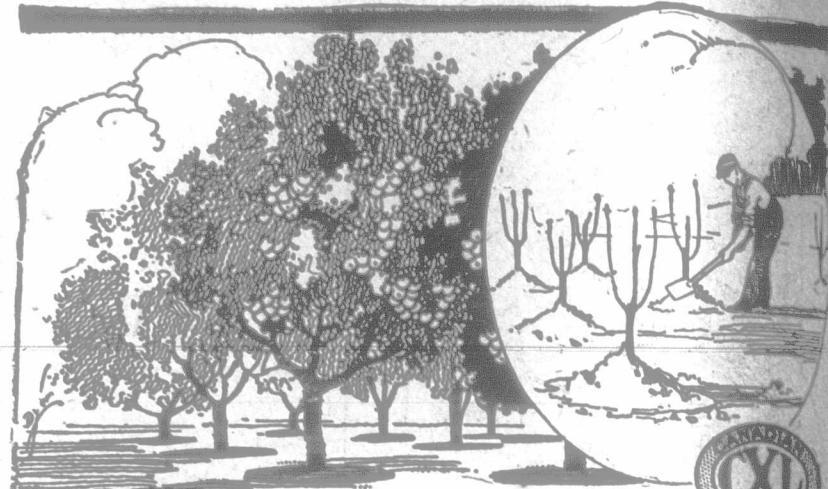
### Questions and Answers. Miscellaneous.

#### Share Farming.

The landlord furnishes horses, cows, young cattle, sheep, hogs and implements.

The soil is in first-class condition. The tenant pays taxes, threshing bill and does statute labor. What share should the landlord get?  
J. W. F.

Ans.—As practically everything is supplied by the landlord, he should get 60 per cent. of the returns.



## It made a Success out of a Failure

Three years of crop failure—droughts which caused the loss of hundreds of trees—rains that rotted the roots of the young trees—and then Charles Sheppard discovered the advantages of planting with stumping powder. Today his 30-acre apple orchard is a money-maker.

### C.X.L. Stumping Powder

will make your orchard a profit producer, if you do as Mr. Sheppard did—blow out the dead trees with C.X.L. and dig your holes for new trees by the same means. In the first five years their growth is nearly double those of spade-planted trees.

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Head Office, Montreal

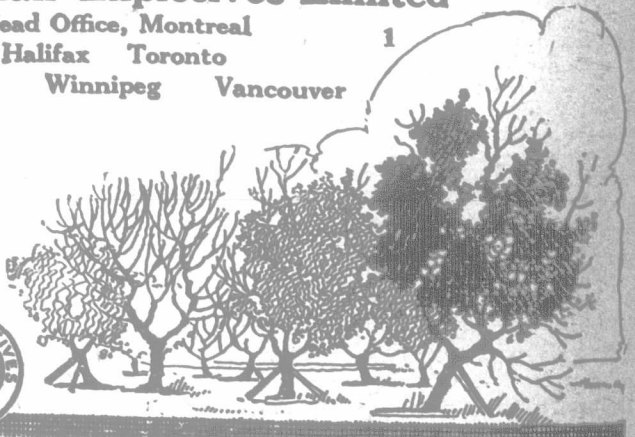
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"Explosives for the Farm" tells what C. X. L. Stumping will do in your orchard. Write Dept. P for free copy today.



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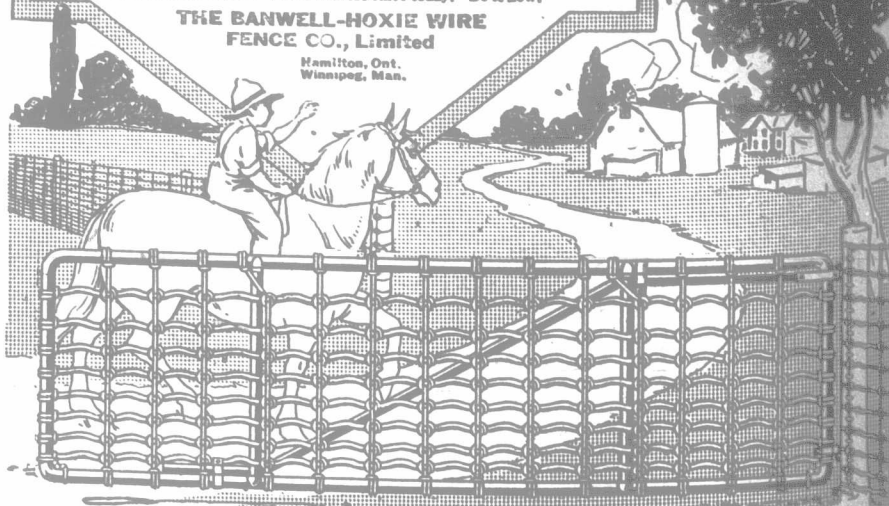
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The gate pictured below is a companion to the Peerless Perfection farm fencing, strong, durable, with heavy tubular brace, which stiffens it like a steel bridge. It swings true and rigid on an oak door hung by a master mechanic. Lateral and upright wires securely clasped at all intersections and stretched upon a strong rigid frame of tubular steel electrically welded into one solid piece.

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

### Succession Duties.

What is the law in Alberta in regard to succession duties? What would a farm have to be worth in Alberta before the duties would amount to \$1,200.00?

D. G.

Ans.—We understand that the Succession Duties Act of Alberta does not apply

to any estate that does not exceed \$5,000, nor to property passing to husband or wife, child or grandchild, daughter-in-law or son-in-law, or to parents, where the estate does not exceed \$25,000. On property exceeding this amount passing to persons named above there is 1/4 per cent. duty on the excess over \$25,000.

When months horses hock in the size Ans. given chronic injuries hard to drums sium a glycerin the e patient results 1. It disa stable appear in the escape caused 2. heifer

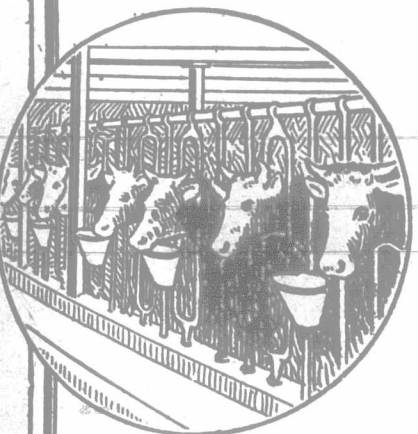
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Brings you the desirable labor-saving convenience you have envied the city folk.

Hot and cold water anywhere you want it in the house and outbuildings. And water—gallons of it—anywhere about the barn, stable, stockpens, lawn or garden.

The invention of the simple and efficient Empire Water Supply System makes all this possible at a cost well within reach of the average farmer or small-town dweller.

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SALE OF STOCK 3 p.m.

SHORTHORNS—5 Bulls, 10 to 14 months old, Sire, Gloster

Champion = 87699 =

19 Females mostly in calf or calves at foot.

Families are Jealousys, Wimples, Tulips, Rustic Beauties,

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Jas. McDonald, Auctioneer

### Questions and Answers. Veterinary.

#### Injured Hock.

When I reached home after several months' absence I found that one of my horses had been cut on the inside of the hock in the early winter. It is now twice the size it should be.

M. J. W.

Ans.—I presume from the symptoms given that the wound has healed. A chronic enlargement as a sequel to such injuries is not uncommon and is very hard to treat. Get a liniment made of 4 drams each of iodine and iodide of potassium and 4 oz. each of alcohol and glycerine. Rub some of this well into the enlargement once daily. Have patience and continue treatment, as quick results will not be noticed.

#### Abscesses.

1. Colt swelled in front of navel. It disappeared without treatment. When stabled for the winter the swelling re-appeared. There was a soft, bare spot in the centre. I lanced this and matter escaped. She is now all right. What caused the trouble, and will it return?

2. A swelling appeared in front of heifer's udder. It broke and disap-

peared and she seems all right now. What caused this and will it recur?

R. W. M.

1. This was caused by some foreign body or a wound. It will not reappear unless there is still a foreign body present, which is not probable.

2. The cause was similar to that in the colt, and the results will be the same.

V.

#### Itchy Legs—Mare Grunts.

1. Horse's legs are very itchy. He scratches and rubs them all the time.

2. My pregnant mare grunts, especially after drinking.

S. R.

Ans.—1. Make a solution of corrosive sublimate, 20 grains to a pint of water. Heat some of this to about 110 degrees Fahr. twice daily and rub well into the skin of the itchy parts. Continue treatment until itchiness ceases.

2. This is a habit, frequently noticed during pregnancy. It will, in all probability, cease after parturition.

V.

#### Miscellaneous.

#### Miscellaneous.

1. What is the average yield of sweet clover seed per acre?

2. How many tons will it run to the acre in feed?

3. Could you sow sweet clover in the spring and get a crop off it, then leave the second crop for seed?

4. Where would be the best place to buy seed?

5. What is an average yield of potatoes?

6. Will onions grow from seed and be good-sized onions in the fall?

7. How many bushels will they run per acre?

M. W. M.

Ans.—1. Four or five bushels of seed per acre is a very good yield.

2. It depends altogether on the stand. You may get from two and a half to five tons in a season.

3. You will not get a crop the same year the seed is sown, but may take a crop for hay and one for seed the second year.

4. Several firms are advertising sweet clover seed in our columns.

5. It depends on the fertility of the soil and the season. You may get 100 bushels or you may get between 300 and 400 bushels.

6. Yes.

7. The amount varies a good deal. From 4½ to 6 lbs. of seed are sown to

the acre. A thousand bushels or more have been grown on an acre.

#### Mail Carrier's Right of Way.

Noticing your reply to a "Mail Carrier" in your issue of 20th February, I write to ask "What use is a mail carrier's 'right of way' if he is not allowed to exercise it when necessary?" If that is the law it might just as well have been left unmade. He has no right of way if he is forced to act like any ordinary person. I have been a mail carrier for 40 years, and while I was always given to understand that if I deemed it necessary I could sit in the middle of the road till any other rig had passed, in the whole 40 years of service I have never acted in that way, nor would I want to; but I certainly claimed it as my right if necessary, but according to you I was altogether wrong, and, therefore, I say what is the use of any such right? I would like to see how the law is expressed.

Ontario. A. B.

Ans.—You have evidently been exercising your rights reasonably; and that is what the law intends. It was never intended that a mail carrier, or any other public official, should unnecessarily exercise a prerogative to the inconvenience of the public simply for the sake of exercising it and the gratification of his vanity.



# Carrots For Feed

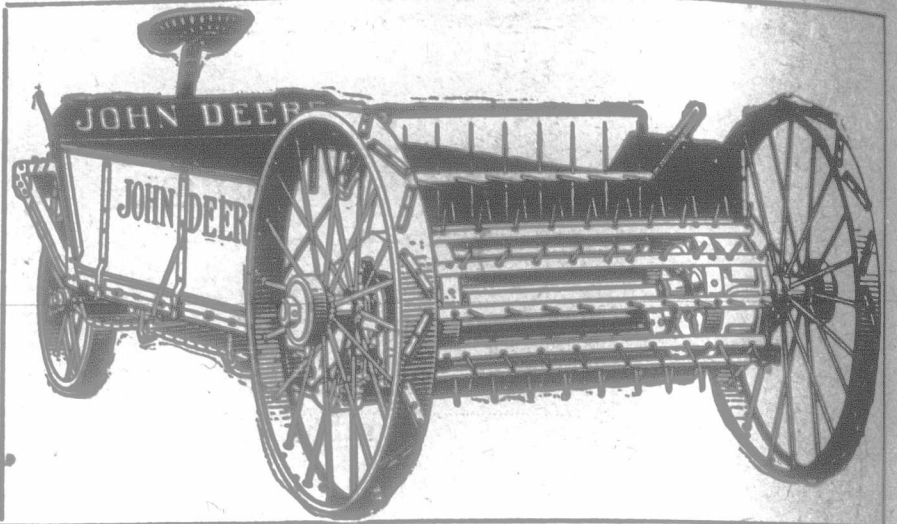
Less than a cent per pound

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This is the best Manure Spreader you can buy. There are no clutches—no chains. Few adjustments—only about half the parts that are necessary on other spreaders.

It is gear driven—same as all high-grade automobiles. It is a low down spreader with high drive wheels. Easy to load from front to the rear. IT IS THE ONLY SPREADER ON THE MARKET WITH THE BEATER MOUNTED ON THE AXLE—because its PATENTED.

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Can be equipped with either wide spread or straw spreading attachments. It's a one-man outfit—no extra help required.

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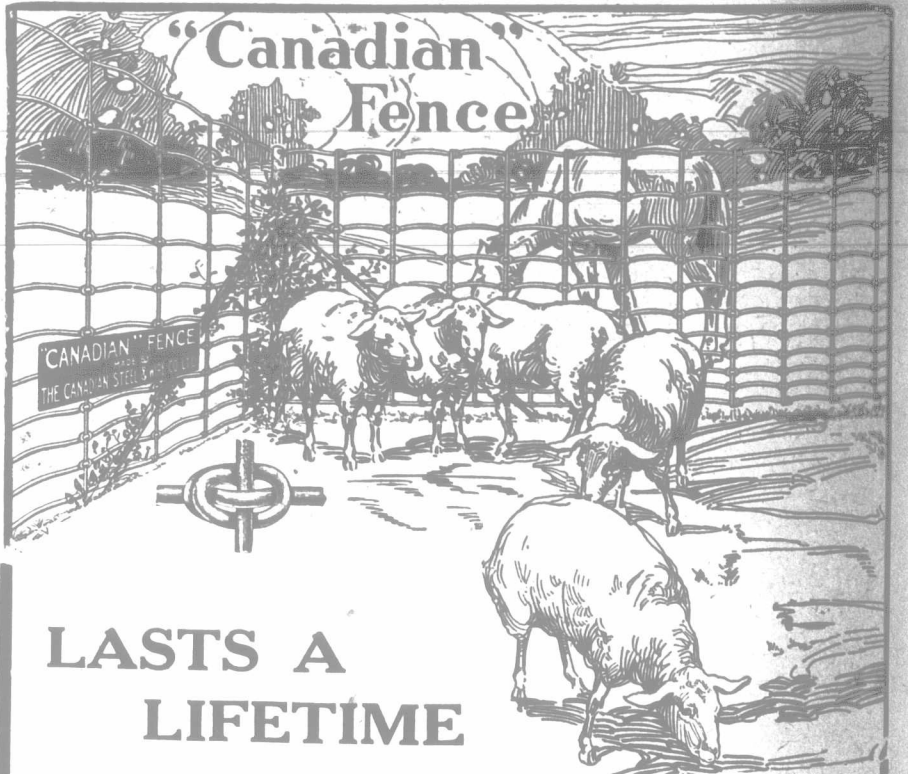
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Ask your dealer to show you "CANADIAN" Fence and to give you prices.

**The Canadian Steel & Wire Co., Limited**  
Hamilton, Ontario      Winnipeg, Manitoba

MARCH 25, 1920

Gossip.

The Canadian National Sale.

In referring to the Canadian National two-day sale of Holsteins in these columns, it is impossible to give a complete list of all the features that are worthy. The following is a very incomplete summary only, and breeders interested in the offering should make their request for catalogues early and study each page carefully, as there is not one of the 120 entries which would not make valuable additions to any herd. Taken individually or collectively, the offering is without doubt the strongest ever catalogued for a Canadian sale, and those in charge have every reason to look for something in the way of new averages for Holstein sales in Canada. Listing a few—of the more outstanding lots, we might begin with the five-year-old cow, Riverdale Rose, whose record of 35.45 lbs. of butter and 738.8 lbs. of milk in seven days, is one of the highest for the year. She also made the splendid 30-day record of 142.21 lbs. of butter and 3,164 lbs. of milk, and sells safely settled in service to Pontiac Jessie Butter Baron, a 37.62-lb.-bred son of Queen Butter Baroness. Along with this entry comes her year-old son sired by Pontiac Jessie Butter Baron, and two other females, one of which is a 19.33-lb. jr. two-year-old daughter of Pontiac Jessie, 37.62 lbs. Probably the next highest record (age considered) female listed comes in with Mr. Hardy's consignment in the junior three-year-old heifer, Hill-crest Rauwerd Sadie. She is got by a son of May Echo Champion, the full brother of May Echo Sylvia, the dam of the sire being Rauwerd Count De Kol Lady, Canada's first 29,000-lb. cow. This heifer herself is a strong individual and her butter production is 31.86 lbs. of butter for seven days, 130.02 lbs. of butter in 30 days, while her milk production was 608.5 lbs. for seven days, and 2,349.3 lbs. for 30 days; on the dam's side she is from a 29-lb. two-year-old. In all there are eight head in this consignment, and all with one exception are females, two of these being daughters of the noted Avondale herd sire, Champion Echo Sylvia Pontiac, the great son of May Echo Sylvia. The older of these two is a two-year-old heifer due just at sale time to the service of King Echo Sylvia Belle Model, that carries 75 per cent. of the same blood as Carnation King Sylvia, the \$106,000 calf. The other heifer is an 18 months' calf and will be selling safely settled in service to Winterthur Korndyke Ormsby, the noted long-distance junior sire at Avondale. The other entries include two daughters of Woodcrest Sir Clyde; a young four-year-old cow from a 32.59-lb. granddaughter of Pontiac Korndyke, and a year-old bull got by a 30.8-lb.-bred son of King Pontiac Artis Canada. R. M. Holtby, of Port Perry, with ten head, consigns not only the largest number of any one breeder to the sale, but also consigns the largest number of 30-lb. cows. Three of these are above the 30-lb. mark, and there are several others in the lot with records just below the 30 lbs. The three cows referred to are Wytzde Evangeline De Kol, a 31-lb., five-year-old cow; Daisy Gerben Verbele, an eight-year-old 31.96-lb. cow, and Pietje Pauline Hengerveld, a 32.70-lb. daughter of Prince Hengerveld Pietje. The latter cow held at one time the Canadian championship three-year-old record with 31.78 lbs., and she also has a 34-lb. daughter and a 36 and a 38-lb. sister. Among the younger things there is a 22.54-lb. junior two-year-old daughter of King Segis Alcartra Spofford and an eleven months' bull from a 27.84-lb., three-year-old heifer sired by King Alcartra Walker. A. E. Cornwell & Son with six head brings in some splendid long-distance records with two daughters of Prince Colanthus Abbekerk. Bessie Posch Colanthus, the highest record heifer of the two, is one of the best individual three year olds ever consigned to a public sale-ring, and while the figures for yearly production have not as yet been returned from Ottawa, she exceeds the 18,000-lb. mark in milk as a two-year-old. Colantha Mercena Beulah, the sister, also at two years has 17,860 lbs. of milk and 730 lbs. of butter for the year, and she has for dam the great foundation cow, Countess Mercena Beulah, 34.06 lbs. of butter and 70.68 lbs. of milk in seven days, 3,164 lbs. of milk in 30 days, and 27,210 lbs. of milk and 1,200 lbs. of butter for the year. It might be well to add that her three nearest dams, all 100 lbs. per day cows, have an average of 33.44

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SPRING TOOTH CULTIVATOR

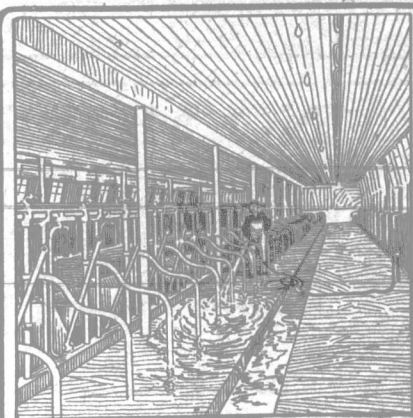
will work your soil into a good seed-bed. It is designed to cut every inch of ground and thoroughly pulverize it to an even depth.

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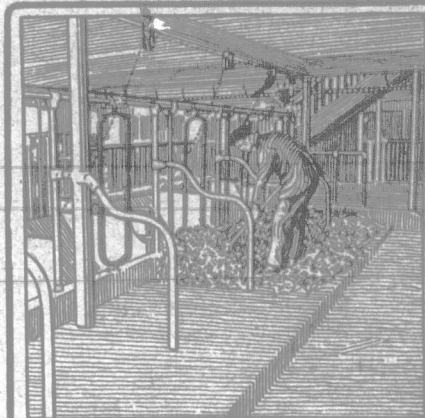
The frame is strong, well braced and firmly trussed and cannot sag in the middle.

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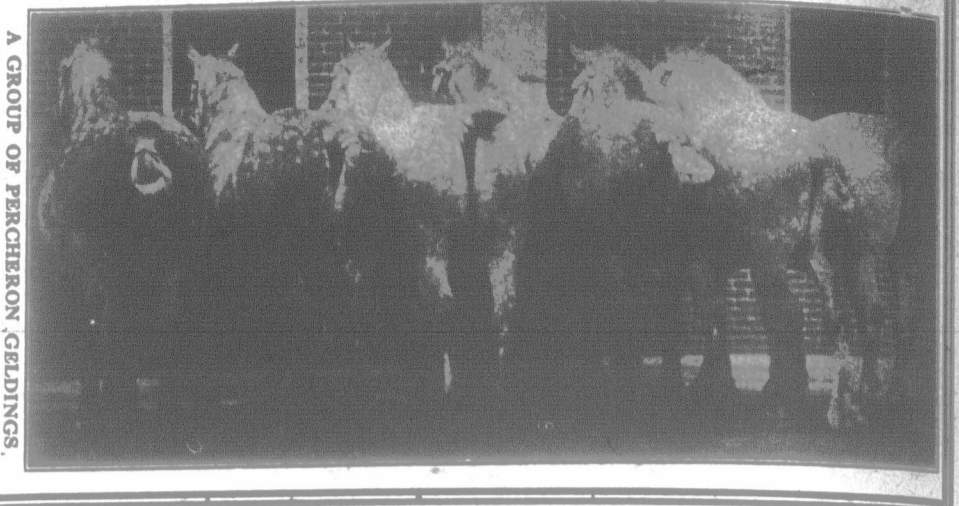
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A GROUP OF PERCHERON AND BELGIANS

lbs. of butter in seven days, while her dam and sire's dam average 23,000 lbs. of milk and 1,042 lbs. of butter for the year. Both these outstanding yearly producing heifers will have freshened before sale time, one to a 34.32-lb.-bred son of Avondale Pontiac Echo, and the other to a 34.06-lb. son of the same sire. The calves from these cows will be sold with their dams and should be real attractions. Another heifer with this consignment, which should attract above ordinary attention, is the 24 months' heifer, Carrie Spofford. She is a daughter of the great 37.86-lb. three-year-old, Elva Spofford, her sire is a grandson of May Echo Sylvia, and she is due right at sale time to King Paul Pontiac Echo, that promising 34.32-lb. son of Avondale Pontiac Echo. Queen Colantha Dewdrop, a four-year-old with a three-year-old R.O.P. record of 19,456 lbs. of milk and 850 lbs. of butter and a two-year-old bull from Countess Mercena Beulah, mentioned above, completes Messrs. Cornwell's offering. W. F. Elliott and D. B. Tracy each bring in four daughters of 30-lb. cows. Mr. Tracy's are all young cows but none have been tested, which, while working to his disadvantage, will prove most advantageous to the buyer. With the exception of one three-year-old, Mr. Elliott's heifers are all under milking age. Peter B. Fick with five head, brings in another good long-distance cow in Olive Starlight Pietertje, who made 20,000 lbs. in R.O.P. on twice a day milking after the first 90 days. This is a great foundation cow, and she is due right at sale time to Rex Wanderbelle Ormsby Jane, advertised as the highest record bull in service. Carman Baker enters the highest record two-year-old in Rose Echo Segis, who at two years and four days made 26,47 lbs. of butter in seven days, and this heifer is due on April 21st to Champion Echo Sylvia Pontiac, a service which should increase a heifer of this sort considerably. Along with this heifer comes a 32.86-lb. cow, and a 28.07-lb. three-year-old. A. E. Hulet, who topped the 1919 sale, again sends in five of the best things at the farm, including Helen Mercena Posch, the 30.32-lb. cow and winner of the Ottawa Dairy test in January, her bull calf by Prince Mercena Sylvius, a son of May Echo Sylvia; Madam Pauline Sylvia, another 30-lb. show cow who sells with her heifer calf, which is sired by King Paul Pontiac Echo, the 34.32-lb. son of Avondale Pontiac Echo, which has been mentioned before. The five nearest dams of this calf average 34.12 lbs. of butter in seven days, which is probably the highest average for any heifer ever sold before in Canada. Haley & Tee have a 27.50-lb. daughter of Queen Butter Baroness, 33.34 lbs.; a 27.05-lb. daughter of Grace Fayne 2nd and Sir Colantha, and 25-lb.

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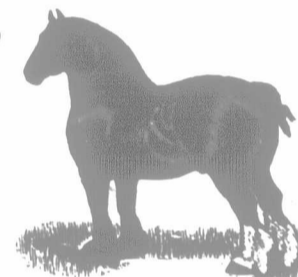


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Young bulls of serviceable age; excellent quality and breeding; prices very reasonable. Write JAMES SHARP, TERRA COTTA, ONT. Long distance phone, Erin

#### Sunny Side 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 Ilderton.

four-year-old daughter of Grace Fayne Echo. W. C. Houck with six has some exceptional breeding, the 19.91-lb. two-year-old sister of Queen Butter Baroness; a 27.78-lb. granddaughter of King of the Pontiacs; a 28.57-lb. three-year-old daughter of the sister of the dam Rolo Mercena De Kol, the 51-lb. cow, and a son of a 25-lb. granddaughter of King Segis, sired by his 38-lb.-bred bull. W. H. Cherry also has a 27.05-lb. three-year-old heifer, as well as Queen Netherland Posch, a 31.54-lb. cow, which is due at sale time to a 33-lb. grandson of King Segis Pontiac Alcartra. Wm. Stock & Son, among others, consign a three-year-old daughter of Correct Change, with 20.34 lbs. of butter in seven days, and is safely bred to Dutchland Konigen King Vale, a son of King Segis Pontiac Konigen. Abrogast Bros. have a 24.78-lb. daughter of Celestia Scots Mercena, whose dam is a three-quarter sister to Valdesa Scott 2nd (the breed's first 40-lb. cow), and a son of Riverdale Echo's Lyons from a 30-lb. cow who also has a 20,000-lb. yearly record. Walburn Rivers, with only two listed, has two daughters of Prince Aggie Mechthilde. L. C. Snowden has a 25-lb. show cow. Wallace H. Mason has three daughters of France 3rd's Hartog, two of which have 19-lb. two-year-old records, and scores of others similar from various consignors complete an offering which is worthy of every breeder's attention on April 8th and 9th.

#### Warbles.

I have a yearling heifer that had a few small lumps on her back. By pressing these a fat maggot came out. What was the cause?

2. One of my hens has a growth on the eyelid. She appears healthy. What is the trouble? M. S.

Ans.—1. These lumps are due to the larvae of the warble-fly. In some districts they are quite common, and towards spring the cattle may have a score or more of these lumps on their bodies. This maggot, when it emerges, will pupate for some time and then change into the mature fly. The fly lays the eggs which develop into the maggot. Squeezing them out and destroying them is a method of checking this trouble.

2. From the description given we cannot state definitely what is the trouble, as this growth may result from different causes.

H. M. Dymont, whose advertisement of Shorthorns has appeared in several columns of our paper, writes that Wray Bros., of Corunna, purchased the Missie bull, Lord Beaverbrook, for \$700, and H. Hulse, of Queensville, got the imported Marigold King bull for \$500.

## Attention, Canadian Stallion Buyers!

BEFORE YOU BUY A

SHIRE, PERCHERON or BELGIAN STALLION

Write us for full particulars, prices and SPECIAL INDUCEMENTS to ONTARIO and QUEBEC STALLION BUYERS, also for our Illustrated Catalogue. It will only cost you a postage stamp, and may SAVE YOU SEVERAL HUNDRED DOLLARS. Address:

TRUMAN'S PIONEER STUD FARM (Box A), Bushnell, Ill., U.S.A.

## DANGEROUS

as well as painful

Backache Neuralgia  
Lumbago Rheumatism  
Stiff Joints Sprains

**Gombault's Caustic Balsam**  
WILL RELIEVE YOU.

It is penetrating, soothing and healing and for all Sores or Wounds, Felons, Exterior Cancers, Burns, Boils, Carbuncles and all Swellings where an outward application is required. CAUSTIC BALSAM HAS NO EQUAL. Removes the soreness—strengthens the muscles. Price \$1.75 per bottle. Sold by druggists or sent by express prepaid. Write for Booklet.

The LAWRENCE WILLIAMS COMPANY, TORONTO

Field Crop Experiments.

The members of the Ontario Agricultural and Experimental Union are pleased to state that for 1920 they are prepared to distribute into the various localities throughout Ontario material of high quality for co-operative experiments with grains, fodder crops, roots, alfalfa, sweet clover and fertilizers, as follows:

GRAIN CROPS.

- 1. Testing two varieties of oats; 2. Testing O. A. C. No. 21 barley and Emmer; 3. Testing two varieties of hulless barley; 4. Testing two varieties of spring wheat; 5. Testing two varieties of buckwheat; 6. Testing three varieties of field peas; 7. Testing two varieties of spring rye; 8. Testing three varieties of Soy, Soja, or Japanese beans; 9. Testing eight varieties of Flint and Dent husking corn.

ROOT CROPS.

- 10. Testing three varieties of mangels; 11. Testing two varieties of sugar mangels; 12. Testing three varieties of Swedish turnips; 13. Testing two varieties of fall turnips; 14. Testing two varieties of carrots.

FORAGE, FODDER, SILAGE AND HAY CROPS.

- 15. Testing the planting of corn at six distances in the row; 16. Testing Sudan grass and two varieties of millet; 17. Testing two varieties of Sorghum; 18. Testing grass peas and two varieties of vetches; 19. Testing rape, kale and field cabbage; 20. Testing two varieties of sweet clover; 21. Testing two varieties of alfalfa; 22. Testing unhulled, hulled and scarified sweet clover.

CULINARY CROPS.

- 23. Testing three varieties of field beans; 24. testing dates of planting sweet corn for table use.

FERTILIZER EXPERIMENTS.

- 25A. Testing low and high-grade fertilizers and manure with oats and red clover; 25B. Testing low and high-grade fertilizers and manure with oats and sweet clover; 26A. Testing low and high-grade fertilizers and manure with spring wheat and red clover; 26B. Testing low and high-grade fertilizers and manure with spring wheat and sweet clover.

MISCELLANEOUS EXPERIMENTS.

- 29. Testing three grain mixtures for grain production; 30. Testing three-grain mixtures for fodder production.

Any person in Ontario who grows field crops may apply for any One of the experiments for 1920. Each applicant should make a second choice as the material for the first choice might be exhausted before the application is received. The material will be forwarded in the order in which the applications are received while the supply lasts. No charge is made for the experimental material, and the produce becomes the property of the experimenter. A report is requested after harvest. Each person applying should carefully write his name, address and county. Ont. Agri. College, C. A. ZAVITZ. Guelph, March, 1920.

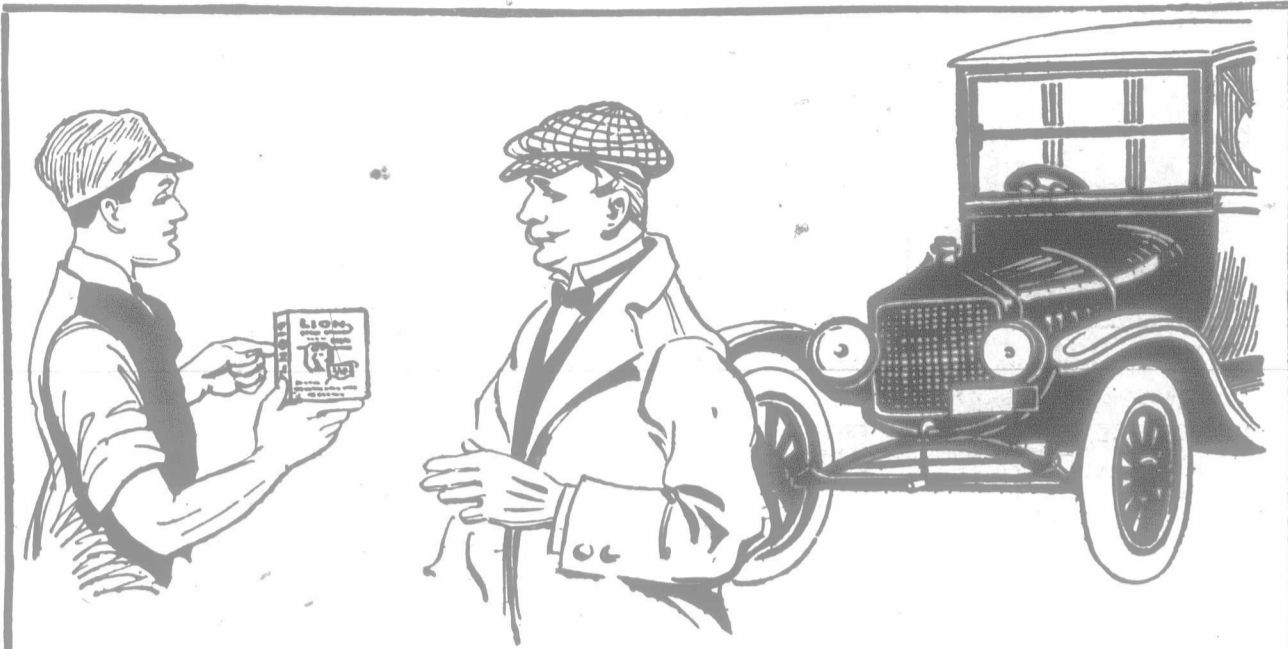
Questions and Answers.

Miscellaneous.

Cow Fails in Milk.

- 1. I have a fine young cow which milks well for three months and then does not give over four quarts. What can be done to increase the milk flow? 2. Have wood ashes any value? H. P. Ans.—1. You might increase the milk yield by heavier feeding, although with some individuals the falling-off in the milk yield at the end of three or four months is an inherent quality and difficult to overcome. 2. Hard-wood ashes contain a considerable percentage of potash and are valuable as a fertilizer.

There is at present at Weldwood Farm, a splendid selection of Yorkshires of both sexes varying in age from a few days to five months. These are of the Cinderella and Fame strains, from large litters, and among them are some excellent breeding propositions, as well as a number that are of show-ring calibre. If wanting a herd heifer or a young sow, write for prices.



With this Canadian-made Brake-Lining your Car will be "smooth and quiet" on the brake

This lining has a sure grip and makes a silent (hard-wearing) brake; for it is impregnated thro and thro with a special friction—an exclusive and new Canadian process. This process offers the greatest resistance to wear—and to "rubbing smooth."

Insist on Lion Brake-Linings for your Ford. Your repair man can supply you.

At all Garages and Dealers

Advertisement for LION Brake-Linings for FORD CARS. Includes image of the product box and a curved brake lining. Text: LION Brake-Linings for FORD CARS. MADE IN CANADA. Look for the RED LINE. Hamilton Cotton Co., Limited, Hamilton, Ont.

Newcastle Herd of Shorthorns and Tamworths for sale—Several young bulls ready for service; several heifers bred to Primrose Duke = 10754 =, and several young things of nice quality and breeding. Two young cows with heifer calves at foot, all of a good milking strain. A choice lot of Tamworths of both sex, and various ages, from noted prize-winning stock. Pair of registered Clydesdale fillies rising 3. Long distance Phone. A. A. COLWILL, R.R. No. 2, Newcastle, Ont.

PUSLINCH PLAINS SHORTHORNS

Five bulls for sale by Burnbrae Sultan = 80325 =. A. G. AULD, R. R. 2, GUELPH, 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. WELDWOOD FARM, Farmer's Advocate, London, Ont.

Spring Valley Shorthorns—Herd headed by Sea Gem's Pride 90365. 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. KYLE BROS., Drumbo, Ont. Telephone and telegraph by Ayr.

Imported Scotch Shorthorns For Sale—three imported bulls, one yearling one two-year-old and one three-year-old herd 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.

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. Have eight nice 2-year-old heifers by Prince 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.

Shorthorn Females—Shorthorn Bulls—We are now offering a number of choice heifers good families and good individuals. Many are well forward in calf to our Roan Lady-bred sire, Meadow Lawn Laird. We also have bulls ready for service. Prices right. Satisfaction guaranteed. J. K. CAMPBELL & SONS, Palmerston, Ontario

SHORTHORNS—Our herd is headed by Blossom Boy 104424 Present offering: Three registered bulls fit for service and five choice grade heifers two years old. Special prices for immediate sale. M. O. JOHNSON, R.R. 1, Mossley, Ontario

BLAIRGOWRIE SHORTHORNS 3 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.

WALNUT GROVE SCOTCH SHORTHORNS Special prices. We are offering for the next thirty days, males and females of the choicest show and foundation stock, sired by Gainford Eclipse and out of the Duthie Rosebud, Kilbean Beauty, Marr Maud, Bruce Mayflower families. Intending purchasers should see these before buying elsewhere. We invite correspondence and inspection. DUNCAN BROWN & SONS, SHEDDEN, ONTARIO P.M. and M.C. Railways. Long distance phone.

Aberdeen-Angus Cattle

Suffolk Down Sheep or Clydesdale Horses. WRITE: JAMES BOWMAN Elm Park Guelph, Ont.

GLENGORE

Aberdeen - Angus Do not miss the opportunity to secure some of the choice males and females of wonderful smoothness, quality and strain type that are being offered by GEO. DAVIS & SONS, R.R. No. 1, Erin, Ont. Herd sire a son of Black Abbott, Champion Angus bull of Canada. Write for particulars.

SUNNY ACRES

ABERDEEN-ANGUS 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. G. C. CHANNON, Oakwood, Ontario P. O. and phone. Railway connection Lindsay, C.P.R. and G.T.R.

Aberdeen - Angus

Meadowdale Farm Forest, Ontario Alonzo Mathews Manager H. Fraleigh Proprietor

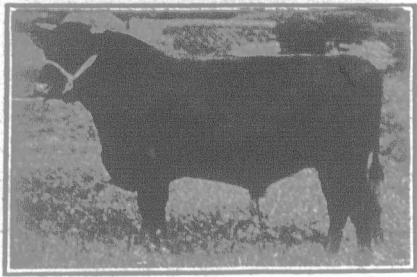
ALLOWAY LODGE STOCK FARM

Angus, Southdowns, Collies Choice bred heifers. Bulls 8 to 15 months. Southdown ewes in lamb. ROBT McEWEEN, R. 4, London, Ont.

ABERDEEN-ANGUS CATTLE

CLYDESDALE HORSES. We offer good young stock for sale. Jno. Underwood & Son, Grafton, Ontario

Advertisement for CAUSTIC BALSAM. Text: CAUSTIC BALSAM. As well as painful Neuralgia Rheumatism Sprains CAUSTIC BALSAM HAS NO EQUAL. It strengthens the muscles. Sold by drug stores or sent for Booklet. L. S. COMPANY, TORONTO



**KELMSCOTT ACROBAT 4**  
Bred and owned by R. W. Hobbs & Sons,  
Champion Milking Shorthorn Bull at the  
Royal Show, Manchester, 1916.

The Kelmscott Herd of  
**PEDIGREE MILKING**  
**Shorthorns, Flock of**  
**Oxford Down Sheep and**  
**Stud of Shire Horses**

THE PROPERTY OF  
**Robert W. Hobbs & Sons**  
Kelmscott, Lechlade, Gloucestershire,  
England

**SHORTHORN CATTLE**

One of the oldest and largest pedigree herds in existence. Milk, Flesh and Constitution studied. Daily milk records kept. Numerous prizes won for inspection, milking trials and in butter tests. The Gold Medal, Spencer and Shirley Challenge Cups were won at the London Dairy Show in 1914. The Fifty-Guinea Challenge Cup for the best group of dairy Shorthorns at the Royal Show was won for the third successive year at the last exhibition at Manchester in 1916, also two firsts, one second and one third prize. All cows in milk, and the stock bulls have passed the tuberculin test. Bulls and bull calves on sale at prices to suit all buyers.

**OXFORD DOWN SHEEP**

The flock was established in 1868, and consists of from 1,000 to 1,250 registered Oxfords. Numerous prizes for many years have been won at the principal shows. At the last Royal Show first prize was taken for a single Ram Lamb and first prize for pen of Ram Lambs. Rams, Ram Lambs and Ewes always on sale.

R. W. Hobbs & Sons are breeders of high-class Shires. Sound active colts and fillies always on sale.

TELEGRAM HOBBS, LECHLADE  
Inspection Cordially Invited

**ONTARIO GROWN CLOVERS**

**GOVERNMENT STANDARD**

	Per bus.
No. 1 Red Clover	\$45.00
No. 2 " "	42.00
No. 3 " "	41.00
No. 1 Alsike	46.00
No. 2 " "	43.00
No. 3 " "	42.00
No. 1 Alfalfa (Northern grown)	37.00
White Blossom Sweet Clover	27.00
No. 2 Timothy (No. 1 purity)	9.00
No. 3 " "	8.50
Timothy and Alsike Mixed	of 60 lbs. \$20.00
Timothy and Red Clover Mixed	20.00

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.

**TODD & COOK**

Seed Merchants  
Stouffville :: Ontario

**Bigger Crops of Fruits and Vegetables**

Write for illustrated booklet on Crop Diseases,



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Halse Grange, Brackley, England  
Exporters of all Breeds  
of Pedigree Live Stock

Send for an illustrated catalogue and see what we can do for you. Whether you want show or breeding stock, buy direct from England and save money.

**LOCHABER STOCK FARM**

is offering a good 11-months-old Dual-purpose bull for sale. Priced to sell.

D. A. GRAHAM - Parkhill, Ontario

Please mention The Advocate when writing

**Questions and Answers.**  
Miscellaneous.

**Selling Hay.**

If a man on a rented farm bought hay and placed it in the barn can he sell that hay to another party when he leaves the farm, the hay not being grown on the farm rented. J. M.

Ans.—We would consider that the landlord had no jurisdiction over this hay, and the tenant is at liberty to do what he wishes with it.

**Value of Silage.**

At the present price of feeds, what do you consider a fair value per ton for corn silage made from well-matured corn? What is the weight of a cubic foot of silage at the bottom of the silo? M. P.

Ans.—Six dollars per ton is a fair price to put on corn silage at the present price of feed. The weight of a cubic foot varies considerably, but 30 lbs. is a fair average.

**Dizzy Hens.**

Some of my hens have been sick since last fall. The trouble begins with scours. They seem to get dizzy and blind, and get very poor. They die in about a month. What is the trouble? A. S.

Ans.—I am unable to state what is the matter with these hens, unless they have worms and I am not sure about this. Have them send one or two of the sick birds to the Bacteriological Laboratory Guelph for examination. The laboratory will do this free of charge and send a report if the express charges are prepaid on the birds. I have not seen anything exactly like this and would not like to venture a guess. W. R. G.

**Lime—Maple Syrup.**

1. I purpose sowing lime on my root ground. When is the best time to sow it for potatoes?

2. How many pounds of maple syrup are there in a Government standard gallon? A. F.

Ans.—1. The lime may be sown any time in the spring. We doubt the advisability of using much of it for potatoes, as alkali has a tendency to cause scab.

2. Standard syrup is supposed to weigh 13 lbs. 2 ounces to the gallon.

**Miscellaneous.**

1. Does a boy have to attend other than public schools?

2. In building a good dairy herd would you advise to start with grade cows and pure-bred bull or all pure-bred stock?

3. What is the most serviceable size of gas engine on the farm?

4. What is the best kind of engine, Fairbanks-Morse, Gilson, Alpha, or Lister engine?

5. Would it be advisable to have an electric plant run by an engine installed on a farm?

6. Would you advise having steel fixtures in a barn? A. R.

Ans.—1. Not necessarily.

2. It depends on the finances. One can buy good pure-bred cows fairly reasonably, but a profitable herd can be built up with grade cows and using a pure-bred sire.

3. It depends on the work to be done. For light jobs, such as pumping water, etc., a two- or three-horse-power engine would do very well. If grinding, silo-filling, cutting feed, etc., are to be done, a much heavier engine will be needed.

4. The four kinds of engines mentioned are all good.

5. An electric generator may be run by a gas engine on the farm, or an electric plant may be purchased with engine and generator combined.

6. Steel fixtures in the stable make it lighter, more sanitary, and more attractive than wooden stalls and mangers.

Volume 41 of the Holstein-Friesian Herd Book issued by the American Association, is off the press. It is a volume of over 1,000 pages, printed on thin, high-quality paper, and contains a list of all the members, a report of the last annual meeting, and pedigrees of bulls numbering from 259901 to 273285, and of cows from 481761 to 508525. These pedigrees are up to June 1, 1919.

**Penny Wise—Pound Foolish Separator Buying**



Many buyers of cream separators are tempted to save \$10 or \$15 in first cost by buying some "cheaper" machine than a De Laval.

In practically every case such buyers lose from 10 to 50 cents a day through the use of an inferior separator.

That means from \$36.50 to \$182.50 a year—and not only for the first year, but for every year the separator continues in use

**Twice a Day—Every Day in the Year**

It should always be remembered that the cream separator saves or wastes in quantity and quality of product, and in time and labor, twice-a-day every day in the year.

Moreover, a De Laval Separator lasts twice as long on the average as other separators. There are De Laval farm separators now 28 years in use

The best may not be cheapest in everything, but it surely is in cream separators.

**THE DE LAVAL COMPANY, Ltd.**

MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER

50,000 Branches and Local Agencies the World over

**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.

**Scotch Shorthorn Bulls and Females**—I have a nice offering of Scotch-bred females and one or two young bulls still on hand. The pedigrees are choice, the individuality is good—and the prices are right. If you want one Shorthorn female or a calf, come to Markdale.

THOS. MERCER, Markdale, Ont.

**Cedar Dale Scotch Shorthorns**—Pleasing Cattle and Pleasing Pedigrees—Senior Sire, Excel by Gainford Matchless, the \$12,000 son of Gainford Marquis (imp.). Junior sire, Matchless Duke by Gainford Marquis (imp.). I have a number of choice bred heifers, and must sell a few to make room. Also have a couple of Scotch-bred bulls. Prices right at all times.

FRED. J. CURRY, Markdale, Ont.

**Shorthorn Bulls and Females**—Herd headed by Ruby Marquis, a son of calves now coming are all by this sire. We are also offering a great Gainford Marquis (imp.). Our prices before buying elsewhere. We are also offering a few females in calf to him. Get our

PRITCHARD BROS., R. R. No. 1, ELORA, ONT.

**SHORTHORNS—CLYDESDALES**

Just one bull left, 9 months old; sire, Lochiel (imp.); dam on the R.O.P. Pure Scotch. Stallion color, sired by Baron's Stamp. Fillies rising 2, 3, 4 and 5-year-old. Come, see, and be satisfied.

Brooklin G.T.R. and C.N.R. Myrtle C.P.R. WM. D. DYER, COLUMBUS, ONTARIO

**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 with r. sex. J. L. and T. W. McCamus, Cavan, C. P. R. Millbrook, G. T. R. and P. O., Ontario

**1846—MAPLE LODGE STOCK FARM—1920**

We are now offering one roan bull, 11 months, "Prince Strathallan," a good individual and very nicely bred. Lucan Crossing, G. T. R., one mile east.

MISS CHARLOTTE SMITH, Clandeboye, Ont.

**MR. SACKVILLE, OF THE O. A. C., GUELPH**

When in Millbrook in the best course, on February 11th, said "he did not think he ever had his hands on a cow that handled just as good as Lulu Pauline." She made 2 1/2 lbs. butter as a junior 4-year-old, and her prospect indicates possibly 30 lbs. when she freshens in May. Her 10 months old calf handles equally well. Don't miss this fellow if you want quality. Price \$300. Also baby bulls for sale, all sired by Hill-Crest Ramrod Vale.

W. FRED. FALLIS R.R. 3, Millbrook, Ontario

**30-lb. Bull for Sale**—1901 by Spruce Lawn, his 5 nearest dams average 30.94 lbs. of butter in 70 days. His sire's 4 sons—Hogerveld, whose 5 nearest dams average 31.31. In 1 year, 1913-15. India Bull, 20 lbs. in 100 days. Baroness Madoline, R.O.M., 34.48; R.O.P., butter avoid in breeding. Price \$200. Also baby bulls for sale, all sired by Hill-Crest Ramrod Vale. We also have a few young bulls left. JACOB MOGE, R. R. 1, Tavistock, Ont. Innerkip 'Phone 1 on 24.

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or \$15 in first  
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**SHORTHORNS**  
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d bull calves  
A

**LEDONIA, ONT.**  
e a nice offering of Scotch-  
males and one or two  
good—and the prices are

**ER, Markdale, Ont.**  
grees—Senior Sire, Excel-  
luntior sire, Matchless Duke  
ve a number of choice bred  
red bulls. Prices right at  
CARRY, Markdale, Ont.

**ELORA, ONT.**  
ure Scotch. Stallion colt,  
see, and be satisfied.  
**COLUMBUS, ONTARIO**  
horns, Yorkshires. Herd  
of Northbrook, by Ascott  
Cows and heifers in calf  
Camus, Cavan, C. P. R.

**1—1920**  
good individual and very  
i, Clandeboye, Ont.

**C, GUELPH**  
"he did not  
good as Lulu  
and her pros-  
10 months  
if you want  
by Hill-Crest

**Millbrook, Ontario**  
age 30.94 lbs. of butter in  
arest dams average 31.51.  
M. 34.48; R.O.P., butter  
old in April; must sell to  
a few young bulls left.  
ip 'Phone 1 on 34.

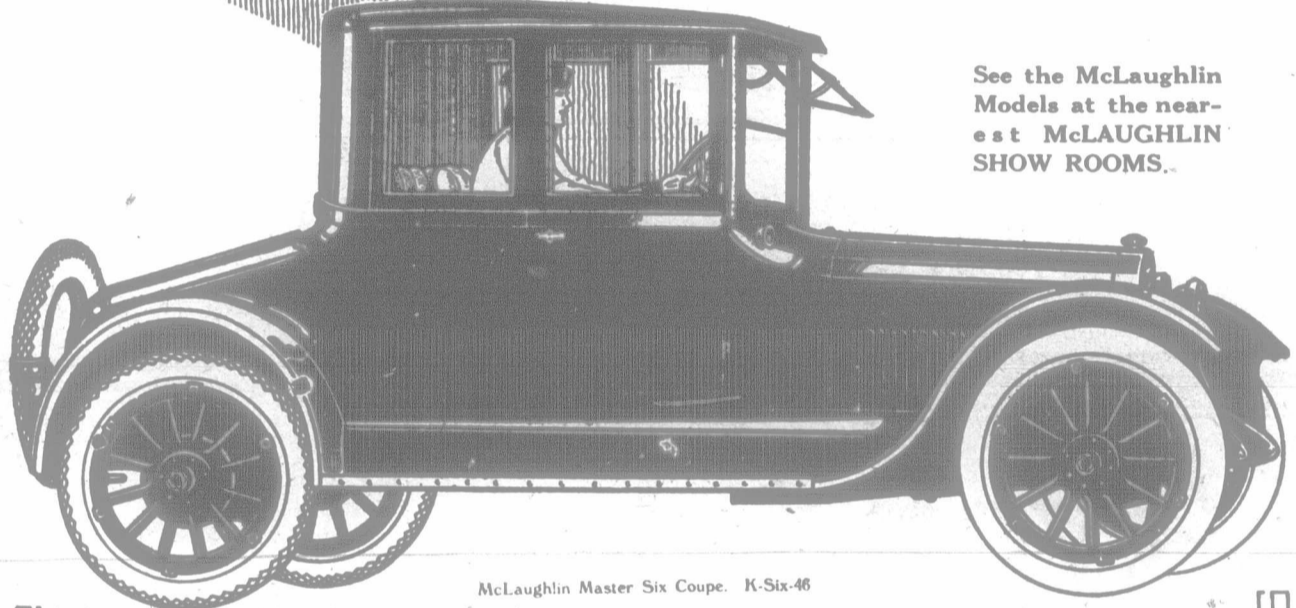


**COMFORT**

The Closed Car is growing in favor among men who have used cars for several years. Always comfortable in all extremes of climate, the Coupe is the ideal car where a limited passenger carrying capacity is needed. For business and professional needs or for social or patriotic duties the McLaughlin Master Six Coupe is the choice of the "Motor Wise."

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OSHAWA, ONT.

BRANCHES IN LEADING CITIES. DEALERS EVERYWHERE.



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McLaughlin Master Six Coupe. K-Six-46

**The McLAUGHLIN MASTER SIX**

**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 now with the BEST in FORM and in BREEDING that can be found any place. Twenty-five young bulls, from small calves to fifteen months old. Sixty-three cows and heifers, every one of them bred right, not a plain looking one in the lot. 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 to your station. A Grand Champion and the son of a Grand Champion at head of the herd. Post Office, Telegraph, Telephone and Station is Stouffville, Ont.

ROBERT MILLER :: Stouffville, Ont.

**FORTY 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.

**SPECIAL OFFERING AT PINEHURST STOCK FARM**  
We are now offering three splendid dual-purpose cows, one a daughter of "Jean's Lassie," one a granddaughter of "Mimosa" imp., and the other is O.A.C. Princess Darlington. These are all good milkers and choice breeders. We have one choice 10-months-old roan bull from a three-year-old R.O.P. heifer which milked up to 55 lbs. in a day; also two younger ones coming along, all are priced for quick sale as we are short of feed. We will be pleased to have you visit us at any time and inspect our stock.  
G. W. CARTER, R. R. 4 Iderton, Ont.

**Spruce Glen Shorthorns**—When in want of Shorthorns visit our herd. We have 80 head to select from—Minas, Fames, Florences, Emilys, Red Roses and Elizas—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.

**The Salem Herd of Scotch Shorthorns**

HERD HEADED BY GAINFORD MARQUIS, CANADA'S PREMIER SIRE  
Write us about the get of Gainford Marquis. They have won more at Toronto and other large exhibitions than those of any other sire. We still have a few sons to offer, as well as females bred to Canada's greatest sire.

J. A. WATT, Elora, Ontario

**Braeburn Scotch Shorthorns**

150 Head 100 Breeding Females  
Herd Headed by Nero of Cluny (Imp.)  
I have at present twelve young bulls that are now nearing serviceable age. The majority are sired by my present imported herd sire, and we guarantee them as good individually as the get of any other one sire in Canada. They are nearly all roans, and are priced to sell. Can also spare some breeding cows in calf to Nero of Cluny (Imp.).  
CHARLES McINTYRE, Scotland, Ontario  
Brantford 7 miles. Oakland 1 mile. L.E.N. Electric R.R. Cars every hour.

**PLASTER HILL STOCK FARM**

The Home of Dual-Purpose Shorthorns  
I have now a large number of cows running in the Record of Performance, and have a few bull calves for sale from these. Can also spare a limited number of females.  
Herd sires:—Green Leaf Record 96115 and Commodore 130050. The two nearest dams of the latter average 12,112 lbs.  
ROSS MARTINDALE, Caledonia, Ont.

**Shorthorn Bulls at Maple Hall**—These five young bulls, from 5 to 18 months, are some of the best animals we ever raised—a roan Crimson Flower show bull calf (5 mos.); an extra good Duchess of Gloster (15 mos.); a red Crimson Flower (16 mos.), from a great milking family and a right good bull; a red Butterfly (10 mos.), a show bull; also a red Shepherd Rosemary (8 mos.). It will pay anyone looking for Shorthorn bulls to see these animals.  
Claremont C.P.R. Greenburn C.N.R. Pickering G.T.R.  
D. BIRRELL & SON, Claremont, Ont.

**Shorthorns**—Males and females for sale—We are offering our herd sire, King Dora (imp.) 107291 = (137372), and a number of young cows with calves at foot by the above sire; also some young bulls and heifers.  
Clyde mare, Lady Kinloch (imp.) 12248 in foal.  
Phone 22 ring 3.  
SOCKETT BROS., Rockwood, Ont.

**Maple Shade SHORTHORNS**

A dozen young bulls imported and my own breeding at moderate prices.  
W. A. DRYDEN  
Brooklin - - 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.

**Buy Glenfoyle Shorthorns**  
bulls, all ages; 25 heifers and cows.  
Herd bull 2,400-pound quality kind, which sire's dam and three nearest dam's milk records average over 9,000 pounds; also high-class yearling Clyde stallion. Come and see them.  
Stewart M. Graham - Lindsay, Ont.

**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**

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

**Evergreen Hill Farm—R.O.P. Shorthorns**  
Present offering: Two 12-month bulls by the R.O.P. bull St. Clare = 84578 =, also a few heifers and heifer calves.  
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.

**A Good Shorthorn Bull for Sale**

Rosebud Prince = 131651 =, dark roan, just past a year old and of pure Scotch breeding. Apply to  
A. J. FOX, R.R. No. 3, Harrow, 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.

# AT THE NATIONAL SALE

## Hamilton House Holsteins

UNTESTED SINCE 1914

In entering this consignment of six head to the Canadian National Sale, we feel that we have no apologies to offer—other than to ourselves. Since the beginning of the war (until a few weeks ago) there has not been an official tester on the farm. With the help we were able to secure, it was about all we could do to look after the farm and care for the herd in a commercial way without anything further. The numbers, however, have kept increasing, until now, tested or untested, we must sell some females. Four out of the five females consigned to the "National" are, as will be noted below, untested—but don't they look as if they should make just a little more money for their purchasers than anything that ever before passed through a public sale? We promise you that they are good individuals, and they sell fully guaranteed.

### No. 1—Edith Segis Korndyke

A fine, young six-year-old cow, with a double cross of Pontiac Korndyke. Her dam, Edith Prescott Albino Korndyke, is a 32.67-lb. cow.

### No. 2—Sadie Segis Prescott

An untested four-year-old heifer of Edith Prescott Albino Korndyke, 32.67 lbs. Her sire is a brother to Mabel Segis Korndyke, 40.32-lb. 4-year-old.

### No. 3—Sadie Mignone Segis

A six-year-old untested daughter of Sadie Cornucopia Mignone, 33.27 lbs. in 7 days, and three times a 30-lb. cow. This young cow is due at sale time to King Korndyke Sadie Keyes, a 36.05-lb. bull.

### No. 4—Lulu Pontiac

A six-year-old daughter of Lulu Darkness, 30.33 lbs. A show cow, and made 17.90 lbs. of butter in 7 days as a two-year-old.

### No. 5—Alice Tensen

A 29.12-lb. cow with a 30-lb. daughter. Bred to freshen in July to King Korndyke Sadie Keyes, the 32.05-lb. son of Lulu Keyes.

### No. 6—Ten Months Bull

By King Korndyke Lulu Keyes, full brother to King Korndyke Sadie Keyes. Dam, Lulu Darkness, 33.03 lbs. Average for two nearest dams of this calf, 33.19 lbs. of butter, 668 lbs. of milk in 7 days.

CALL AROUND AND SEE THESE THE DAY BEFORE THE SALE.

**D. B. TRACY, Hamilton House Farms, COBOURG, ONT.**

### Gossip.

#### Minster Farms Hastings County.

But few breeders who have used the livestock advertising columns of this paper should be better known to "Advocate" readers than Messrs. R. Honey & Sons, of Minster Farms, Hastings, Ont. Long before this great "black and white" breed were common in any part of the province, Richard Honey, the elder member of the present firm was working with a selected herd, which, even in those early days, would compare favorably with the best of present day Holsteins. Being among those who were the earliest in finding out the great milk and butter producing abilities of the breed, naturally, Mr. Honey's services in the judging ring at all the large shows was early sought after and to-day there are but few counties in the province or but few provinces in Eastern Canada, where he has not officiated in this capacity and at all times, it may be said, his decisions have been most satisfactory. Indications for production, combined with size of the animal, has always been his ideal in picking out the winners and just how well he has carried this out in the breeding operations of his own herd may well be seen in each of the three herds now at Minster Farms. Here we might add that Mr. Honey has for the past ten years paid more attention to yearly record work than any short term records, and nearly the entire herd of breeding cows to-day have qualified in the R. O. P. with exceptionally good records.

The present offering of young bulls for instance are all from yearly record dams, and with one exception, all from three-year-old heifers. The oldest of the lot is a fifteen months' calf from Princess Patricia Colantha, an 18,262-lb. three-year-old with 735 lbs. of butter for the year and is one of the outstanding young cows in the herd. She has been one of the most persistent producers in the herd, and made her record after giving birth to twin heifers. The next oldest bulls listed are two twelve months' calves, one being from Colantha Jean Fayne, a 14,762-lb. two-year-old with over 650 lbs. of butter for the year and the other

# "Avondale"

CONSIGNS TO

## THE NATIONAL SALE

One two-year-old daughter and one 18-month's daughter of  
**CHAMPION ECHO SYLVIA PONTIAC**

Son of the great May Echo Sylvia

### HILL-CREST RAUWERD SADIE

A 31.86-lb. Junior Three-year-old  
with 608.5 lbs. of milk in 7 days and 2,349.3 lbs. of milk in  
30 days (just completed).

### A 4-year-old granddaughter of RAG APPLE KORNDYKE 8th

on the sire's side, and from a 32.59-lb. granddaughter of  
**PONTIAC KORNDYKE**

A fine young show cow, bred in December to  
**CHAMPION ECHO SYLVIA PONTIAC**

### Two two-year-old daughters of WOODCREST SIR CLYDE

one well forward in calf to the service of  
**CHAMPION ECHO SYLVIA PONTIAC**  
and one just bred to our great long-distance junior herd sire  
**WINTERTHUR KORNDYKE ORMSBY**

A year old bull from a 25.79-lb. junior two-year-old, and sired  
by a 30.8-lb. son of

### KING PONTIAC ARTIS CANADA

WATCH THIS SPACE NEXT ISSUE

**Avondale Farm, H. LYNN, Sup. Brockville, Ont.**

calf is from Marie Calamity Fayne, a six-year-old cow, that has a four-year-old record of 18,864 lbs. of milk and 777.5 lbs. of butter. These calves are splendid individuals, their dams are all still in the herd, and they are sired by the former herd sire, Pride King Sylvia Artis. This bull was probably one of the most successful sires ever used in the herd, and there are still a large number of his heifers among the younger females. In breeding, Pride King Sylvia Artis was all that could be asked for, he being by a brother of May Echo Sylvia, on the sire's side, and from a 19,500-lb. daughter of Verbelle 4th Count Calamity. Following this sire comes the present herd sire, Sovereign Alcartra Joseph. This young bull is one of the best individual young sires in Ontario to-day, and his sire King Segis Alcartra Joseph was got by King Segis Alcartra Calamity, and had for dam the great 34.48-lb. cow, Baroness Madeline. On the dam side, Sovereign Alcartra Joseph is a son of Cherry Bloom Meta Faforit, a 31.14-lb. cow with 771.6 lbs. of milk for 7 days. This gives this young bull an average for the records of his dam and sire's dam of 32.81 lbs. of butter and 738 lbs. of milk in 7 days, and there is back of this the 23,673-lb. R. O. P. record of his granddam, Baroness Madeline. When visiting the farm recently, there was at that time, five young heifer calves and one six weeks' old son of Sovereign Alcartra Joseph in the stables and the two nearest dams of all these youngsters average over 20,000 lbs. of milk for the year. It will be noted that we have mentioned only the records of cows which have young bulls selling, but in addition to these, there are eight other R. O. P. cows in the herd, with records running from 12,000 lbs. for heifers, up to 16,000 for mature cows. Practically every breeding female is either now running in the Record of Performance or has already qualified with records as given above. In addition to the Holsteins, Cotswold sheep and Yorkshire swine are specialties with Messrs. Honey & Sons, and there is always a good selection to be had at all times in either of these lines. The post office address of this firm is Dartford, Ont.

# The Canadian Holstein Event of the Year

## "The National Sale"

HORSE EXCHANGE, UNION STOCK YARDS

Toronto, Ontario

Thursday and Friday, April 8 and 9, 1920

### THE CONSIGNORS

A. C. HARDY, D. B. TRACY, R. M. HOLTBY, CARMAN BAKER, W. C. HOUCK, GORDON GOODERHAM, A. E. CORNWELL & SON, HALEY & LEE, ARBOGAST BROS., PETER B. FICK, W. F. ELLIOTT, ARCHIE MUIR, WM. STOCK & SONS, A. J. CAMPLIN, GEORGE SEXTON, W. H. CHERRY, BERTRAM HOSKIN, MICHELL ARBOGAST, GEORGE SMITH, ALLIED STOCK FARMS, WALLACE MASON, A. D. FOSTER & SONS, A. E. HULET, JOSEPH PEEL, L. H. LIPSITT, J. W. STEWART, WALBURN RIVERS, L. C. SNOWDEN.

Two  
Great Days  
You should be  
present

You can meet  
all the  
Breeders  
at this sale

### A Partial Summary of the Offering:

#### A FEW OF THE THIRTY-POUND COWS:

##### RIVERDALE ROSE (5-yr.-old) R.O.M.

Butter	7 days	35.34 lbs.
Butter	30 days	142.21 lbs.
Milk	7 days	738. lbs.
Milk	30 days	3,164. lbs.

A fine individual daughter of Riverdale Walker Segis. She is safely settled in service to a 37.62-lb. grandson of Queen Butter Baroness (former Can. champ.).

##### HILL-CREST RAUWERD SADIE

R.O.M. (at jr. 3 yrs., just made).

Butter	7 days	31.86 lbs.
Butter	30 days	130.02 lbs.
Milk	7 days	698.5 lbs.
Milk	30 days	2,349.3 lbs.

An outstanding heifer got by a 29,000-lb. son of May Echo Champion (full brother to May Echo Sylvia). On the dam's side she is from Hill-Crest Sadie Ormsby, a 29-lb., 3-year-old.

##### DAISY GERBEN VERBELLE

(8-yr.-old) R.O.M.

Butter	7 days	31.96 lbs.
Milk	7 days	625.9 lbs.

An all-round producer, and due just at sale time to Ormsby Jane Burke.

##### WYTSDE EVANGELINE DE KOL

(5-yr.-old) R.O.M.

Butter	7 days	31.00 lbs.
Milk	7 days	638. lbs.

Will be fresh at sale time.

##### PATTI DE KOL POSCH

(8-yr.-old) R.O.M.

Butter	7 days	32.86 lbs.
Milk	7 days	516.6 lbs.

She is the dam of Queen Bos De Kol, 35.50 lbs., and is bred to a 34.65-lb. son of K. S. Alcartra Spofford.

##### MADAM PAULINE SYLVIA

(4-yr.-old), still under test, R.O.M.

Butter	7 days	30.67 lbs.
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A fine type of show cow from a 30-lb. dam, and sells with heifer calf at foot.

#### A FEW OF THE DAUGHTERS OF THIRTY-POUND COWS:

##### COLANTHA MERCENA BULAH

(3-yr.-old), (R.O.P. at 2 years).

Butter	365 days	730 lbs.
Milk	365 days	17,868 lbs.

Dam—Countess Mercena Bulah.

Butter 7 days 34.06 lbs.  
Milk 7 days 706.8 lbs.

##### A TWO-MONTHS' HEIFER—

from Madam Pauline Sylvia, 30.67 lbs. The sire of this calf is King Paul Pontiac Echo, a 34.32-lb. son of Avondale Pontiac Echo. The five nearest dams of this youngster average 34.12 lbs. of butter in 7 days.

##### JOHANNA WALDORF KORNDYKE

(4-yr.-old).  
Dam—Miss J. Pontiac Korndyke, 32.59 lbs. This heifer, on the sire's side, is a granddaughter of Rag Apple Korndyke 8th, and her dam is a granddaughter of Pontiac Korndyke. In calf to Champion Echo Sylvia Pontiac.

Butter 7 days 22.71 lbs.  
(R.O.M. at 6 years).  
Butter 7 days 27.50 lbs.  
Dam—Queen Butter Baroness 33.31 lbs.  
A fine young cow got by Grace Fayne 2nd Sir Colantha.

##### QUEEN B. B. FAYNE

(7-yr.-old), (R.O.M. at 2 yrs.).  
Butter 7 days 22.71 lbs.  
(R.O.M. at 6 years).  
Butter 7 days 27.50 lbs.  
Dam—Queen Butter Baroness 33.31 lbs.  
A fine young cow got by Grace Fayne 2nd Sir Colantha.

##### CARRIE SPOFFORD (2-yr.-old).

Dam—Elva Spofford (3 years) 37.83 lbs. This is a fine big, strong heifer from the great 37-lb. heifer, and she is due at sale time to a 34.32-lb. son of Avondale Pontiac Echo.

##### SADIE SEGIS PRESCOTT.

Dam—Edith P. A. Korndyke, 32.67 lbs. Sire—Sir Sadie Korndyke Segis (brother to Mabel Segis Korndyke, 40.41 lbs.).

##### SADIE MIGNONE SEGIS.

Dam—Sadie C. Mignone, 33.27 lbs. Sire—Sir Sadie Korndyke Segis.

##### JESSIE SEGIS WALKER

(2-yr.-old), (R.O.M. at jr. 2 years).  
Butter 7 days 19.33 lbs.  
Dam—Pontiac Jessie, 37.62 lbs. A smooth, typey heifer from this great 37.62-lb. cow, and she is due at sale time to Rex Wanderbelle Ormsby Jane.

##### EDITH SEGIS KORNDYKE.

Dam—Edith P. A. Korndyke, 32.67 lbs. Sire—Sir Dora Segis Pontiac.

##### K. S. A. C. DAISY ORMSBY.

Dam—Daisy Ormsby Lass, 31.47 lbs. Sire—King Segis A. Calamity.

#### OTHER WORTH-WHILE FEATURES:

##### BESSIE POSCH COLANTHUS (3-yr.-old).

This heifer has just finished her R.O.P. record (at 2 years) with 18,000 lbs. of milk, and is due in April to Prince Mercena Echo, a 34.06-lb. son of Avondale Pontiac Echo.

##### SYLVIA BLOSSOM (2-yr.-old).

A real choice daughter of Champion Echo Sylvia Pontiac, and due just at sale time to King Echo Sylvia Belle Model, who carries 75% the same blood as the \$106,000 bull.

##### E. S. PIETJE KORNDYKE.

Another daughter of Champion Echo Sylvia Pontiac—an 18-months' heifer, one of the best, and safely bred to our great long-distance junior sire Winterthur Korndyke Ormsby.

##### MAUD SEGIS OF ELDERSLIE (4-yr.-old).

A big, strong, heavy-producing four-year-old. She finished second in the R.O.P. three-year-old class last year with 19,296 lbs. of milk, 796.25 lbs. of butter. Average for first 90 days on test this year 90.48 lbs. She sells unbred.

In reviewing the above list, kindly bear in mind that this is only a very incomplete summary of the 120 entries listed for this great sale. There are, of course, not 120 "tops," but at the same time there will be found in the stables, on April 8-9, but few "tail-enders." The inspection has been thorough—the cattle to be accepted were not only to be choice individuals, but to them must also be attached an ironclad guarantee—they must be healthy—and they must be breeders. At no sale in Canada has the buyer been so well protected. If you want Holsteins of the better sort, attend this sale.

For catalogues address  
**Canadian National Holstein Club**  
28 Adelaide St. W., TORONTO, ONT.

**GORDON S. GOODERHAM, President**  
Auctioneers: **KELLY-HAEGER**  
(In the box) **S. T. WOOD**



**80  
HEAD**

**NORFOLK  
SALE**

**80  
HEAD**

# HOLSTEINS

## Hagersville, April 1st.

at 11 a.m. sharp. Hot lunch at sale pavilion

**THIS** sale comprises a consignment of real quality cattle chosen from many of the prominent herds of the district—including a number of high record animals—dairy test winners and sons and daughters of such—queries for catalogs are here from B. C. to Nova Scotia—a feature of the sale will be the individual quality of the offering—and furthermore all animals over 6 months of age are sold subject to Tuberculin Test.

*Write right now for catalog to*

**W. H. CHERRY, Sales Manager**  
HAGERSVILLE  
**COL. JACK DEMING, Auctioneer**

## GROFAST CALF MEAL



The meal that most successfully takes the place of new milk for raising calves. Farmers and breeders throughout the whole of Canada are using International Grofast Calf Meal with the greatest measure of success. Read what Mr. Archer of Ingersoll, Ont., has to say:—

"I have used Grofast Calf Meal for the past three years. It is just as good as whole milk. After my calves are three days old they get nothing but skim milk and your Calf Meal. I raise equally as good calves as I ever did on fresh milk and the cost is only a fraction of what the cost would be raising them on milk."

Sold in 25, 50 and 100 pound bags.  
For guaranteed results demand Grofast and refuse substitutes

Your dealer sells Grofast Calf Meal. Or write us

**International Stock Food Co., Ltd. Toronto, Canada**

## Rowan River Holsteins at the "National"

We are consigning five head to the Canadian National Sale, among them Olive Starlight Pietertje and her year-old son. This cow has an R.O.P. record of 20,041 lbs. of milk, 922.50 lbs. of butter (twice a day milking after first 90 days.) Her year-old son also sells and she is again due on April 10 to Rex Wanderbelle Ormsby Jane (highest record bull in service). Look up this consignment in your catalogue and at the sale.

**PETER B. FICK - - - PORT ROWAN, ONT.**

## 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 them contact **HOLSTEIN CATTLE** send for booklet—valuable information  
**HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA**  
W. A. CLEMONS, Secretary, ST. GEORGE, ONT.

## Questions and Answers.

Miscellaneous.

### O. P. V. Mixture.

What are the amounts to sow for the O. P. V. mixture? **D. W. J.**

Ans.—The quantities recommended are 2½ bushels of oats, ¾ bushel of peas and ½ bushel of vetches, sowing 3½ bushels of the mixture per acre.

### Caked Udder—Calf Scours.

1. What is the best treatment for a cow with a caked udder?

2. What is the medicinal value of saltpetre for milch cows?

3. What is the best treatment for a calf with scours?

4. What is a preventive for a cow that leaks her milk? **L. J.**

After 1.—After a cow freshens it is a good practice to give her a dose of salts, and when the udder cakes there are several commercial remedies on the market which have given good results when applied according to directions. Rubbing with oil is good, and we have heard that rubbing thoroughly with gasoline has given results.

2. Saltpetre is used for kidney, lung and blood trouble. It has an acute action on the kidneys, and it is advisable to use it only on the advice of the veterinarian.

3. The scours may be infectious or due to some local irritant in the digestive tracts. Clean and disinfect the pen and mix one ounce of formalin with fifteen ounces of water, and give a teaspoonful to each pint of milk taken. Feeding one-quarter lime-water to three-quarters whole milk is recommended, and for acute cases one to two teaspoonfuls of laudanum may be given in new milk every four or five hours for a few doses. Scours are very often brought about by feeding the milk too cold, or in unclean pails.

4. Very little can be done while the cow is in milk. A veterinarian may scarify the point of the teat when the cow is dry.

## 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.; PORT PERRY, 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.**

## CLOVERLEA HOLSTEIN FRIESIANS

We are offering this week two choice bulls, one ready for service, from a 25-lb. dam. Priced right for a quick sale. For price and particulars, apply to **GRIESBACH BROS., R. R. No. 1, COLLINGWOOD, ONTARIO.**

**Minster Farm Holstein Herd Sires**—We have three sons of our former herd sire, Pride King Sylvia Artis. One is from an 18,262-lb. 3-yr.-old heifer; one from an 18,886-lb. cow, and the other from a 14,762-lb. 2-yr.-old. The dam of their sire has 19,500 lbs.—figure up their averages. All are show calves and priced right. **RICHARD HONEY & SONS (G.T.R. station, Hastings) DARTFORD, ONT.**

## Evergreen Stock Farm Registered Holsteins

Our motto: Choice individuals—the profitable producing kind. Nothing for sale now, but get in line early for your next herd sire. **A. E. HULET, Oxford Co., G.T.R. - - - NORWICH, ONTARIO**

## CHOICE HOLSTEIN FEMALES!!

I could spare ten or twelve two and three-year heifers, daughters of Baron Colantha Fayne and Louis Prilly Rouble Hartog. All are bred to freshen early to our 34-lb. sire. Also have a few young bulls, one from a 29.95-lb. cow that has milked 105 lbs. per day. Don't delay, this offering is priced right. **T. W. McQUEEN, Tilsonburg, 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.**

**Mr. Sackville, of the O.A.C., Guelph**, when in Millbrook at the short course, on Feb. 11th, said "he did not think he ever had his hands on a cow that handled just as good as Lulu Pauline." She made 23 lbs. butter as a junior 1-year-old, and her prospects indicate possibly 30 lbs. when she freshens in May. Her 10 months old calf handled equally well. Don't miss this fellow if you want quality. Price \$300. Also baby bull for sale, all sired by Hillcrest Rauwerd Vale. **W. FRED. FALLIS, R.R. 3, Millbrook, Ont.**

**High-Testing Holsteins**—Present offering: Three young bulls, 10 months old; all splendid individuals, out of high-producing dams, backed by noted blood and big records. Our herd sire, Ormsby Jane Hengervold King (by Ormsby Jane Kinel), has been used on this herd for several seasons, and his get, both heifers and bulls, are exceptionally promising individuals. It will pay you to inspect these youngsters before buying. **L. C. SNOWDEN, R.R. 3, Bowmanville, Ont.**

**Cedar Dale Farm**—The Home of Lakeview Johanna Lestranger, the \$15,000 sire—He is the son of the 38,06-lb. cow, Lakeview Lestranger, and is our chief sire in right prices. 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, Ontario**

## SUNNYBROOK FARM HOLSTEINS

We are offering for quick sale one 24-lb. bull and one 26-lb. bull ready for service. Both are sired by a 34-lb. son of the great King Segis. **JOSEPH KILGOUR, NORTH TORONTO, ONT.**

## Soil Analysis.

How can I obtain an analysis of the soil on my farm? **H. G.**

Ans.—A sample of the soil might be sent to the Chemical Department, Ontario Agricultural College, Guelph, or to the Central Experimental Farms, Ottawa. It is best to write these people before sending the sample, so as to find out how they prefer the sample taken.

## Cow Fails to Conceive.

We have a valuable heifer which we have difficulty to get in calf. She comes around regular every three weeks but we cannot meet with success. Would it be best to keep breeding her or have a veterinarian examine her? **J. R.**

Ans.—It would be advisable to have the cow examined by a veterinarian. It is possible that he might be able to correct the trouble; if not, it is useless to keep on breeding her.

## Fishing Through the Ice.

I live near a large lake which is full of trout, but it is hard to catch them through the ice. I would like to know the best way to catch them through the ice. I use worms on the hooks, but can hardly catch any. Is there any lure I can use on the worms? What is the best way to set lines through the ice? **J. A. K.**

Ans.—The most successful method of fishing through the ice is to construct a light, portable hut, about six feet long, four feet wide and seven high. The door must fit tightly and the hut be perfectly dark inside. Draw this out on the ice on a sleigh, set it up and chop a hole about 15 inches wide and 30 inches long in the ice, chipping the ice away slantingly underneath. Have a stool and a little stove, such as a coal-oil heater, in the hut. Use short handlines, and use a live or frozen minnow for bait. Keep the minnow jiggling gently up and down. On account of it being dark in the tent, the fish are not frightened away from the hole, and moreover you can watch them as they come up to the hook. **A. B. K.**

# The World's Famous Glen Otter Holsteins

SELL ON APRIL 7

The former home of Rolo Mercena DeKol

The Breed's Greatest Cow

FIFTY-FIVE FEMALES

60 HEAD

FIVE YOUNG BULLS

DUFFERN STABLES

WOODSTOCK, ONTARIO

WEDNESDAY, APRIL 7th 1920

IN announcing this sale in these columns of a week ago, Mr. Hanmer made it plain to all that his entire herd, with exception of the 1920 heifer calves and Flora De Kol Pietertje (dam of the 51-lb. cow), would go without reserve. This without doubt brings into the open market one of the most noted pure-bred Holstein herds on the North American continent, and the offering throughout should hold the interest of every Canadian breeder, who has the interests of the breed at heart, right up until the last animal leaves the sale ring on the evening of April 7th. While there are individuals without number that should feature any offering, the predominating feature over all is without doubt, Topsy Mercena Posch, the three-year-old daughter of the world's greatest butter cow Rolo Mercena De Kol. She is a big strong heifer with exceptional promise, and due shortly after sale time to a son of a 27210-lb. yearly record cow. Others featuring the offering include Can-

ary Flora De Kol, a seven-year-old sister to the 51-lb. cow and her two daughters; Ladoga Idaline Mercena the \$3,100 cow at Philadelphia last June; Belle Abbekerk 2nd highest scoring two-year-old at Ont. Winter Prov. Dairy test 1919 and 3rd prize heifer at the National Dairy Show, Chicago 1919; Premier Helbon Komdyke a two-year-old show heifer from Helbon Beauty Bonheur the \$4,100 cow at Philadelphia; Echo Sylvia Pontiac a two-year-old daughter of Champion Echo Sylvia Pontiac; Six daughters of Prince Colanthus Abbekerk; two daughters (both show heifers) of Major Posch Mercena; a seven-year-old daughter of Violet Rose De Kol 34.34 lb. and her year-old daughter; Bessie Walker Abbekerk a three-quarter sister to Riverdale Rose 35.34 lb. 738 lbs. of milk; a two-year-old heifer sired by a son of Pontiac Jessie 37.62 lb. and others of equal note. You owe it to yourselves to come and see these world-famed producers sold.

For Catalogues write mentioning this paper to

J. B. HANMER

::

NORWICH, ONTARIO

MEAL

Successfully takes the young calves. Farm out the whole of the annual Grefast Calf measure of success. Ingersoll, Ont.,

Meal for the past and as whole milk. Days old they get your Calf Meal as I ever did on only a fraction of the milk.

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mand Grefast

nto, Canada

'National'

among them has an R.O.P. a day milking again due on full in service).

ROWAN, ONT.

ilton, Ont.

SALE

ford. Junior is grandson via Pontiac.

tc.

2 LBS. MILK

and 638.57 lbs. fat.

at the average annual yield as much milk as 62 cows of

the milk you require?

LE send for booklets—valuable information

CANADA

ST. GEORGE, ONT.

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**ASL**  
INVESTMENT-SERVICE

**How  
Income Tax  
Affects You**

is very clearly shown  
by our booklet:  
"The Income Tax  
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It is worth reading  
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**BOOK ON  
DOG DISEASES,  
And How to Feed**

Mailed free to any  
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America's  
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**Cream Wanted**

Ship your cream to us. We  
pay all express charges.  
We supply cans. We re-  
mit daily. We guarantee  
highest market price.

**ONTARIO CREAMERIES  
Limited**  
LONDON ONTARIO

**Valleybrook Stock Farm  
REGISTERED HOLSTEINS**

Sr. Herd Sire, King Hartog Tensen; Dam, Daisy Tensen Posch, 19,611 lbs. milk as 3-year-old ex-Canadian champion.

Jr. Herd Sire, Highland Netherland Echo; Dam and sire's dam average 34.6 lbs. butter in 7 days, 126 lbs. milk in 1 day.

Offers—Bull calves, beauties, from 1 to 5 weeks old, \$45 each, F.O.B. Springfield, sired by Jr. herd sire.

**JOSEPH NEWELL & SON  
Springfield - Ontario**

FOR SALE  
**REGISTERED HOLSTEINS**

Two cows; two heifers due in March and April, also yearling heifers. Particulars on application.

**W. McRUER, R.R.3, AYR.**

**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.

**Gossip.**

**L. C. Snowden Holsteins.**

While driving between the towns of Oshawa and Bowmanville recently, a representative of "The Farmer's Advocate," called at the farm of L. C. Snowden, which lies just north of the Kingston Road and is one of the most noted purebred stock farms in this district. Mr. Snowden's speciality is high testing Holsteins and while the herd is not large it contains a dozen or more breeding cows which compare favorably in both individuality and production with many of the larger herds of the Province. Mentioning a few of the more outstanding cows, we might begin with Pontiac Speckle Pietje. This is a fine type of young cow with a 25.24-lb. 7 day butter record, and 575.7 lbs. of milk made at four years, one month and twelve days; for sire she has that good breeding bull King Pontiac Artis Canada, and for dam she has the 23.32-lb. five-year-old cow, Speckle Pietje. There is a nice two-year-old daughter of this cow in the herd which is sired by Woodcrest Sir Clyde. Next comes Plus Burke Pietertje, a 24.97-lb. five-year-old cow, which is a granddaughter of Count Segis Walker Pietje, and following her is Millie De Kol Fairview with 24.71 lbs. of butter 554 lbs. of milk at three years. She also has a 30-day record of 102.67 lbs. of butter and 2,359 lbs. of milk. She has never been run officially for the year, although last year under private test she milked up to 104 lbs. per day, and gave 17,850 lbs. of milk in ten and a half months. Beulah Echo Spofford, still another young cow, who is also an outstanding individual in the stables has 23.31 lbs. of butter and 477.7 lbs. of milk in seven days, which record was made as a four-year-old. These records, it will be noted, are not large, but they are the result of Mr. Snowden's first year of official testing and all will no doubt have increased records before another season. All of these cows are breeding well and practically all have either a young bull, or two or more daughters in the herd, the majority of which are by the present herd sire, Ormsby Jane Hengerveld King. This young sire has been used for the past several seasons and his get are exceptionally pleasing. He is sired by Ormsby Jane King, which is a son of Ormsby Jane Segis Aaggie, with 46.33 lbs. of butter and 879.40 lbs. of milk for the seven days. On the dam side this young sire is from a 21.75 lb. two-year-old daughter of Earl Burke Korndyke, and he in turn is a son of the noted Victoria Burke, 31.30 lbs. Ormsby Jane Hengerveld King is not only breeding well in the Snowden herd, but he is owned by a syndicate of breeders in this district, and each breeder has quite a number of his sons and heifers which are fast bringing him to the front as one of Canada's leading sires. Mr. Snowden's present offering includes three of the sons, all of which are ten-months' bulls and all three splendid individuals. Full particulars of these bulls will gladly be furnished by Mr. Snowden.

**Questions and Answers.**

**Miscellaneous.**

**Textbook on Sheep.**  
What is a good textbook on sheep, and what is the price of same? D. M.  
Ans.—"Sheep Farming," by Craig, is a very good book dealing with all phases of sheep raising. It can be secured through this office for \$2.10.

**Re-Painting Furniture.**  
I have an old black walnut dresser which has been painted or stained. I wish to do it over and finish it in the new dull finish being used on good furniture. How should I proceed to do it? I wish to do another old stained bedroom suite, in white enamel, how should I do it? A. B.  
Ans.—1. About the only way you could do is to remove the paint or stain by chemicals or sandpaper and then oil and varnish the wood. In regard to the white enamel on a bedroom suite, you will find it a rather difficult job. It will require thorough sandpapering and then two or three coats of white paint with a couple of applications of white enamel on top of that.

**Brant District Holstein Breeders' Semi-Annual Spring Sale**

**Fifty Females 60--HEAD--60 Ten Young Bulls**

AT THE OLD COMMERCIAL STABLES, CITY OF  
**Brantford, Ontario**  
**Wed., March 31st, 1920**  
At 12.30 o'clock p.m. sharp.

We have catalogued for this sale 50 choice females and ten well-bred young bulls. The entire offering in females are fresh cows or due about sale time. Several are equally as good, or better, than the \$855-cow which topped our last sale.

The young bulls are all well grown and of the herd sire sort—the records of their dams running up to 20,000 lbs. of milk in R. O. P.

**If you want Holsteins—Come to Brantford and get the best.**

For catalogues, address:  
**N. P. SAGER, Secretary, St. George, Ontario**  
**WILBER LEMON A. E. HULET ALMAS & THOMAS**  
President Sales Manager Auctioneers

**MONTROSE HOLSTEIN - FRIESIAN FARMS**  
(The Home of 20,000-lb. Cows)

Present offering (at right prices), four young bulls out of R.O.P. cows with records of 20,000 lbs. milk and over. See this herd and our young bulls in particular before buying elsewhere. Visitors always welcome.

**R. J. GRAHAM, - Montrose House Farms - BELLEVILLE, ONTARIO**

**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 Pietertje), 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**

**PIONEER FARM HOLSTEINS**

My present sales' list includes only bull calves born after Jan. 1st, 1919. These are priced right.

**WALBURN RIVERS & SONS R.R. No. 2, Ingersoll, Ontario**

**Craigielea Ayrshire Herd Sires**

**TWO YOUNG BULLS SPECIALLY PRICED and special individuals.**

No. 1, a 15 months calf by Lady's Milkman, he by a son of Fairview Milkman and out of Milkmaid 7th, 16,696 lbs. of milk, 729 lbs. of fat (one time Canadian Champion). The dam of this calf is Rose of Montrose an 8.831-lb. R. O. P. two-year old.

No. 2 a year old calf by Fairview Milkman and dam White Lady of Craigielea 2nd, 11,700 lbs. of milk, 458 lbs. of fat in one year, and one of our very best R. O. P. breeding cows.

We also have calves younger and can spare a few females, safely bred—Give us a call.

**H. C. HAMMIL (Locust Hill, C.P.R. Markham, G.T.R.) MARKHAM, ONT.**

**Westside Ayrshires and Yorkshires**—Have one bull 12 months old and two bull calves, all from record dams. Am also booking orders for spring pigs. Let me hear your wants.

**DAVID A. ASHWORTH, Denfield, Ontario, Middlesex Co.**

**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.**

**Homestead Farm R.O.P. Ayrshires**—At the head of our herd at present we have a grandson of the great Jean Armour. He is being used on the daughters of our former sire, Garlaugh Prince Fortune (Imp.). Young cows freshen this fall and winter.

**McVICAR BROS., 'phone 2253 Harrietsville, Belmont, R.R. No. 1, Ont.**

**Glenhurst Ayrshires** headed by Mansfield Mains Sir Douglas Hagus No. 16163 Imp. have been noted for their depth and size, good tests and smoothness of conformation. If you are looking for a combination of size, type and production—plus high butterfat—write me or visit the farm. Males and females of all ages for sale.

**JAMES BENNING, Summertown Sta., G. T. R. Willamstown, C.P.R. Bell Telephone 78-3 Cornwall**

**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.O. Farm at Morin Heights - F. J. WATSON, Manager**

**Canada's Most Beautiful Jersey Herd**

**The Woodview Farm JERSEYS**

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.

**JNO. PRINGLE, Prop.**

**For Sale—Edgeley Golden Jolly**, son of Queen 2nd—1st prize in 2-year-old in milk at Guelph in 1919. His sire is Edgeley Bright Prince, a son of Sunbeam of Edgeley. We have him priced right for quick sale.

**JAS. BAGG & SONS, EDGELEY, ONT.**  
(Woodbridge C.P.R., Concord G.T.R.)

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The following show  
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**Maple S**  
Imported  
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**WOOL**  
Don't lose part of yo  
the old fashioned wa  
The extra wool secure  
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easily and quickly, an  
Stewart No. 9 Ball  
Get one from your  
which always satisfies  
CHICAGO, FLEXI  
DEPT. B161 12TH ST. AM

**Shropshire Yearlin**  
ew lambs sired by  
Two Clydesdale stallio  
W. H. PUGH.

**Large I**  
Hardy, thrifty  
English Large Bl  
breed for this coun  
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able prices. All a  
Also English  
LYNNORE  
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**BERK**  
Registered so  
Just right  
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**YORK**  
Pigs of differ  
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**Berkshires**—Boars  
Premier's Successor  
1914, Champion Sire of  
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largest and strongest sli  
pion Berkshire barrows  
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We have shipped many  
satisfaction to custom  
**HOOD FARM, I**

**TAMW**  
Young sows bred for  
boars for sale.  
**JOHN W. TODD**  
Big Type Chester V  
to Exhibitions, 1919.  
805-lb. sows, and sows  
**JOHN ANNI**

Hampshire Down Sheep Breeders, Association, England

SALISBURY

The following shows and sales of Highly-bred Pedigree Sheep will be held under the auspices of the association: Wednesday, July 7th, 1920 A Show and Sale of Ewes, Ewe Lambs, Ram Lambs, Shearling and older Rams Wednesday, July 28th, 1920 A Show and Sale of Ram Lambs When many grand specimens of the breed will be on offer, consisting of, Fitted Show Sheep and a grand assortment of Field Shearling Rams, Ram Lambs, Shearling and older Ewes and Ewe Lambs. These sales will offer a unique opportunity to Colonial and Foreign buyers to supply their requirements for the forthcoming season. Full particulars and catalogues in due course, of the secretary W. J. Woolf, 49 Canal, Salisbury, England

Maple Shade Farm

Imported Shropshire ewes served by best imported rams, very desirable for foundation flocks.

W. A. DRYDEN

Brecklin - Ontario

WOOL PROFITS

Don't lose part of your wool money by shearing the old fashioned way. Shear with a machine. The extra wool secured from your sheep soon pays the cost of one. You secure better wool more easily and quickly, and benefit your flock. Get a Stewart No. 9 Ball Bearing Shearing Machine. Get one from your dealer—the only machine which always satisfies.

CHICAGO FLEXIBLE SHAFT COMPANY DEPT. B161 12TH ST. AND CENTRAL AVE., CHICAGO, ILL.

Shropshire Yearling Ewes bred to Bibby's 84 (imp.) ram and one lamb sired by him. Two Shorthorn bulls Two Clydesdale stallions.

W. H. PUGH, Myrtle Station, 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

BERKSHIRES

Registered sows, 7 months old. Just right for breeding.

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P.O. Box 275, - London, Ontario

YORKSHIRES

Pigs of different ages, both sexes, from large litters.

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Farmer's Advocate, London, Ontario

Berkshires—Boars ready for service and boar pigs, rich in the blood of Lord Premier's Successor 161500, Grand Champion, 1914, Champion Sire of 1915, 1916, 1917. His descendants have won Grand Champion honors at the largest and strongest shows of 1919. The Champion Berkshire barrows of 1918 International were double grandsons of Lord Premier's Successor. We have shipped many Berkshires to Canada with satisfaction to customers. Prices on request.

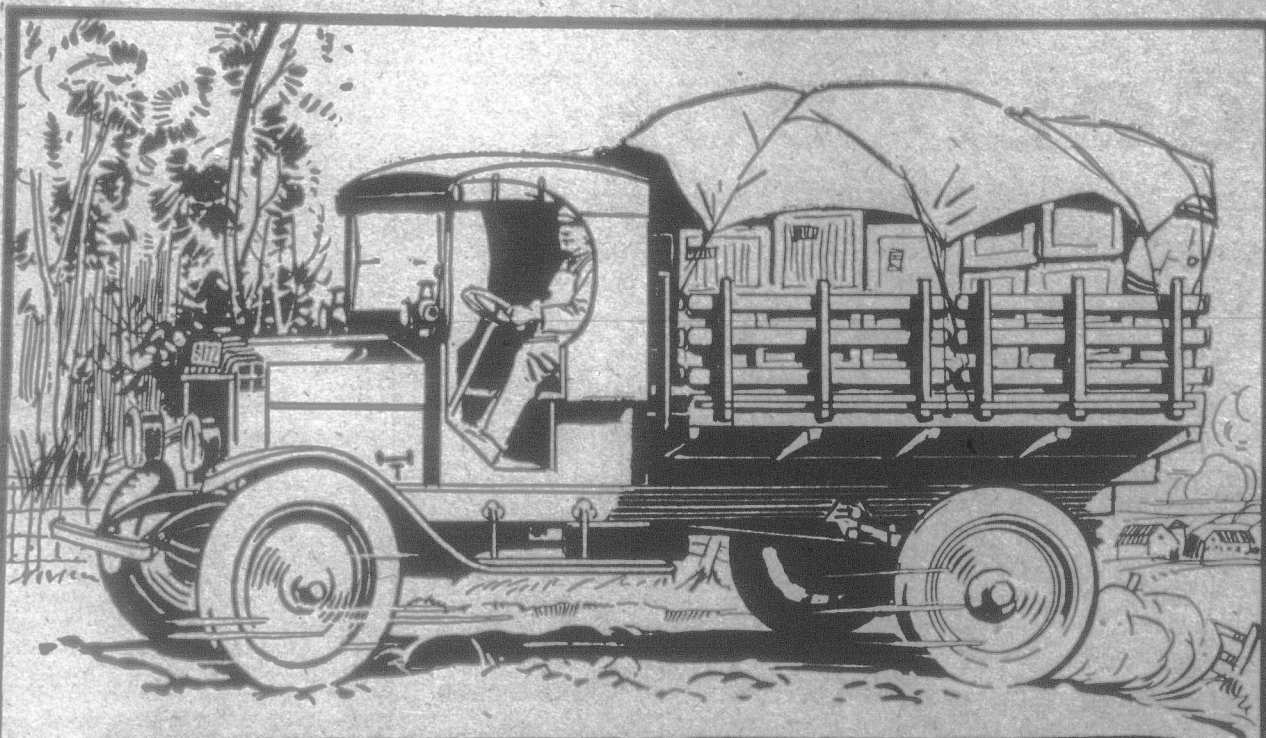
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Young sows bred for May and June farrow, and boars for sale. Write or phone.

JOHN W. TODD - Coriath, Ontario

Big Type Chester Whites—We cleaned up at Exhibitions, 1919. Now offering pigs from our 805-lb. sows, and sows bred to our 1,005-lb. boar JOHN ANNESSER, Tilbury, Ont.



Buy the National for Unusual Dependability

The test of a motor truck is its ability to deliver the load according to schedule, and with economy.

National Motor Trucks dominate the severest haulage jobs. They stay on the job. They offer on-the-minute service. Nationals are operating at a profit in every line of business, and in all parts of Canada.

The National will answer your demand for a powerful yet economical truck. It will solve your haulage problem. You can prove it before buying.

Talk it over with National distributors. Get the records of owners. Test the truck. Put it over your own route with capacity loads. Check it for speed, gas consumption and ease of handling. Then you will be a National enthusiast—as are the owners.

National Motor Trucks ensure continuous and economical haulage service.

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NATIONAL MOTOR TRUCKS

What Truck? Ask the Driver. He knows.

Write for Illustrated Catalogue and name of the nearest National Dealer.

NORTHERN ONTARIO

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.

BENIAH BOWMAN, Minister of Lands, Forests and Mines. PARLIAMENT BUILDINGS, TORONTO.

Berkshires—At the great Smithfield Show, London, England, in December, the Berkshires won the Grand Championship for fairs, and made the remarkable showing in the four classes of the Carcass Competitions for pigs of all breeds by winning ALL the four prizes in the four classes; all sixteen pigs being pure-bred except one. We have over eighty head of splendid stock. Come and see them, or send for our breeding list.

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.

Meadow Brook Registered Yorkshires

Ten choice young boars fit for service, from prize-winning stock. Prices reasonable for quick sale. G. W. MINERS, R.R. No. 3, Exeter, Ontario

Invergie Tamworths—Sows carrying second litters for March farrow, a few choice 200-lb. boars, gilts bred for April farrow; a splendid lot, either sex, 3 to 5 months old. Wee lads and lassies just weaned. L. Hadden, Box 264, Sunderland, Ont.

Prospect Hill Berkshires—Young stock, either sex, for sale, from our imported sows and boars; also some from our show herd, headed by our stock boar, Ringleader. Terms and prices right. JOHN WEIR & SON, R.R. 1, Paris, Ont.

Sunnyside Chester Whites and Dorsets—In Chester Whites, both sexes, any age, bred from our champions. In Dorset ram and ewe lambs, by our Toronto and Ottawa champions, and out of Toronto, London and Guelph winners. W. E. Wright & Son, Glanworth, Ont.

'Advocate' advts. Pay.

# GOLD DUST



**Better Coffee?**  
How? Fresher Coffee Pot!

HERE'S a simple recipe that makes the "insides" of your coffee and tea pots absolutely pure and sweet:

Place a teaspoonful of Gold Dust in the pot, fill half full with cold water, let boil slowly for a few minutes. Pour out part of water and scrub with small brush. Rinse thoroughly.

This Gold Dust treatment purifies coffee and tea pots. That's why it helps to make your tea and coffee taste as they really should.

Don't wait till your package of Gold Dust is empty. Go get another package today. But be sure it really is Gold Dust you buy.

THE FAIRBANK COMPANY  
LIMITED MONTREAL

MADE IN  
CANADA



## Crawled— Now Walks

Infantile Paralysis caused the deformity. Two years after treatment at the McLain Sanitarium his mother writes:

*"When we took our boy to the McLain Sanitarium he had to crawl on his hands and knees; after six months' treatment (Summer of 1917) he could walk alone. It is now two years since he took the McLain's treatment, and he has continued to improve every day since he came home."*

Mrs. C. D. Speidel, Hanoverton, Ohio.

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The McLain Sanitarium is a thoroughly-equipped private Institution devoted exclusively to the treatment of Club Feet, Infantile Paralysis, Spinal Disease and Deformities, Hip Disease, Wry Neck, etc., especially as found in children and young adults. Our book, "Deformities and Paralysis" also "Book of References," free. Write for them.

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## Our School Department.

### A Story About Honey.

BY MORLEY PETTIT.

In the issue of March 11 we told you where the bees found nectar during the different seasons of the year; now, we shall see how the honey really is made. You have heard that bees make it of nectar, which they gather from flowers. Let us watch a bee at work on a clover blossom. It dips its long slender tongue down into one tube after another, then flits away to the next flower and does the same. What is it doing? It is drinking up the tiny sweet drops—and swallowing them. It must surely be eating it all and not saving any to take home. But no, I will tell you. The nectar it swallows does not go to its stomach, but to its honey-sac. When this is full the bee flies away home to its hive.

If you can get a beekeeper to show you the inside of a hive you will see many wonderful things. At first the hive seems to be filled with combs built in frames, but on looking closely you will see that there are narrow spaces between the combs, and it is here that the bees live. There are many thousand other bees which look so much like the one we have been watching that you could hardly tell them apart.

If you look closely, however, you will see that some are grey and fuzzy and others are brown or yellow, or golden. Others again are big, blunt, burly fellows. The grey ones are the youngest, the brown or yellow ones are older, and the big burly fellows are the drones.

The combs with which the hive is furnished consist of a great many little cups called cells. They are built by the workers of wax which they make themselves. They use the combs as cradles for the young and for storing honey and pollen.

All the thousands of bees in the hive have one mother. She is called the queen, and, of course, they are very fond of her. She does not do anything but lay the eggs from which the young bees are reared. She places them in the cells of the comb, one in each. You have already heard how the young bees develop.

When a new bee comes out of its cell it finds itself in a crowd of busy jostling workers, who pay no more attention to it than though it were not there. It is rather weak at first, but soon gets food and before long is helping the other young bees with the housework. Like the hundreds of others coming out at the same time it finds its place and work in the community. It first does hive work, which consists in feeding the larvæ, secreting wax, building comb, ripening honey, "cleaning house," and many other duties about the hive.

When two or three weeks old the young bees learn to fly and begin gathering nectar and pollen. They are then no longer "hive bees" but "field bees," and if there is all the work they can do, they work so hard that they only live three or four weeks after that. They have a happy life while they live, for a bee seems to like nothing better than flitting from flower to flower gathering nectar in the sunshine. Bees that come later in the season do not have so much work and live all winter.

But we must not forget our bee with its load of nectar. Like thousands of others coming in at the same time it deposits its load in a cell or gives it to a hive bee—bringing it up through its mouth and long tube-like tongue—then crawls into an empty cell and takes a good long rest before starting out on another trip.

When it is taken from the flowers nectar is sweet but very thin and has to be evaporated much as maple sap is boiled down to make syrup; only the bees do not boil the nectar. They dry and thicken it by fanning with their wings to cause a current of air through the hive. When so much nectar is coming in everyone in the hive is well fed, and white flakes of wax grow on the sides of the younger bees. That is the way beeswax is produced. They use these dainty white flakes for building comb, and as fast as cells are filled with ripened honey they are capped with wax.

Of course, the capped combs of honey

are meant for winter stores, but there are generally some to spare for the beekeeper. He takes them from the hive, and with a sharp knife removes the capping before extracting them. The extractor is a machine which whirls the combs so rapidly that all the honey flies out. The combs are not broken or damaged in any way and may be returned to the hive to be again filled with honey.

The extracted honey is strained through cloth to remove all pieces of wax and then is ready for use. Clover or basswood honey is a clear or light amber color, but that from buckwheat and other fall flowers is quite dark.

Extracted honey soon granulates and turns hard and solid when the cool weather of autumn comes on. It is just right then to spread on your bread. I see some children smacking their lips at the very thought of it.

Honey should not be kept in the cellar or refrigerator or any place where it might draw dampness. A warm, dry place, such as the kitchen cupboard is best.

When liquefying granulated honey one must take great care not to get it too hot or it will be spoiled. Place the can in a larger dish containing water on the back of the stove where it will keep warm but not boil. In fact, the water should not become too warm to bear the hand. When honey gets too warm it turns dark and the flavor is spoiled. After several hours of slow heating it will be as clear and taste quite as good as when the bees first stored it in the comb.

Now you have seen how flowers and bees need sunshine, rain and good rich earth. And when it rains and spoils your out-door fun you must remember that it helps the clover and will make lots of honey for the bees—and for you.

### Ideals in School Work.

The Ontario Federation of Home and School Associations describe thus the ideals that should be striven for in teacher and school:

1. The Teacher.—Possessed of an abiding faith in children as the best hope of the Canada that is to be; proud of his or her calling as offering opportunity for a great service; equipped by natural endowment and training for leadership; enthusiastic and progressive; respected and well-paid; free from fads and fashions; well-read and travelled; permanent, but perennially renewing his or her youth; interested in community-building as well as in the work of the school.

2. The School.—An attractive, and, if possible, a beautiful building, set in beautiful surroundings; well-built, well-kept and well-equipped in keeping with the wealth and prosperity of the community; well-lighted, well-ventilated, well-heated and regularly cleaned. Outside the school, convenient, sanitary and screened outbuildings; ample play space for boys and girls, and a good water supply, good fences, suitable trees, shrubbery, vines and flower-beds.

Inside the school, all facilities for enabling the teachers and pupils to do their best work in a minimum of time; good desks, maps, charts, blackboards, cupboards, and cloak-rooms; a school library; pictures on the walls, a piano or phonograph.

Equipped also for community service and to give educational advantage to grown-ups; a community hall for debates, evening classes, social gatherings, motion pictures, lantern lectures, etc.

### Completing the Study of Apple Twigs.

It was necessary to omit a very important part of the lesson plan which appeared in last week's issue, namely that of "correlation". To complete the study, Mr. Hoffer made the following suggestion:

Have the pupils draw a twig of the apple and on it, neatly name all the parts observed in the class study. Have them read any suitable information in the library on buds and apple trees; and then have them write a composition describing what they know about "The Ways of an Apple Tree," or some such topic.

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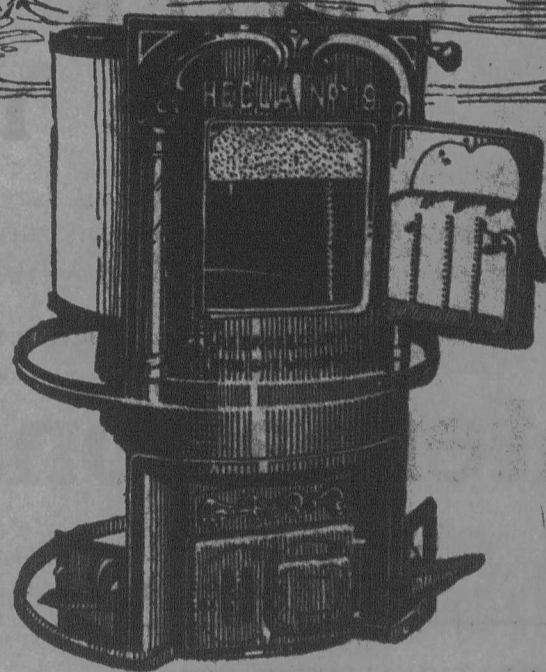
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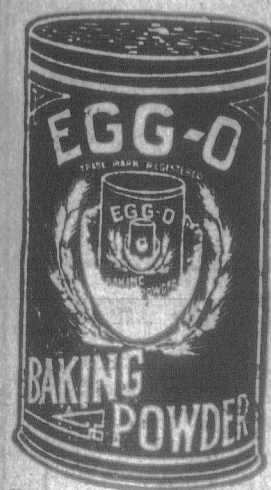
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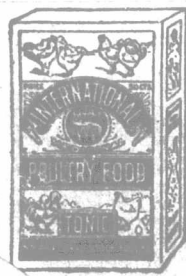
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