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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE  
SUCCEED  
FOUNDED 1878

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

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and Horticulture, Ottawa, Ont., Canada

Vol. XLVIII.

LONDON, ONTARIO, JANUARY

No. 1059



## Make up your mind now to test PURITY FLOUR on your next baking day

**T**HERE is absolutely no question about the *superior* qualities of PURITY FLOUR. You can make *more bread* and better bread with PURITY than with the same amount of any other flour. PURITY is a rich, strong flour—it swells into *nice big nutritious* loaves, while it's *just the flour* to use if you want to bake cakes, pies or pastry you wish to be particularly proud of.

Now's the time to *prove to your own satisfaction* that PURITY is the *best* flour milled—to prove the *truth* of all claims made for PURITY FLOUR and to do so at our risk.

Order a sack of PURITY FLOUR to-day? Prove its *real worth* for yourself. If it does not give you *complete* satisfaction the grocer will *cheerfully return your money*. You certainly owe it to yourself to know the reasons why we so *heartily guarantee* PURITY—also the reasons why

# PURITY FLOUR

Makes

“More Bread and Better Bread”  
and—Better Pastry too



602

## HIGHEST PRICE FOR CREAM

**THE T. EATON CO. LIMITED** is now paying 31c per lb. for Butter Fat. We buy cream, sweet or sour, of good flavor. We furnish the cans and pay the express charges within a radius of 250 miles of Toronto.

We test and weigh each can on arrival, and send you a statement for same.

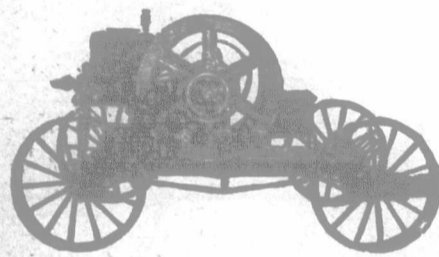
We pay all patrons once a week, and the price is increased as the price of butter advances.

Drop us a card, and we shall be pleased to furnish you with any further information you may require.

**THE T. EATON CO. LIMITED**  
TORONTO - CANADA

## FOR YOUR FARM, YOUR HOME, YOUR FACTORY FOR EVERY POWER PURPOSE

A Gilson "Goes-Like-Sixty" Engine with New Features and Latest Improvements.



**MORE VALUE  
MORE POWER  
MORE SERVICE  
MORE SATISFACTION**

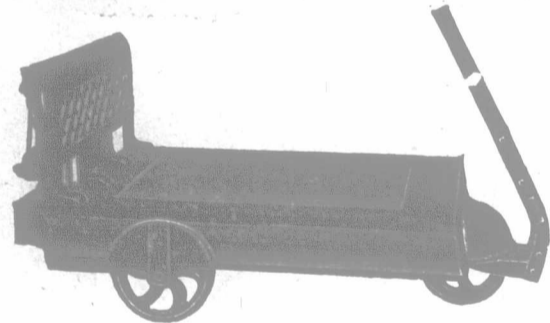
Does satisfaction mean anything to you? Does money saved in fuel, in time, in repairs and expense bills appeal to you? Get Gilson Facts, and find out how the Gilson 60-SPEED engine does the greatest variety of work—how it gives the maximum satisfaction—gives money in equipment, and yields 100% service at lowest cost. Every engine covered by a cast-iron guarantee.

The New Gilson 5, 6 and 8 h.-p. engines, equipped with our new friction clutch pulley, with five removable rims, each of a different diameter. Change to the proper speed for any job in five minutes. A NEW and EXCLUSIVE GILSON FEATURE.

We also make 60-SPEED engines in 1 1/4 and 3 h.-p. sizes. These are mounted on truck, with line shaft and five interchangeable pulleys, and pump-jack. Drop us a card to-day, and we will send you full descriptive literature. We are making special prices to the first purchaser of one of these engines in every locality. Write NOW. Agents wanted.

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Write to-day for our illustrated catalogue, telling you about the Three-wheeled Wagon and Stock Scale. Capacity, 2,000 lbs. All material and workmanship first-class and guaranteed.

Address:  
**The Aylmer Pump & Scale Co., Limited**  
AYLMER, ONTARIO



## SYNOPSIS OF DOMINION LAND REGULATIONS

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

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

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$3.00 per acre.

**Duties**—Must reside upon a homestead or pre-emption six months in each of six years from date of homestead entry (including the time required to carry homestead patent) and cultivate 50 acres extra.

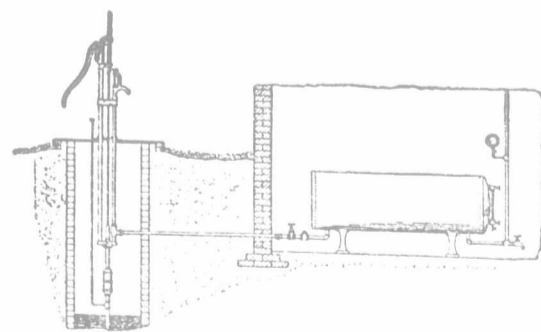
A homesteader who has exhausted his homestead right and cannot obtain a pre-emption may enter for a purchased homestead in certain districts. Price \$3.00 per acre. Duties—must reside six months in each of three years, cultivate fifty acres and erect a house worth \$200.00.

W. W. CORY,

Deputy of the Minister of the Interior.

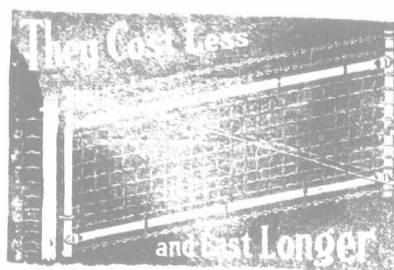
N. B.—Unauthorized publication of this advertisement will not be paid for.

## Heller-Aller Pneumatic Water Supply System



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solves the problem and makes it possible to have running water anywhere in the house, stable or yard, for all domestic purposes, and for fire protection. The cost is so low that almost every country resident can afford to install it. Operated by windmill, electric motor, gasoline engine or by hand power. Write for information.



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STRONGEST and most durable gates made. 30,000 lbs. capacity. 12 ft. high. 4 ft. wide. 12 ft. long. Made by W. W. CORY, Deputy Minister of the Interior.

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WINDSOR, ONTARIO

## GRAND TRUNK RAILWAY SYSTEM

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FLORIDA

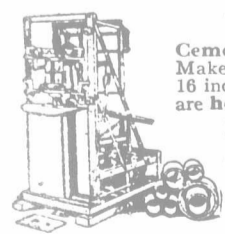
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THE SUNNY SOUTH

The Grand Trunk Railway is the most direct route from all points East through Canada via Chicago, Detroit or Buffalo.

Only Double Track Route

Round trip tourist tickets, giving choice of all the best routes, together with full information, may be obtained from any Grand Trunk Agent.



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

## GOVERNMENT EXPERT

Chooses SHARPLES Tubular Cream Separators for His Three Farms



Like other shrewd farmers, Mr. Anson Groh, widely known agricultural lecturer employed by the Government, knows the money to be made in dairying. He has succeeded because he knows profit is of far greater importance than first cost. Mr. Groh is seen sitting in this picture, with his family and assistants, before his country home. Like others making most money from dairying, Mr. Groh selected the Tubular in preference to all others because the Dairy Tubular contains no disks or other contraptions, has twice the skimming force of other separators, skims faster and twice as clean, and pays a profit no other can pay. Mr. Groh says:

"Preston, Ontario, May 26, 1912.—Some years ago we selected the Sharples Tubular. After a few years' use we found it necessary to get another separator for another farm and selected a No. 6. After several years' service of these two machines, we would not think of introducing anything else on our third farm, recently purchased. ANSON GROH."

Now you understand why owners of other separators are discarding their machines by carloads for Tubulars. Follow the example of Mr. Groh and the many others who have succeeded. Buy a Tubular for the sake of double skimming force, easy cleaning, and all the profits.



Get quick attention by asking for Catalog 193

**The Sharples Separator Co.**  
Toronto, Ont. Winnipeg, Man.

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RAW FURS, GINSENG, GOLDEN SEAL  
147 West 24th Street, New York. (Mention this paper.)  
References: Greenwich Bank, N. Y. East River National Bank, N. Y.

## The CENTRAL Nurseries

at the front with their usual supply of best grown stock for their customers. Priced catalog soon ready. With best wishes for a prosperous New Year, we are at your Service.

—Faithfully, A. G. HULL & SON, ST. CATHARINES, ONT.



No ruts on this or any other concrete road

## You Can't Wear Ruts in a Concrete Road

Concrete is the Ideal Pavement  
for either town streets or  
country highways

### CONCRETE IS "RUT-PROOF"

**T**O REALIZE WHAT THIS MEANS, it is only necessary to compare a piece of dirt or Macadam roadway with one that is built properly with concrete. The roadway shown in the illustration is a typical one of its kind. You can see one just like it in almost any Canadian Community. Take a look at the one nearest you. You'll see a big double rut down the centre, made by the vehicles driven there to escape the soft, oozy surface on either side.

There's a reason for that double rut down the centre. A Macadam road when originally laid, **must** be constructed with a high "Crown," so that the water may drain off properly on either side.

A Concrete road, you'll notice, is **not** built that way. True, it has a slightly sloping surface, a certain amount of "Crown", but very little is necessary, because a concrete surface drains so much more easily than dirt.

The high crown of the Macadam road forces all vehicles to drive **in the centre of the road**. From the very day the roadway is ready, every wagon takes the middle of the road; and every one that follows, follows in the ruts thus started. The result is that you have two narrow strips of surface carrying the total traffic that passes over that road. Everybody takes to the ruts.

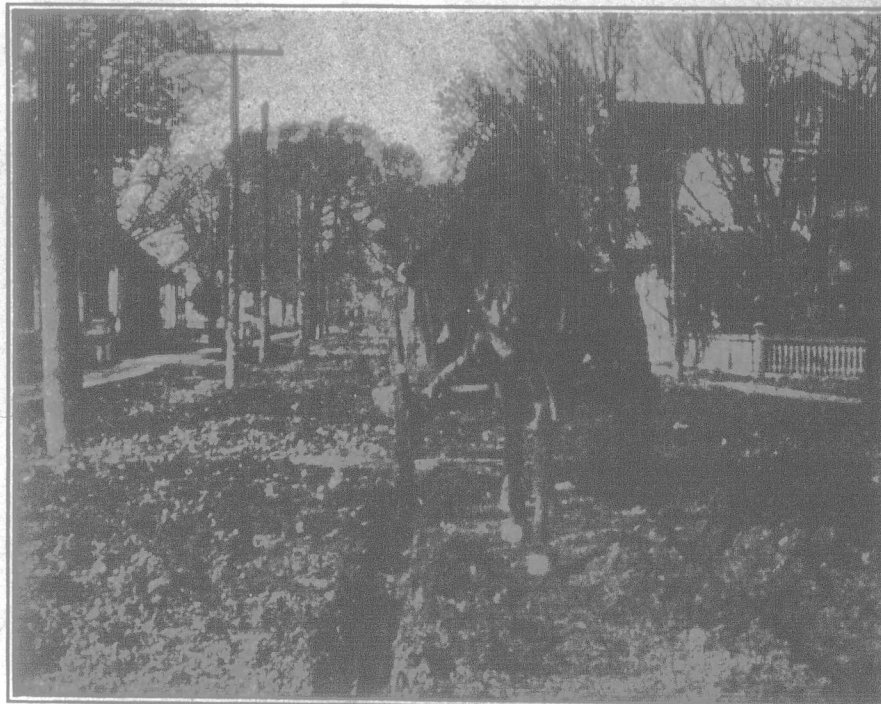
Now see what happens when the road is of concrete. The slope, or crown, of a concrete road is so imperceptible that there's no need to keep to the centre. Vehicles, therefore, use the entire width of the road. The traffic is distributed over the whole surface.

When you drive along a concrete pavement, you'll find no ruts whatever. Concrete doesn't give them a chance to get started.

Concrete roads are not an experiment. They have been proven the best and, in the long run, the cheapest of all roads.

Wind and rain, instead of making mud-pools and ditches, only serve to keep them clean enough to serve as a pathway for pedestrians.

Concrete roads save the farmer's money by allowing him to haul bigger loads, in faster time; they are never impassable when he wants to hurry in with a load of produce to catch high prices.



Driving in the rut. Where else can you drive?

For further information address: PUBLICITY DEPARTMENT

## CANADA CEMENT CO., Limited, MONTREAL

Concrete roads save the public money, their cost of maintenance is so low.

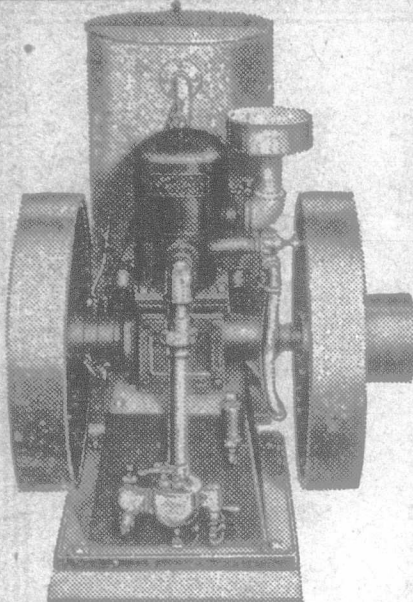
Concrete roads are within the reach of every community—the first cost is very little more than that of a good Macadam road; the ultimate cost is infinitely less.



The cost of maintaining 33 miles of concrete road in Wayne County, Michigan, does not exceed \$6.00 per mile per year.

It costs Peel County, Ontario, \$900.00 per mile to maintain Macadam roads for the same period.

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**High-class Gasoline Engines**  
FOR FARM USE  
Strong, Reliable and Easy to Operate.  
Send for Circular.

**McKeough & Trotter, Limited**  
CHATHAM, ONTARIO

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Why not take a crop of lumber off the farm this winter? It's there, in your wood lot—and in your neighbors'—waiting to be harvested. You have the time, the team and the engine. All you need buy is an inexpensive "American" Saw Mill. You can run it yourself, and make good lumber for a new house, a new barn, or for the market. Lumber prices are high. Good lumber is in demand. There's big profit in working wood lot timber with an "American" Mill because it does so much at so little cost. An 8 H. P. engine will cut up to 2500 feet a day. When you've cleared your wood lot, go to your neighbor. Saw his lumber for him and share his profits. You ought to know all about this farm lumbering business. Ask us for our new book No. 33—the book that tells. Write nearest office now, while interested.

**AMERICAN SAW MILL MACHINERY CO.**  
Makers of Standard Saw Mills of Any Size or Capacity.

118 Hope St.,  
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New Jersey  
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CHICAGO  
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NEW ORLEANS

This handy farm wagon is built low (which saves time and labor loading and unloading) and will carry the heaviest load—anywhere a horse can travel. And because it never needs repairing, it's the most economical wagon on the market.



**-A Handy Farm Wagons & Wide-Tire Steel Wheels**

Replace your old wagons with T-A Wide-Tire Wheels and they'll be just as good as new. And besides they'll carry 25 to 50 per cent. heavier loads.

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Write for circular.

**Canadian Correspondence College, Limited, Dept. E, Toronto, Can.**

# DE LAVAL CREAM SEPARATORS

**There's no good reason why you should wait till spring before getting one**

On the contrary you may buy a DE LAVAL NOW and save half its cost by spring. Moreover, if you can't conveniently pay cash you can buy a DE LAVAL machine on such liberal terms that it will actually pay for itself.

As to your NEED of a separator, if you have the milk of even a single cow to cream you are wasting quantity and quality of product every day you go without one. This waste is usually greatest in cold weather and with cows old in lactation, and it counts most, of course, when butter prices are high. Then with a separator there is always the sweet warm skim milk, and saving of time and labor, in addition.

When it comes to a choice of separators DE LAVAL superiority is now universally recognised. Those who "know" buy the DE LAVAL to begin with. Those who don't "know" replace their other separator with a DE LAVAL later—thousands of users do that every year. If you already have some other machine the sooner you exchange it for a DE LAVAL the better.

Why not start 1913 right in dairying? SEE and TRY a DE LAVAL NOW when you have plenty of time to investigate thoroughly. The nearest DE LAVAL agent will be glad to set up a machine for you and give you a free trial of it.

**DE LAVAL DAIRY SUPPLY CO., LIMITED**  
173 William St., MONTREAL      128 James St., WINNIPEG

## The Farmers' Power Plant

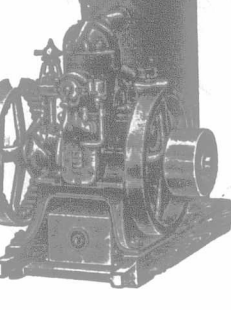


**BOLINDERS SEMI-DIESEL CRUDE OIL ENGINE**

This handy little tool will save you hundreds of dollars. Not alone in replacing labour but in upkeep and running cost as compared with Gasoline engines. A 12 H.-P. Gasoline Engine costs you 30 cents to operate per hour. Our Crude Oil Engine only costs 6 cents per hour. Our engines are designed and built to stand hard work. They will outlive three or four gasoline engines. There is absolutely no risk from fire or explosion as it uses non-inflammable crude oil.

**THE CANADIAN BOVING CO., LIMITED**  
164 Bay Street      TORONTO, ONTARIO

## This Engine Runs on Coal Oil



Every farmer can afford an Ellis Coal Oil Engine. They give out more power from coal oil than other engines do from gasoline. They are safe, as well as cheap; no danger of explosion or fire.

The strongest and simplest farm engine made; only three moving parts: nothing to get out of repair. Anyone can run it without experience. Thousands of satisfied customers use these engines to grind feed, fill silos, saw wood, pump, thresh, run cream separators, and do dozens of other jobs. Cheaper than horses or hired men. Fill up the tanks and start it running, and no further attention is necessary; it will run till you stop it.


**FREE TRIAL FOR 30 DAYS** You don't have to take our word for it. We'll send an engine anywhere in Canada on Thirty Days' Free Trial. We furnish full instructions for testing on your work. If it does not suit you send it back at our expense. We pay freight and duty to get it to you and we'll pay to get it back if you don't want it.

**Absolutely guaranteed for 10 years.** Write for free catalog and opinions of satisfied users. Special offer in new territory.

**3 to 15 horse-power**  
We Pay Duty and Freight

**Ellis Engine Co., 94 Mullett Street**  
DETROIT MICH.

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**BROWN'S NURSERIES**  
WELLAND COUNTY, ONT.

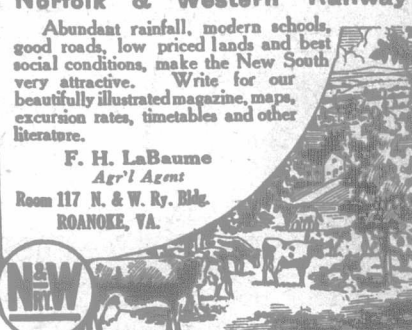
**FROM WINTRY NORTHERN BLASTS TO SUNNY SOUTHERN CLIMES**

Farming, Stock Raising and Fruit Growing are highly profitable in Virginia and North Carolina

Because of mild winters, long growing seasons, good markets and high prices for farm produce, \$15.00 an acre and up buys improved farms and old plantations near railroad stations on the Norfolk & Western Railway

Abundant rainfall, modern schools, good roads, low priced lands and best social conditions, make the New South very attractive. Write for our beautifully illustrated magazine, maps, excursion rates, timetables and other literature.

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**BLATCHFORD'S CALF MEAL**  
The Complete Milk Substitute

The result of over 100 years' experience with calf-raisers. The only Calf Meal made in an exclusive Calf Meal Factory. As rich as new milk at less than half the cost. Makes rapid growth. Stops scouring. Three calves can be raised on it at the cost of one. Get Bulletin, "How to Raise Calves Cheaply and Successfully Without Milk," by sending a post card to

**STEELE, BRIGGS SEED COMPANY**  
Toronto, Ont.



## PROFITS

Some of the profits of the Farm cannot be better invested than in a short-term

**Life or Endowment Policy**

The Federal Life Assurance Co. issues most desirable forms of contract. Consult any agent of the Company or write to the Home Office at Hamilton.

**The Federal Life Assurance Co.**  
HAMILTON      ONTARIO

# The Farmers Advocate

and

## Home Magazine

PERSEVERE AND SUCCEED

ESTABLISHED 1866

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

Vol. XLVIII.

LONDON, ONTARIO, JANUARY 9, 1913.

No. 1059

### EDITORIAL.

In feeding remember that a mixture of grains nearly always gives better results than one grain fed exclusively.

"It is necessary to define anew the liberal education. Studies are no longer considered liberal in proportion to their remoteness from practical learning, but, on the contrary, to their direct relationship to life."

A very significant reversal of attitude is denoted in that letter of the young man who told how he had been awakened by a short course. Three years ago he was well satisfied with himself, but dissatisfied with his circumstances. Today, after having made gratifying progress, he is dissatisfied with himself, but well satisfied with his position on the farm.

An official census of Canadian manufacturers, taken in June 1911 for the calendar year 1910, denotes a remarkable industrial development during the decade. Compared with the census of 1901 that for the year 1910 registers an increase of 4,568 plants, of 176,030 in the number of employees, of \$127,759,066 in salaries and wages and of \$684,922,264 in the value of products. The infant is doing well.

That the advice given through these columns, some time ago, in connection with care in the feeding of musty grain, hay or straw, to horses was timely, is clearly proven by the fact that as the heading of an article by "Whip," elsewhere in this issue, indicates there has been almost an epidemic of bowel trouble in horses this winter. Good prices for hay have caused feeders to attempt to save it for sale, and to feed straw. There is little straw in the country this year which is fit to feed horses, consequently much trouble has been experienced. Readers will welcome "Whip's" splendid article dealing with causes and cures in this issue.

How much of wood-craft lore and prophecy disappears before the relentless advance of scientific investigation! A common ground for predicting a hard winter is the early and numerous appearance of Northern birds. Mr. Klugh in his most instructive series of nature-study notes explains the circumstance as due to exhaustion or covering by snow of customary food supplies in more northerly latitudes. As a matter of fact, he adds, some of our mildest winters have been those during which winter birds have been most abundant. Early appearance of other birds in spring is just as liable to be misleading in the opposite direction.

New facts about old subjects is the suggestive theme neatly illustrated by Peter McArthur this week. The scientist who surprised his friends by writing a long paper filled with newly discovered facts about such a familiar material as water did something scarcely more remarkable than the agricultural scientists who are continually discovering important principles about old phases of agricultural practice. How many of us, for instance, could tell exactly why we plow? As Mr. McArthur truly observes, "When a man claims to know all about any subject, he is simply showing that his observations and studies have been very superficial."

### Co-operative Credit.

Co-operation is a working together for mutual benefit. There is a difference between co-operation and association. The world is filled with enterprises (agriculture among the number) which are too colossal to be operated by any individual. Association from the primitive ages gradually developed into coercion or enforced co-operation. Slavery was co-operation, but it was in the coercive form. The moral and physical constraint of slavery was so great that in time it was overthrown. Restraint gradually became more limited, and the economy of the most civilized nations of the world on the surface seems to be free from it. Yet we have private enterprise and thousands of men under the leadership of employers. In many cases this is a good thing. One furnishes capital and all things necessary for operation; the other furnishes the labor. With this comes association of capital. Large-scale business demands large capital and even a moderate business, to be placed on the best working basis, must have considerable financial backing. Joint-stock companies, large corporations, great industrial associations, get money through the association of capital. Their credit is good in the eyes of the people controlling the money in the country. But what of the farmer? He is often obliged to do without things which would make for an increase in the returns from his soil, because he cannot get the money necessary to properly equip his farm. Any form of company which associates capital and not the people can not, economically considered, be the best possible method of organization. Yet this is what we have.

Canada is a comparatively new country, and up to the present agriculture has been its mainstay. Farmers have prospered in the past, and in most cases have given little thought to banks and credit, more than from time to time to make small deposits to their savings accounts. But things are changing. The entire economy of city and country is taking on a new phase. Successful agriculture is now scientific agriculture, and scientific agriculture demands a certain amount of funds for its operation. Equipment is absolutely necessary and costs dearly. Let a young man start out to farm to-day and let him buy his farm, his farm stock, his implements and machinery, and build suitable buildings to house himself and his stock and implements, and it requires a nice sum. Capital is required for land and for equipment. The farmer of to-day cannot build his house of logs and sow his grain by hand and reap it with a sickle. The man already owning land often needs money for improvements to his buildings and to buy feeding stock or to add to his soil-tillage equipment. Short-term and long-term loans are necessary, but where can he get them? He may be able to get a short-term loan at the bank, but a real long-term loan cannot be had. True, he can mortgage his property, but the man to take the mortgage must know the land, consequently the man seeking credit has a very limited field of operation and must pay whatever interest the local money-lenders ask. Even then the mortgage is generally a short-term one reaching over only a few years, and the borrower must pay it back at the expiration often just when his business is "getting on its feet" and when he most needs the money. Hon. Myron T. Herrick, writing in the Breeders' Gazette, dealing with this subject, says, "All that is needed is financial machinery adequate to make farm

mortgages the basis of security, with the marketable qualities of a railroad or industrial bond, and to develop a demand for such a security on the part of that class of the investing public which is always seeking conservative investments." Where would some of our greatest industrial corporations be to-day were it not that their promoters were able to get cheap money for developing purposes?

The other form of loan (the short-term loan) should require no mortgage. Farmers should be able to borrow on their personal credit, as do merchants and manufacturers. Surely an honest and industrious farmer's personal credit should be and could be recognized by the banks, and surely many farmers operate upon a large enough scale to warrant banks in dealing with them. But the question of size of the business should not be a limiting factor. The farmer should be able to borrow readily on his personal credit in proportion as his business warrants.

Is there a remedy for existing conditions? There is, and it is operating right here in Canada, modelled after co-operative rural credit systems which have been operated for some years in different European countries; systems in the hands of farmers, operated by farmers for the benefit of farmers. Chas. A. Conant, in an article in the New York Times last September, said: "What the farmer needs is the application of more capital to the development of his existing plant and the extension of his arable land. . . . The movement is a sane and a healthy one to convert the value of land into a form as negotiable as the value of railways, mills and factories, by the issue of negotiable securities. . . . If the farmer can convert his assets into a form equally negotiable, he will unlock for his use the stores of accumulated capital of the world." This is what co-operative credit will do and is doing in sections of Europe and in the upwards of one-hundred societies in Quebec.

In 1906, under a Provincial law, the first society of this kind in Canada was started at Levis, Quebec, with Alphonse Desjardins as founder and president. This is really a co-operative bank, with 1,100 members, founded through the necessity of giving the farmers and workingmen credit on easy terms and keeping for themselves the profits accruing from loans. In the founder's own words, the bank was established as an institution that would receive the savings of the farming community and urban laboring man, and place the sums so accumulated at the disposal of the same classes of our people instead of sending huge sums or part of them to the chartered banks to increase the wealth of other classes. This bank gets its capital stock in 5-dollar shares, payable by very small instalments, the number being unlimited. Interest is allowed at three per cent., but to be a depositor it is necessary to be a shareholder. Loans are made only to shareholders. Liability is limited to shares subscribed. Moderate interest is charged on mortgages and notes. From seven to nine members constitute a board of administration. A credit board of three members and a supervisory board of three are all chosen by the general annual meeting. The members of the credit board deal exclusively with the loans, and they, as well as the supervisory board, cannot borrow directly or indirectly from the society nor indorse for anyone. The manager handles all monies giving a guarantee policy. This co-operative bank has been a success. The increase in business last year over

OWN'S

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are highly profitable in  
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and high prices for farm  
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100 years' experience with  
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## THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL  
IN THE DOMINION.

PUBLISHED WEEKLY BY  
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

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

### 1. THE FARMER'S ADVOCATE AND HOME MAGAZINE

is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.

2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries 12s.; in advance.

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12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions

How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

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that of the previous year was \$272,000. So successful has it been that there are now 104 other banks modelled after this one in operation in the Province of Quebec, and the number is increasing rapidly.

So we have co-operative banking right here in Canada. But we haven't enough of it. Co-operation is the solution of many problems, and one of the best places to commence co-operation is in credit societies. Nothing worth while can be done without money, and credit is often essential to progress. Co-operative credit will place the farmer in a position to develop his farm, to improve it and enlarge his income. Europe has thousands of these flourishing organizations. Russia has 52,000 such banks with a turnover of from three to four billion dollars annually. Germany had in 1905 13,181 banks modelled after the Raiffeisen plan and 1,020 after the Schulze-Delitzsch system. Raiffeisen established loan banks, the farmers lending money to each other through the medium of these banks and borrowing from outsiders on the collective credit of the banks at reasonable rates. They do business on a small scale, about \$150 being the average loan, and operate on the short-term loan scheme. Originally there were no shares, but a law passed by the Government made it necessary to have share capital to operate. Then Raiffeisen placed the shares as small as possible. The liability of members is unlimited. Profits are added to the general fund. Schulze-Delitzsch worked on a larger scale, employed share capital, had unlimited liability as a basis and used the profits as a reserve fund. The only essential difference between these systems and the one operating in Quebec is that the Canadian system is a limited-liability one.

A few of the advantages of co-operative credit as it works out are: 1. The people are their own bankers, making an organized democratic society, strengthening the weak members, bringing the people together, giving them a mutual knowledge of and confidence in each other and in their own bank. 2. The single share, payable in small in-

stalments, makes membership easy; and it being necessary that borrowers be shareholders, insures honesty and the whole prevents trusts gaining control of all the money. Just now when the Bank Act is before the House of Commons and its revision is being discussed on all sides, is a good time to impress upon the farming communities these advantages, and a good time for them to look into the matter of getting together and forming co-operative credit societies giving ready money to all.

### YOUR SUBSCRIPTION.

Have you sent us your renewal subscription to "The Farmer's Advocate and Home Magazine"?

Our subscribers are our best circulation getters. They can conscientiously recommend it to others, feeling that \$1.50 cannot be invested in any other manner that will give as much pleasure and profit. The larger our circulation becomes, the better paper we can give our readers.

Old subscribers sending us two NEW names and \$3.00 may have their own subscription advanced twelve months; or, for your own renewal and one NEW name, we will accept \$2.50. In either case we expect the new subscriber to pay the regular subscription price of \$1.50.

### The Motor League and the Law.

The demands of the Ontario Motor League for amendments to the Motor Vehicles Act were recently made to the Ontario Government, as outlined subsequently in "The Farmer's Advocate." It may be assumed that organized efforts will be put forth to embody some of these amendments in legislation at an early date. Members of municipal bodies and of the Provincial Legislature, and others concerned for the unhampered use of the highways in the interest of the chief business of the country—agriculture—will naturally scrutinize with a great deal of care the proposals in question, especially having in view the approaching session of the Legislature. Extended comment need not be made in these columns upon some of the amendments asked for, such as the privilege of passing standing street cars 10 feet distant and for the appointment of a special traffic magistrate in cities with over 100,000 of a population.

Reciprocity of motor-car licenses between Ontario and Quebec, and between Ontario and New York State, is proposed, a privilege the extension of which to Michigan might also not be unexpected. The touring people who come into one province or state from another are users of heavy automobiles, often run at excessive speed to the danger of ordinary traffic and causing serious injury to the roads. These people should be required to obey the spirit of local traffic laws and contribute in some way and measure to the up-keep of the highways which they impair. The sum should not be excessive, but substantial. To exact the same fee for a permit to use the highways for a few days as for the whole year would seem hardly fair. The New York State motor tax is thought by some to be unduly severe. The claim that the motor tourists being rich, spend money possibly as much as \$20 per car per day, and should, therefore, be encouraged, does not justify free use of the roads. Presumably they receive value for what they spend, and should be willing to contribute to the public revenue to sustain the roads they help to wear out. This would seem to be a perfectly legitimate form of taxation.

Another proposal is to make costs as well as penalties for infraction of the law payable to the municipalities, and do away with the fee system, which motormen complain encourages petty prosecutions not intended by the spirit of the law. There are objections to the fee system, but, without it incentive to the enforcement of the speed laws would be largely lost and their enforcement

would probably dwindle to the vanishing point. Without a proper system of provincial police, it is therefore better for the protection of the public to adhere for the present to the fee system, from which law-abiding car-users are not suffering.

For a similar reason we think that the proposal to make irregularities in the display of license numbers a minor offence should not be conceded. We assume that this would not be asked for by persons who desire to observe the law. Keeping the license numbers obscure or unseen is strong ground for believing that something is wrong in the position of the car owner or driver.

Another objectionable amendment demanded is that requiring three convictions within one year before a motor vehicle could be impounded. Under the present law, we understand, if a fine and costs are not paid, the car can be impounded. The authorities have as much right to impound for a single offence as for three. How is a magistrate in one end of the Province to know whether the offence which he is trying is first, second, or even third? To loosen the regulation would simply be encouraging more law-breaking and detrimental to the public interests.

An Amendment to the Highways Act was also asked requiring all vehicles in towns of 10,000 population or over to carry lights showing their presence on the highway. To farmers doing business in these towns with horse-drawn rigs this would be often impracticable and needless, though it might save them sometimes from being run down by reckless high-speeding auto drivers. For the present it is probably in the nature of a bluff on the part of the Motor League to throw onus upon others. In European areas, where traffic is more congested, such a regulation, in case of vehicles using the highways after dark, would promote the safety of all concerned, and the time may come, no doubt, when it will have to be seriously considered in this country.

The last amendment of importance proposed is one limiting the time within which summonses could be issued for speeding, which seems not unreasonable. If months have elapsed after the alleged offence, the circumstances are liable to be forgotten and proper evidence is very difficult to give either for prosecution or defence. More time may be required than in case of common offences, because the law-breaking carmen can soon put long distance between them and the place where the law has perhaps been broken, but the time should not be unreasonable.

As the use of automobiles and other motor vehicles becomes more general by rural, as well as urban people, regulations should be such as will tend to promote safety and general comfort. Reckless driving and the speed craze are not only a source of constant danger to life and property, but detrimental to the roadways, and in the summer season to the homesteads and crops of those who dwell by the most frequented highways. Well-meaning and law-regarding folk do not chafe under proper regulations, and the legislatures of Ontario and other Provinces will be promoting the best interests of the masses by resisting attempts to abolish or reduce them to a dead letter. Of modern vehicles, none is more rapidly demonstrating its utility than the motor car, and it is to be regretted that the efforts of the Motor League appear calculated to keep alive a distrustful irritation not favorable to the interests of the motor-car industry, which has to overcome a great deal of antipathy aroused by harum-scarum tourists. If the Motor League is well advised, it will adopt an entirely different policy to that which seems to underlie its recent demands on the Ontario Government, and seek to cultivate a spirit of law observance.

William Kent, re-elected a member of the United States Congress, from California as an out-and-out independent, wrote a letter to his electors after it was all over, in which he said:

"You have honored me by leaving me free from party label, free to associate and to work with members of any and all parties that are going the way of human advancement. My ideal is to hearten the men who are trying to do right and to let no prejudice of partisanship intervene."

**A Journal of Quality.**

For forty-six years "The Farmer's Advocate" has been published with "quality" as the motto and watchword. Other agricultural publications have come and gone, catering to a mistaken demand for a lower subscription price, but a low price does not mean cheapness, it is quality that shrewd business people require and demand. And "The Farmer's Advocate" has held consistently to its higher aim, appealing to a discriminating and appreciative class of farmers who realized in its clean fearless pages an ideal of permanent, progressive, successful agriculture, and an effective champion of their best interests. It has cost a great deal to preserve and steadily advance the standard. To begin with, hundreds of thousands of dollars have been spent for white paper, beyond what low-priced newspaper stock would cost. This has been necessary to secure good typographical effects, and especially to bring out in detail the many pleasing and instructive illustrations with which the pages have been ever embellished.

Thousands upon thousands of dollars have been spent upon photographs and engravings, over seven hundred of which were printed in the 1912 volume just concluded.

In quality of reading matter we have never had a rival in the Canadian field, and few on the American continent. In addition to salaries of the best agricultural editors available, a fortune has been spent upon contributions, among which have been expert practical answers to the tens of thousands of questions which have been asked through our columns.

For "The Farmer's Advocate" is above all things practical. While standing for a high ideal of farming, it never overlooks every-day difficulties met with by men in varying circumstances striving towards that ideal. Its articles are helpful with the hints of writers who have themselves been over the road, or are still on the way. Seldom do we publish even a signed contribution from an inexperienced person, though be it understood that we do not hold ourselves responsible for the views of all correspondents. It is from experienced men that correspondence and interviews are sought. Every member of our editorial staff is practical in his or her respective editorial sphere.

A casual reader may not discern the full difference in value between a publication edited with discrimination, and one filled with half-plausible articles scissored or penned by versatile youths with a mere smattering of agricultural knowledge, but experienced farmers at once detect a totally different ring. Merit advertises itself through the pages of an agricultural paper, which goes to explain the astonishingly strong hold "The Farmer's Advocate" has secured among Canadian Farmers. Other characteristics highly prized are the wholesome moral tone, the literary quality and aesthetic appeal.

In short "The Farmer's Advocate" may fairly claim to be a high-class practical journal, edited by practical men who are not afraid to apply what they recommend. According to your own reading, is not this claim borne out by the facts?

**Nature's Diary.**

By A. B. Klugh, M. A.

The Redpoll is now a visitor in Ontario. This little finch spends the summer in the North, breeding in Labrador, Newfoundland, Greenland, the Mackenzie River region and Alaska. In the winter it comes down into Southern Canada and the Northern and Middle States, going as far south as Kansas and Oregon.

They are somewhat irregular in their visits to any given locality in Ontario, being abundant during some winters and absent in others. They are usually to be seen in flocks of from twenty to two hundred, or more, feeding in the fields. They perch on the stems of weeds and eat the seeds. Usually, when feeding on such tall-growing weeds as lamb's quarters and pigweed, some are feeding on the stalks, while others are on the snow beneath picking up the seeds shaken down by those above them.

They appear in Ontario any time from October to December and leave in March.

The Redpoll is about five and a half inches in length. The upper parts are streaked with pale flaxen grey and dusky brown, the rump (this being

the term applied to the region just above the tail of a bird, usually showing between the tips of the folded wings) is either white, or white tinted with a rosy hue, and streaked with dusky brown. The under parts are white, streaked on the sides and flanks, and in the adult males the breast is tinted with a rosy pink. The crown of the head is crimson in both sexes, from which fact the name of the bird is derived.

In its Northern-breeding grounds the Redpoll builds a nest of grass and moss in a low tree or bush and deposits in it four or five pale bluish-white eggs, speckled with reddish-brown.

Why do these various Northern birds come down to us in the winter? Are they driven out of their breeding grounds by the cold? No, not by the cold, but by the failure of the food-supply. Given enough food, a bird can withstand almost any low degree of temperature, for are



One of the Royal Creams.

(By courtesy of the International Horse Show, London, England.)

not feathers the warmest of coverings? But their food supply is buried beneath the deep snow or exhausted, so they come farther south. Many popular weather predictions are founded upon the appearance of birds at certain times, and they are mostly erroneous. It is often said that the early appearance of winter birds, or their appearance in large numbers, indicates a severe winter. This is certainly an untrustworthy prophecy, for, as pointed out above, it merely means a failure of the birds' food-supply in the North—it may mean deep snow in the North, but deep snow does not always mean extremely cold weather, and both deep snow and cold may be local and restricted to the North, never reaching us at all. As a matter of fact, some of our mildest winters have been those during which winter birds have been most abundant.



Optimistic.

A gray Hackney exhibited in Great Britain. (By courtesy of the International Horse Show, London, Eng.)

It is the same with the arrival of birds in the spring. Their early arrival indicates warm weather in the region from which the birds come, and not in the district they come to. A warm wave may come with the birds right enough, but it may be, and usually is, followed by a cold wave, sometimes of long duration. In the latter case the birds have been too previous (too optimistic, we might almost say, like the prophets who found predictions upon their appearance) and are often hard put to it to get sufficient food. At such times we find birds in great num-

bers in such unaccustomed places as barnyards and around out-buildings, doing their best to pick up a living, and remember seeing a large flock of those handsome songsters, the fox sparrows, several hermit thrushes, robins and bluebirds, and an immense number of juncos on a manure pile, at a time when a heavy snowfall had buried their usual feeding grounds.

Why do birds ruffle out their feathers in cold weather? Because when the feathers are separated from one another there is a "dead air" space between each feather, and "dead air" is a fine non-conductor of heat. Thus we use double-sheeting on our houses and find a clean blanket warmer than a dirty one, because a clean one contains more air.

Many people are familiar with the earliest butterfly of spring, the Mourning Cloak, a handsome species, with dark purple wings bordered with yellow. Why does it appear so early? Because it passes the winter in the adult state beneath loose pieces of bark on trees and stumps in the wood. Most of the butterflies pass the winter as a cocoon or pupa, which is the resting stage during which a caterpillar becomes transformed into the adult insect. One of the most remarkable cocoons to be found in our woods is that of the Prometheus moth, which is made of a dead leaf, the petiole (leaf-stalk) of which has been bound to the twig with silk by the caterpillar so that it does not fall in the autumn.

**HORSES.**

The I. H. O. Service Bulletin hits it about right when it says, the man that forgets to thaw the frost out of the bridle bit is not apt to appreciate the true significance of Christmas.

From the standpoint of crowds and applause, the most popular features of a horse show, as seen by some of the eminent horsemen of Great Britain and recorded in the Live Stock Journal 1913 Almanac, are: Jumping, ponies ridden by boys and girls, polo competitions, high steppers, trotting, parades of prize animals, and six-horse teams of drafters, mentioning the Armour six which toured England in 1908.

Commence now to give the colt, which is to go to work next spring, the necessary training to make him efficient when work is required of him. Get him accustomed to harness and drawing light loads. Newly-broken colts are always more or less awkward in their gait and manner of working, and this tends to lessen their efficiency and tire them.

**Horse Facts.**

An experienced horseman, writing in "The Horse World," gives a few suggestions which we pass on to our readers:

The three most important and valuable lessons to teach a horse are: To start, stop and back at the word of command.

The three most important conditions of the horse's feet are: Strong walls, elastic frogs and unmoles ted burrs at the sole. All may be had with care.

The enemies of the feet are: Long toe and heel caulks, large nails driven high up in the foot and the rasping of the foot to fit the shoe.

Three essential points in the care of the horse; Water before feeding, give moderate quantities of grain and hay, give often and at regular intervals.

Three conditions that rapidly wear out a horse are: Feeding irregularly as to the quantity and time, watering whenever convenient, and rushing him into his work and keeping him on his nerve all the time.

Three important points in grooming a horse are: Clean coat thoroughly, brush his mane and tail with great care, and remove all accumulations from the bottom of the feet.

Three important things in regard to shoulders when a horse is at work are: Have perfect-fitting, clean collars, wash the shoulders at noon and night when at very hard work, and never use sweat-pads to fill up any deficiency of the collar.

Cork-lined collars are best. Use a sponge and water in washing shoulders, keeping accumulated sweat, which forms in little ridges, where the collar comes in contact with the shoulder, removed.

Don't allow the blacksmith to rasp the hoof wall and otherwise mutilate the foot in shoeing.

### Horses and Horse Showing.

Colonel G. C. Ricardo in writing on suggestions as to horse shows in the Live-stock Journal Almanac for 1913, discussing particularly the life of a show-yard hunter hits upon a few remarks which apply to all breeds of horses, individuals of which follow the show circuit. Of course our circuits are not so trying as the almost perpetual showings in Britain. Continued travel, according to Ricardo, cannot do the animals' constitutions much good, and a great proportion of them show the evils of travelling in their after life. Knocking about in a railway horse-box is, as a rule, a very drafty amusement, and that combined with the change of temperature in an ordinary show-ring lays the seeds of much of the unsoundness of the present day.

To overcome the danger in the showing of young horses he says: "I think it would lessen the chance of this if more stress were laid on showing the young horse in its natural state, that is to say, yearlings should be only just broken to be led, nothing touched in the matter of their coats. But I would even go farther than this, and prohibit the showing of yearlings at all."

This is, of course, in reference to hunters. "There is always constant excitement for the show horse, always in the train, never getting a quiet week, rattled home on Saturday nights, only to arrive there jaded and weary, just the Sunday to stretch his legs and enjoy himself and on Monday morning off again, the same old round, paraded before different judges, made to show himself off in all sorts of attitudes, and then, perhaps, taking one lower place in the scale than he did a week ago, simply because he had not had the time to get rested."

"Overshowing is as everyone knows, the curse of the system."

The writer goes on to state that the great difficulty of the show-ring is to get the money distributed to those in whose interests shows are started. If all the classes are purely local the class of horses is rather indifferent, whereas, if a lot of money is expended in the "open classes (classes in which the big breeder has the monopoly) there is not enough left for the local horsemen to encourage them to exhibit. This is the problem—how to divide the money to draw out and satisfy the big breeder, and the smaller or amateur breeder as well. It is suggested that stallion owners give prizes for foals bred in the district, but the big breeders should be barred from competition in such classes.

"If it could be so arranged that the first-prize horse should be debarred from competing at the next show it would open up the way a good bit towards letting the others in, but this has been found almost impossible. The only way is by giving maiden classes, i. e., for horses who have never won prizes to the value of some stated amount."

Give good open prizes by all means, is the advice of Colonel Ricardo, but at the same time it is necessary to give a certain proportion of maiden classes to induce the smaller breeder to come in. By all means encourage him.

"Give him a chance to put his animal against one of its own calibre, and here you have the essence of showing."

### Only a Horse.

Only a horse, and an old horse too, working from day to day.

Only a worn-out nag, 'tis true, plodding his way.

A horse that works and works in vain for his master's word of praise,

A slave that bows to the tightened rein; a beast, that the master flays.

Only a horse; but a horse with a heart—a thin worn-out old bay;

But with spirit strong, he plods along with an uncomplaining neigh.

A beast of burden by man abused, tortured with lash and with goad;

But a lesson in faithfulness, courage and toil—this worn-out nag of the road.

Only a horse—not a brute—but a horse, a patient, tired old bay.

The brute is the one that applies the lash, not the one who receives the flay.

He labors hard for his master's greed, he endures the toil and the pain;

But the look of despair from his eyes is a prayer—an appeal to be humane.

RAY I. HOPPMAN

In Our Dumb Animals.

### Almost an Epidemic of Digestive Troubles.

Readers of "The Farmer's Advocate" will doubtless remember reading a few months ago an article entitled "Serious Feeding Problems that Confront the Horse Owner." In that article we drew attention to the poor quality of food and the danger of digestive trouble following its continual consumption, and also recommended preventive measures.

Subsequent developments have proved the grounds for fear. Practicing Veterinarians in mostly all, if not quite all sections, have lately had a great many cases of diseases of the digestive organs in horses, that no doubt have been caused by the consumption of food of poor quality. We notice that in stables where the bulky food consists wholly of hay, there is not more than the ordinary percentage of these cases. An exception to this may occur in stables where large quantities of grain of poor quality are fed, even though fairly good hay is given as roughage. A large percentage of the hay saved this year is of fair quality, but as the price remains high there is too great a tendency, on the part of feeders, to save as much as possible for the market, and in order to do this straw is substituted for food for idle or partially idle horses, and in some cases even for work horses. The straw being of very poor quality causes digestive diseases, especially when the change has been made suddenly and the straw fed in large quantities at once. When a mixed ration of hay and straw is fed, the quantity of hay gradually decreased and that of straw gradually increased the danger is not so great, but even under these conditions the danger is much greater than in ordinary years.

We may say that the veterinarian finds great difficulty in some cases in convincing the owner that the straw he has fed has caused illness. He (the owner) will say that all his horses have been fed in the same way, and if the food caused



Cotswold Wether.

Champion wether of the breed at Winter Fair, Guelph, 1912. Exhibited by E. Brien & Sons, Ridgetown, Ont.

the trouble "why are they not all sick." He cannot fully appreciate the fact that each horse has his individuality, and that what will cause trouble in one may be taken with impunity by another, and also (from reasons probably not well understood) food and usage that can be given to a horse at one period may prove disastrous at another. Such circumstances are probably due to the fact that the digestive apparatus of an animal is not always in the same condition, and that there are no visible symptoms which indicate that such is the case.

As stated, the principal cause of trouble appears to be the consumption of straw. Again this does not cause trouble in all horses, neither does it cause the same trouble in those it affects. In many cases it causes constipation of the bowels. The symptoms in these cases are not sudden nor alarming to the ordinary observer. The patient will be noticed dull with impaired appetite and thirst, and the evacuations from the bowels will not be as abundant as normal and dryer, harder and often darker in color than normal. The urine is often scanty and highly colored. These symptoms gradually become more marked for a day or two (sometimes less) when the patient becomes uneasy, paws, lies down, rolls, gets up again, lies down and probably lies easy for a variable time, etc. The pulse becomes more frequent and full, but there is seldom marked change in temperature. These symptoms gradually increase in intensity and, unless relief be given, end in death.

If attended to in the early stage treatment is usually simple and successful. A preparation of 6 to 10 drams of aloes (according to size) and 2 drams ginger should be given, followed by 2

drams nux vomica 3, times daily, and small quantities of laxative food of good quality should be fed. When the trouble has been existing until the graver symptoms are shown, the muscular coats of the bowels have generally become paralyzed (which is evidenced by an absence of intestinal murmur or a metallic noise when the ear is placed to the abdomen). In these advanced cases the owner should procure professional attention as soon as possible. The veterinarian will administer arecolin or eserine to overcome the paralysis of the bowels and stimulate the peristaltic action, and it may be necessary to give chloral hydrate or canabis indica to relieve pain. Opium or belladonna should not be given in these cases, as they neutralize the actions of the intestinal stimulants. The ordinary horse owner is not qualified to treat these cases, as the drugs used are mostly given hypodermically and an overdose might prove serious, and if the pulse be weak, heart stimulants must be given in combination.

In other cases ordinary spasmodic colic may be the disease caused. In such the attack is sudden and the symptoms violent for a few minutes, then there will be a period of ease, probably followed by another spasm, etc. An ordinary colic drench, as 1½ oz. each of laudanum and sweet spirits of nitre and 1½ oz. of the fluid extract of belladonna in a pint of cold water as a drench, will usually effect a cure. This dose may be repeated in two hours if necessary.

What is commonly called acute indigestion may be the trouble. I may here state that the early symptoms of many digestive diseases (the different forms of colic) are often not sufficiently typical to enable a person to say positively just what the disease is. In acute indigestion the attack is not usually so sudden nor the symptoms so violent as those of spasmodic colic, but the pain is continuous, though varying in intensity. In most cases gasses form in the stomach or intestines or both, and a fullness of the abdomen becomes apparent. When the symptoms lead the owner to believe that he has a case of this trouble he should get his veterinarian as soon as possible. In the meantime he should give the patient about 2 oz. (4 tablespoons full) of spirits of turpentine in a pint of raw linseed oil, and if he has an injection pump or large syringe give him injections of warm soapy water per rectum.

Any of these diseases may result in inflammation of the bowels (called enteritis) or this disease may be of primary origin. In such cases the animal becomes dull, breaks out in sweat, the pulse becomes full, frequent and bounding. He lies down very carefully, rolls over, etc., (but does not struggle violently), some times walks aimlessly around the stall or yard. The pain is excessive and continuous, and treatment is often non-effective. It consists in giving large quantities of opium, 2 to 3 oz. laudanum or 2 to 3 drams powdered opium every 2 or 3 hours, and keeping the patient as comfortable as possible. In such a case, of course, the services of a veterinarian should be procured as quickly as possible.

It is probably unnecessary to state that in mostly all cases, especially where the symptoms continue longer than an hour, it is wise to send for a veterinarian. Better to send sometimes when services are not necessary than delay in a serious case until it is too late for the most expert treatment to be effective.

It will probably not be unwise to take up a little more space and repeat what we said in the former article on the means of prevention. The most successful preventive treatment, of course, consists in feeding food of good quality. Where this is not practicable (as we are afraid is the case in many places this year) care should be taken to remove all dust and dirt if possible, and sprinkle all food of poor quality freely with limewater. Limewater can be made in large quantities and kept in the stable, as it will remain fresh indefinitely. It is made by slacking a little lime, then adding water to it in a vessel or barrel, stirring it thoroughly and allowing the undissolved lime to settle, the clear water on top is "limewater." It simply consists of water with all the lime it will hold in solution. It cannot be made too strong unless the undissolved lime is stirred up.

There is a disease commonly called cerebro-spinal meningitis in veterinary patients (it is hard to understand why it gets this name) that may be caused by mouldy or partially decayed food, as mouldy cornstalks or silage, mouldy straw or hay, partially decayed roots, or water containing decayed animal or vegetable matter. Dusty or dirty food will not cause it. It is, no doubt, due to a germ or other microscopic object that is present in the quality of foods mentioned. It is peculiar to equines, other classes of stock do not suffer. There have been epidemics of this disease this year in Kansas and other Western States, and a great deal of investigation and discussion has taken place in order to fully determine its cause and nature, but so far no definite findings have been made, and opinions of the investigators differ. No successful mode of treat-



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ment has ever been discovered for this disease. Some patients evidently yield to treatment and recover, but a very large percentage prove fatal when the symptoms have been well marked. In some cases the symptoms appear very suddenly and death occurs in a very short time, but in most cases this is not the case. The first symptom noticed is the inability of the patient to swallow; when endeavoring to drink the animal performs the usual acts, keeps his lips in the water and makes the normal sounds of a horse drinking, but does not seem able to quench his thirst. If the water be in a pail or small vessel it will be noticed that the quantity is not becoming less, though he is apparently taking a very hearty drink. He will masticate his hay or other food in a normal manner, and make the ordinary noise of a horse swallowing, but the masticated food will either become packed between the molar teeth and the cheeks or will be quitted. He cannot swallow. In a variable time, from one to several days symptoms of paralysis will be noticed, and he will soon lie or fall down and probably be unable to rise; delirium ensues and in a variable period of time, from 1 to 3 days after the serious symptoms appear, he will die. When any case of this nature is observed the cause must be sought for and removed. If due to water, and pure water cannot be obtained, that given must be thoroughly boiled. If due to food, its consumption must be ceased. All horses that have been kept under the same conditions as the patient should be given brisk purgations followed by 4 to 6 drams hypophosphite of soda, or 40 to 60 drops of carbolic acid well diluted, 3 times daily and, of course, be given food and water of good quality.

WHIP.

## LIVE STOCK.

### Should Parades be Held at Shows.

Of late years one of the features of our large Canadian exhibitions, from a spectators viewpoint, has been a parade on certain days of prize stock. Parades are also held at live-stock shows in Great Britain, and as with the exhibitors here some are in favor of them, others are not. Arguments aye and nay are produced by some of the most noted British exhibitors in the 1913 Live-stock Journal Almanac.

As all those who attend live-stock shows, large or small, know there is little opportunity to see to any degree of satisfaction the animals when they are in the stalls. The only place to see them to advantage is in the ring, and if for any reason one has missed the judging or any portion thereof, a parade is a rare opportunity to see all the prize stock in the ring and together. And even if the judging has been watched throughout, the lover of live-stock will still linger if he sees a long string of the winners of the red and blue entering the ring for the grand parade.

Of all the many exhibitors, and those interested in horse and live-stock shows in Britain, who gave their views in the publication previously mentioned, not a single dissention was registered. All believed that the late comer should have the privilege of seeing the stock which is only offered by the parade and all were agreed that parades are educative, popular and important items on a show programme.

There were those who would eliminate the parade of harness horses, but as to doing away with the parade entirely none would think of it.

No doubt many of our country show managements would do well to make this a feature of their fall exhibitions. It should prove a stellar attraction as it does at the Canadian National and other larger exhibitions.

### Feeding Cattle.

Some experiments carried on at the Indiana Station with Long vs. Short Feeding Steers brought out the following conclusions:

Corn silage, oat straw, and two pounds of cottonseed meal daily per head produced a daily gain of 1.87 pounds per steer for sixty days.

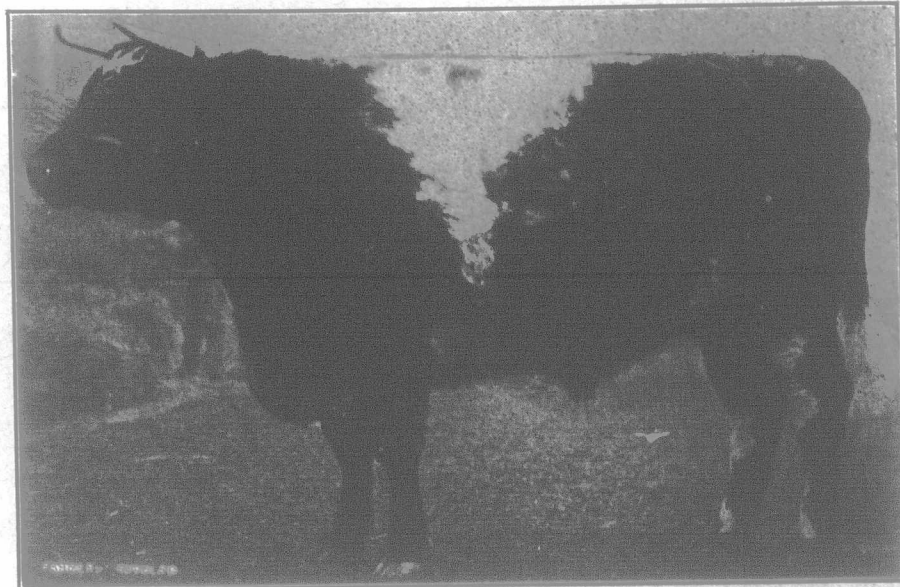
Cattle fed roughage sixty days and full fed grain one hundred days made slower and cheaper gains than cattle full fed one hundred and sixty days. Short-fed cattle returned a profit of 39 cents per head less than long-fed cattle when pork is considered; when considered without pork, short-fed cattle made a profit of 83 cents per steer more than long-fed cattle.

The results from the long and short-fed cattle of this trial, and the rapid rise in the market soon after this trial closed, shows that the use of silage and some other roughage can often be profitably fed during the early part of the feeding period in order to save grain and put the cattle on a more favorable market.

### The Case for Mixed Farming.

In an address delivered at the Calgary Fat Stock Show, Dr. J. G. Rutherford, Superintendent of Animal Husbandry in the C.P.R. Department of Natural Resources, outlined the extensive program of activity mapped out to encourage an enduring and profitable system of mixed farming in the Canadian West, particularly in the irrigation belt lying east of Calgary. The more important features are:

- 1.—Selling grade stock to settlers on easy terms.
- 2.—Encouraging the use of pure-bred males.
- 3.—Inaugurating a steer-feeding competition among farmers' sons.
- 4.—Offering prizes for open competition in fat wethers, hogs and chickens.



Pat the Giant.

Four-year-old Irish Shorthorn bullock. Winner of special prize for the heaviest beef animal at Birmingham Fat-stock Show. Weight, 2,923 lbs.

5.—Founding an animal rescue mission by negotiating with the larger packers for the purchase from them of such serviceable young females of the different breeds as may be found among stock intended for slaughter.

6.—Effort to form co-operative circles among farmers for the buying, breeding, handling and selling of live stock.

7.—Demonstrating by example and through the press that mixed farming is profitable.

8.—Attempt to provide at different points throughout the West open markets upon which the producer of live-stock may feel sure of obtaining a fair and equitable price.

In presenting these views, Dr. Rutherford called attention to the fact that within the memory of men still living the centre of the wheat-growing industry was in Western New York. Moving



Yearling Southdown Wethers.

Winners of first in class and the breed cup, Smithfield Fat-stock Show, 1912. Bred and exhibited by H. M. the King.

slowly through Ohio, Indiana, Illinois and Iowa, it came north to Minnesota and Dakota, until today it rests in Western Canada.

Although along the whole course of this progress there were, and are still, individual farmers who, as a result of using intelligent methods, were able to continue the growing of wheat at a profit, the fact that such cases are far from numerous is clearly shown by the official reports of the average yield per acre in these once great producing communities. That the yearly decrease in yield, which has been observable in the wheat lands of America, is due to faulty methods of husbandry, or, to put it plainly, bad farming and not to any extrinsic cause or causes is very clearly shown by reference to the statistical crop re-

turns furnished by the Government of Great Britain and Ireland. These indicate that on lands which have been steadily and continuously farmed for periods in some cases running into centuries, the average yield of wheat is to-day from thirty to forty bushels per acre. In one well authenticated case, on a very old farm in Scotland, the yield per acre was last year fifty-nine bushels.

While there will for many years be good crops produced on the virgin lands of the West, there will eventually be many impoverished farms and farmers unless present methods are modified.

Those, observed Dr. Rutherford, who honestly consider such views as those here adduced, extreme and unwarranted, will do well to visit, or, in some cases at least, revisit those districts even in our own West, which, once famous for their wheat production, are now struggling for

recognition as being reasonably well adapted for general agriculture. A few days spent in an investigation of this sort, especially in the company of someone familiar with the local history of the district and the record of occupancy of each individual quarter-section, will convince the most sceptical that the foundation for permanent comfort and prosperity on the prairie farm can, as a rule, be well and truly laid only by the adoption during the earlier years of tenure of sane and intelligent methods of soil conservation. If, however, further proof is needed, let the unconvinced grain grower visit those districts, in which for one reason or another, as for instance supposed liability to summer frosts when that problem was less well understood than it now is, the holders of land were compelled or deemed it more profitable to go in for mixed farming. He will there find the best possible evidences of permanent agricultural success and prosperity. The fear of frost has gone or the railroad has come, but although paying crops of grain are now produced, they furnish only a part of the annual income of the settler who, still on his original holding with his comfortable buildings about him, is a farmer in fact as well as in name. The conditions which at the beginning he regarded as drawbacks and disadvantages have, by forcing his activities into many different channels, not only made him practically independent of any special market condition, but placed him in a position to live, if he wishes to do so, largely within his own resources.

A comparison between a man so situated and one who devotes his attention exclusively to the growing of grain is all in favor of the former. He enjoys to the full the advantage which the real farmer has over practically everyone else in being able to secure for himself and his family, at first cost, many of the most expensive necessities of life, and some of its greatest luxuries. He has, as a rule, good stock about him in which he is interested and which keeps him in touch with the live-stock world and all that this implies. Everyone familiar with

the farming industry and those engaged in it are well aware that, speaking generally, the good stockman is a man of advanced thought and progressive ideas, and that he reads more and is infinitely better informed and more interested in agricultural matters than his neighbor, whose sole study is the grain market and who for nearly half the year has nothing to occupy his time and attention. An even greater contrast exists between the boys on a well-conducted modern general farm and those whose only interest in the business is divided between wheat and weeds on the one hand and machinery on the other.

The live-stock world is full of interest for any properly constituted youth, and the sons of our

breeders and feeders are, as a body, by all odds the brightest and best representatives of the younger generation of Canadian agriculturists.

### The Feeding of a Champion.

Corn is a good fattening food for cattle and hogs, and loud have been the praises sung of the corn-fed cattle of the middle States. Corn has been "king" as a feed in these States for years, and the feeders have gradually become so "wrapped up" in it that they think it impossible to make good beef without it. These feeders got a "jolt" this year at the Chicago International when the grade "doddie" from Manitoba, a steer which had never tasted corn, walked away from the show carrying the purple ribbon emblematic of the grand championship beef animal of the entire show, and was sold at the handsome price of 50 cents per pound. Besides teaching the corn-belt farmer that there are other good feeds than corn, this should impress upon our feeders that feeds ready at hand should not be promiscuously discarded in making high-class beef. Canadian barley and oats are often just as profitable feed as American corn.

Just here it might be of interest to our readers to know just how "Glencarnock Victor," this grand champion, was fed. As Robert Brown, the herdsman at Glencarnock Stock Farm, gave it to a representative of "The Farmer's Advocate and Home Journal, Winnipeg, Manitoba, his feeding was as follows:

For the first 11 months of his life he subsisted largely on doddie's milk, that is, he ran with his dam, a grade Aberdeen-Angus cow, for this period. During the first winter he was stabled and fed grain and hay. The next summer he ran in pasture, getting a light grain ration. That fall he was stall fed, with oats and barley for a grain ration, and last March won the championship at Brandon. During the past summer he was stabled during the day and ran in the pasture at night. During this period he got a light grain ration.

About three months ago he was put on the ration that was to put him in the pink of condition for the International. During that period he was fed four times a day. A heavy grain ration of oats, barley and bran, and his roughage consisted largely of green fodder. To keep in condition he received a light ration of linseed meal and boiled barley. His exercise while on this heavy ration was taken in an open yard during the day.

This feed and care brought him out at the International without a soft spot or a spot that was not well covered, weighing 1,630 pounds.

## THE FARM.

### Why We Plow.

The question of why the land is plowed, would receive a variety of answers equal almost to the number questioned, observed J. G. Haney, manager the Northwest Branch of the I. H. C. Service Bureau, before the International Dry-Farming Congress, held at Lethbridge, Alta., last October. The ultimate end of all farming operations is, of course, the growing of profitable crops, hence every operation must help towards this end. Plowing the land accomplishes many things. The present growth is usually destroyed by being turned under, and the process of decomposition of the matter turned under thereby hastened. The soil being loosened and broken up is exposed to the elements. The circulation of air through the plowed soil is very beneficial and essential in making available plant food and in promoting the germination and growth of plant life. Plowed land loses excessive moisture much more quickly than unplowed, because there is a greater surface exposed. Hence when there is a surplus of moisture to be contended with in the spring, the land had best be left rough after fall plowing. Such land harrowed down after being sufficiently dry makes a good seed bed in which seed will start promptly.

Plowing also prevents evaporation after the surplus moisture from the surface has escaped, as capillarity is broken in the furrow slice and the moisture not drawn from below as it would be in the unplowed soil.

The root system of cultivated plants must penetrate the soil quickly to obtain the elements necessary to their growth—plowing loosens the soil and makes this possible.

### Cedar Block Floors.

In answer to A. D.'s question in our issue of December 19th, 1912, re cemented cedar-block floor, a correspondent says: "As the cedar is a soft wood, it makes a poor floor by filling in with cement, because the cedar wears down very fast and leaves the floor very uneven. Cedar alone also makes a poor floor, as the sapwood is very soft and wears down faster than the rest of the block J. R. B."

## THE DAIRY.

### The Relation of Food to Milk.

In the discussion of any dairy cattle feeding problem there are a number of factors that must be taken into consideration; the chief one is that the amount of milk a cow will produce is directly governed by the amount of food that she can be induced to eat over and above that required for maintaining herself, without showing a gain in weight.

The dairy cow, like any other animal, requires a certain amount to keep her alive and to repair the tissues that are being constantly broken down and thrown off as waste products. This amount is called the maintenance requirement and varies but little in different animals of the same weight. That food that the cow eats after she has had enough to maintain herself goes to the production of milk or flesh, and is known as the production requirement.

As I have said before, the maintenance requirement for different individuals weighing the same varies but little, and may be considered practically uniform. Successful feeding lies in making a cow eat enough food so that, after she has satisfied her body needs, there will still be plenty left to produce the milk for which she is kept. Different animals of the same breed vary greatly in this respect, some being able to consume large quantities of food, putting the surplus, above maintenance, into the milk pail, while others, after satisfying maintenance, put the food on to their backs, or else refuse to eat at all.

An interesting experiment has lately been completed which emphasizes this very point. Two Jerseys were used in the experiment, the object of which was to determine the cause of wide variation in milk production by dairy cows. Both cows were kept under the same conditions and were given all that they could eat without showing a gain in weight. At the end of the year it was found that both animals had used practically the same amounts of food for maintenance, but that the total food consumed varied, inasmuch as No. 27 had eaten 1.75 pounds for every pound consumed by No. 62. At the same time No. 27 produced 2.67 pounds of milk for every pound produced by No. 62. Deducting the amount of food used for maintenance it was further found that one cow produced milk as economically as the other, but that the cow having the greatest capacity for food above that required for maintenance was the more profitable.

On the other hand, we do oftentimes find animals in which the inherent instinct to give milk is so strong that they will take food required for maintenance, and make it into milk at the expense of their bodies. One such cow was placed on an experiment a short time ago, and for thirty days after freshening was fed only enough to satisfy maintenance requirements for an animal of her size. At the end of her thirty-day period she was so weak and emaciated that she could hardly stand, but she had given practically the same amount of milk as she had during the corresponding period of her lactation, and had ruined her body to satisfy her inherent instinct to give milk.

In our practical dairy feeding it is not our desire to make a cow depend altogether on instinct, but so to feed her that, after she has taken care of her body, there will still be enough nutrients left to supply a good amount of milk. Some animals will not, at first, eat a large amount of food, but they can gradually be educated until they are consuming double as much as they were at the beginning of their instruction. This fact

is especially recognized in the case of Holstein cattle, where large appetites are developed from calthood, until by the time the cow is five years old she can consume an almost incredible amount. The same thing is apparent in the record-breakers of the other breeds.

When a cow is dry, she will usually eat enough roughage to maintain herself, although some grain may often be fed to advantage. After she freshens, feed grain to take care of the milk yield, using it in some definite proportion to the amount of milk given. A good ratio is one pound of grain to three pounds of milk, the chief thought being to fix some standard, so that as the cow gives more or less milk she may receive more or less grain. As to the question of roughage, study the individual so that she may receive all the roughage she will eat, up to the point when she begins to show an undue gain in weight.

To be sure, some animals have been injured by overfeeding, but their number is as nothing when compared with those animals that have been, and are being, injured by underfeeding. One of the greatest mistakes of the average dairyman of today is in economizing on his grain bill by feeding the cows a low ration. The sooner that he realizes this, and gives the cow enough to satisfy both maintenance and production requirement, the sooner will he be able to buy better cows and provide better quarters for them. To make money we must spend money; never was this truer than in the feeding of the dairy cow.

Chataqua Co., N. Y.

T. A. TEFFT.

## GARDEN & ORCHARD.

### Something about Grapes.

Editor "The Farmer's Advocate":

There are very few people who do not have a little more than a passing regard for grapes. Yet there are very few who try to cultivate the grape in the house garden. The prevailing idea among many people is that they are hard to grow and no doubt this is the reason why grapes are not more generally cultivated. But that they are hard to grow is not the case—at least, not to such an extent that most people have either to buy this fruit or do without.

Grapes like good soil, location and culture, but they readily adapt themselves to circumstances; so that lack of proper ground is anything but a sufficient reason to prevent almost anyone who has a garden from planting them.

A grape vine, if properly supported, requires very little ground space, but if given some place to climb, will grow as long as twenty or thirty feet. A friend of mine, whose henhouse faces the south, planted a couple of vines at the west end of it, and by means of a few yards of wire netting had them cover the entire end of the building and in a few years after planting they were getting all the grapes they required. Planted at the side of a doorway or verandah, they not only provide fruit, but afford shelter as well.

The grape vines do not need any summer pruning, except in rare cases, although people who are not certain about this often spoil their fruit by following the advice of those who ignorantly advise to do so. The only time when summer pruning is necessary is when the trellis room is not sufficient, and in that case it might be well to cut out some of the new wood. But the fruit should be covered from the direct rays of the sun by the foliage of the vine itself, but not by the shade of buildings or trees. They need the full benefit of the sunshine, but do not make the mistake of thinking that the fruit clusters must be exposed directly to the rays of the sun. It is the grape



A Middlesex County Barn.

Note the covered drives, the silo and implement shed at the far end.

case of Holstein developed from a cow is five years incredible amount. The record-breakers

usually eat enough although some shortage. After she care of the milk proportion to the good ratio is one of milk, the chief hard, so that as she may receive question of rough- t she may receive up to the point gain in weight. e been injured by as nothing when at have been, and ing. One of the dairyman of to- ain bill by feeding oner that he rea- nough to satisfy ion requirement, y better cows and hem. To make ; never was this dairy cow.

T. A. TEFFT.

**ORCHARD.****Grapes.**

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leaves, but not the fruit, that requires the sunshine.

The leaf collects from the air and ground the plant food, and requires the sun's rays to facilitate this operation and the assimilation of the plant food after it is collected. If leaves and branches are cut off, there will be that much less ability left to collect and digest material necessary for the formation of fruit. Sometimes it is well to thin out small clusters of grapes. By so doing, those which are left receive more nourishment, and in consequence form larger and more perfect clusters.

The best method of planting is for a trellis or arbor; but if this cannot be managed, then take the next best plan, but arrange to plant some as soon as practicable.

Do not let the ground around the vines become over-run with grass and sod. It is a good plan to use plenty of coal ashes around them, as this not only checks the growth of grass and weeds, but seems to have the faculty of setting plant foods in the soil to work in a very practical way. Autumn or spring is the proper time to set new plants. Have the ground in a thorough state of cultivation and well fertilized. Provide plenty of fertilizer, both in the form of manure and ashes, using the latter principally as a mulch, and you will be well repaid later on when the vines are old enough to bear. The best, or at least one of the best, grapes to plant, and one which rarely proves a failure, is the Concord, a dark-blue grape. If space permits, though, it is better to plant several varieties and have red and white grapes as well as the black.

Carleton Co., Ont.

C. S.

**1912 Orchard Competition Results.**

The awards in the orchard competition in Ontario for 1912 have been made, and altogether, according to P. W. Hodgetts, Director of the Fruit Branch, the competition was quite keen except in the inland counties; in District No. 6 and those in District No. 1, in the Ottawa Valley, where fruit growing is yet in its early stages. Ninety-nine orchards were entered in the six districts, and this number would undoubtedly have been much larger if the competition had been announced earlier in the season.

From the awards here given it will be noted that in a number of the classes all the prizes were not awarded. In many instances these prizes were withheld on account of poor pruning alone. There were a number of excellent young orchards entered that could not be considered to be in bearing, as called for by the conditions of the competition. Had this point not been considered a number of these would have scored higher than the prize-winners.

Judging in all the districts, except No. 3, where F. M. Clement, B. S. A., of Macdonald College, Quebec, officiated, was done by W. F. Kydd, of the Department of Agriculture, assisted by W. L. Hamilton, of Collingwood, Leslie Smith, of Wellington, and Henry Latimer of Alliston.

**AWARDS.**

DISTRICT NO. 1.—Eastern Ontario District, comprising Lennox, Addington, Frontenac, Renfrew, Leeds, Lanark, Grenville, Carleton, Dundas, Stormont, Glengarry, Prescott.

120 trees up: 2, Andrew Fawcett, Inkerman; 3, G. Howard Ferguson, Kemptville. 60 to 120 trees: 2, Elary S. Casselman, Dundela; 3, L. A. Parisien, Summerstown.

DISTRICT NO. 2.—Lake Ontario District, comprising Halton, Peel, York, Ontario, Durham, Northumberland, Hastings, Prince Edward.

300 trees up: 1, W. H. Gibson, Newcastle; 2, John Brown, Brighton; 3, D. G. Gibson, Newcastle. 120 to 300 trees: 1, W. F. Rickard, Newcastle. 40 to 120 trees: 1, Jonas Samis, Newcastle.

DISTRICT NO. 3.—Niagara District, comprising Lincoln and Wentworth.

1,000 trees up: 1, Wm. Armstrong, Queenston; 2, Hamilton Fleming, Grimsby; 3, J. W. Brennan, Vineland. 500 to 1,000 trees: J. Parnall, St. Catharines; 2, Jas. Aikins, Niagara-on-the-Lake; 3, Thos. E. Bartlett, Beamsville. 300 to 500 trees: 1, Harper Secord, St. Catharines.

DISTRICT NO. 4.—Lake Erie District, comprising Essex, Kent, Elgin, Norfolk, Haldimand, Welland, Brant, Oxford, Middlesex.

300 trees up: 1, J. E. Johnson, Simcoe; 2, J. B. Waddle, Simcoe; 3, Isaac Pierce, New Sarum. 120 to 300 trees: 1, Frank D. Bainard, Glanworth; 2, Walter E. Palmer, Marshville; 3, Wm. H. Prudham, Flamboro Centre. 40 to 120 trees: 1, Albert E. Westbrook, Oakland; 2, Wm. Dickie, Burford; 3, R. R. Davis, Burnaby.

DISTRICT NO. 5.—Lake Huron and Georgian Bay District, comprising Lambton, Huron, Bruce, Grey, Simcoe.

300 trees up: 1, K. Cameron, Lucknow; 2, A. J. Clark, Ravenswood; 3, McGregor & Pritchard, Walkerton. 120 to 300 trees: 1, S. J. Hogarth, Exeter; 2, A. Brown, Owen Sound; 3, McArthur, Owen Sound. 40 to 120 trees: 2, Jos. Orchard, Minnesing; 3, J. Rushton, Port Elgin.

DISTRICT NO. 6.—Centre Ontario District, comprising Victoria, Peterborough, Dufferin, Waterloo, Wellington, Perth, Muskoka and Parry Sound.

120 trees up: 2, N. H. Black, Rockwood. 30 to 60 trees: 1, E. B. Hallman, Petersburg.

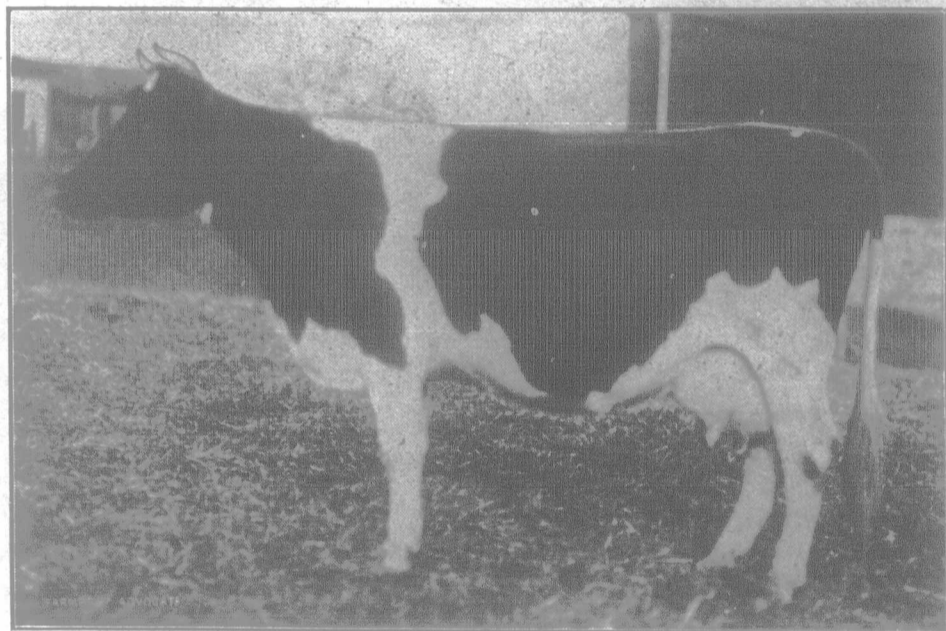
**APIARY.****Beekeeping and Public Attention.**

I have just been reading your editorial in the "Farmer's Advocate" on "What the Dairy Census Discloses." You suggest increasing the cash income by growing apples, small fruits, turnips, beans, sugar beets, superior seed grain, and the like. What about honey? I am not complaining; there would be no advantage in doing that; I am just asking the question that comes to me so often: "How is it that beekeeping is looked upon either as a joke, or something not to be considered?" I know you will say you did not think about it; but why? You are no worse in this respect than every other agricultural journalist who is not a beekeeper; but why? Bees pay larger profits than any other branch of farming; they are not a new thing like sugar beet growing, or growing of small fruits in some parts of Ontario. Why are they not recognized?

At the joint meeting of agricultural societies in the Convocation Hall during the Fruit, Flower and Honey Show, one of the leading speakers mentioned a list of the societies represented, and omitted the beekeepers, although the latter were present in large numbers. Can anyone tell why the beekeepers are persistently forgotten or smiled at?

MORLEY PETTIT,  
Provincial Apiarist.

Note.—In reply to this very natural inquiry, permit us to quote the concluding paragraph of an article by an experienced beekeeper, R. F.

**A Heavy Producer.**

Holstein cow to be sold at D. Campbell's sale, Komoka, Ont., January 15th.  
Milk in one day, 76 lbs.

Holtermann, published in a recent issue of the "Farmer's Advocate"; "Bee-keeping is not a business for a farmer to have to look after with 100 or more acres of land. Those who are invited to engage in the business should have its advantages and disadvantages put before them fairly. There are good seasons, very profitable seasons, but some of us who have been in the business over thirty years—yes, and a much shorter time—testify that there are unprofitable seasons—seasons when not enough is got out of bee-keeping to make even a bare living."

In stating that bee-keeping is not a business for a farmer to have to look after with 100 acres of land, Mr. Holtermann took more sweeping ground than we have ever done. It seems to be possible for a man who likes the business, and is willing to study carefully, to pursue it profitably as a side line on a hundred-acre farm; but we are compelled to admit that the tendency of the apiary industry of late years in Canada has been to concentrate into the hands of specialists who are prepared to meet its demands. And, considering the foul brood situation, we are of the opinion that this is a fortunate development. We cannot, therefore, advise the general run of farmers to go into it, although for the right person it is a very profitable and interesting branch of agriculture.

As to the inquiry why beekeepers as a class are disregarded by a certain section of the community, we can speak only for ourselves. We respect them thoroughly. The Editor of this paper, though not a beekeeper, has been associ-

ated with the business in times past, and not only regards it as a worthy industry, but long ago learned to esteem beekeepers as an unusually intelligent, studious class of men. We presume the comparatively small number of beekeepers in Canada accounts largely for the fact that they are not more prominently in the public eye.—Editor.

**THE FARM BULLETIN.****A Few Observations.**

By Peter McArthur.

While coming home from the woods the other day I noticed a new thing about snow, at least it was new to me. Somehow I had the impression tucked away in my memory that when snow is falling you can see it coming down from the sky and see it everywhere you look. As a matter of fact you do nothing of the kind. You can see the snow-flakes falling only when they are falling between you and some dark object behind them. If you look towards the woods or a fence or a building, or towards the team you are driving you can see the snow but you cannot see it when you look towards the gray sky or the white fields. But the fact that you can see it sitting down in a few places and because you know that it is coming down in the same way everywhere you imagine that you are seeing it everywhere. This recalled to me a story about the famous painter Titian. He was painting portraits at the Spanish Court when some noblemen returned from the Netherlands. They were very enthusiastic about the work of Albrecht Durer and explained to Titian how accurately he painted. "Why" they exclaimed, "he paints every hair on a man's head so that you can see it." Titian always painted hair simply as a mass of color but he listened to their criticisms and the next portrait

he painted pleased them wonderfully because he painted it so that they could see every hair. Titian understood that we really see only a little of anything like hair or falling snow and imagine the rest and all he did was to paint the hair in a mass as he always did, and then he carefully drew one hair falling on the white forehead. His critics saw that one hair and immediately imagined that they saw all the others, and they at once acclaimed him as great a painter as Durer.

Of course you can see snow falling from the sky when the sun is shining. And did

you ever notice what the sun looks like when shining through falling snow? It looks entirely different from what it does at other times. Even when shining through the rain it looks like a great ball of fire, but through the falling snow it looks like a disc of burnished metal. Another interesting thing that I noticed about the snow was the little wave-like ripples where it was drifting. The surface of the snow looked just like the sand on the sea-shore. It was always believed that the ripple marks on the sand were caused by the waves, but a few years ago an observant scientist studied them and found that they were caused by the wind. When I saw the snow marked in the same way I was convinced that he was right. All of this goes to show that popular observation is very likely to be wrong. And we can find something new about even the things with which we are the most familiar. A few years ago a number of scientists were sitting in a club discussing their work, and one of them remarked that the field for making original discoveries was rapidly becoming limited. Another took the view that very few lines of investigation have been more than started. In order to prove this he offered to make a study of any well known substance and write a paper made up entirely of new discoveries. His friends selected water as about the best known thing in the world. The scientist went to work and proved his case to the full by writing a long paper on water which dealt entirely with new properties which no one had discovered before, and he made no pretense of having exhausted the subject. When a man claims to know all about

any subject he is simply showing that his observations and studies have been very superficial. I have no doubt that there are many valuable things to be learned even about farming that have escaped practical farmers and scientists.

In spite of occasional storms and cold snaps the winter has beauties and delights that are as enjoyable as those of any other season. At no other time is the air so pure and exhilarating as during a snowstorm. The falling snow seems to purify it of every taint, and a walk over the crunching snow makes a man tingle to his fingertips. This winter I have been especially impressed by the beauty of the leafless trees. In the past I have admired the trees when covered with leaves, but lately I have been struck by their delicate beauty when standing bare. Every twig and branch shows against the sky like an etching. It is only when you see them in their winter nakedness that you can see how wonderfully the trees are built up with branches to give the outward form you admire in the leafy summer. Without being in any way regular in form or plan every tree has branches that start from the trunk in such a way as to give a certain evenness to the whole tree. Branches do not over-crowd and yet, if no accident happens to injure them, they leave no wide empty spaces. And even when one has been injured new branches will fill out the gap in a very few years. Forest trees need no pruning, for they prune themselves naturally. Branches that do not get their place in the sun gradually die and fall off. That is why so many trees in the thick woods have no branches except at the top where they can get their share of light and air. But because a full-grown tree has much the same shape as a little tree this self-pruning has led to some curious mistakes. Many people think that as a tree grows the branches are pushed up until a branch that was originally near the ground would be many feet in the air. The fact is that a branch does not move up. It dies and falls off while a new branch takes its place higher up. This fact has been the undoing of many a spontaneous and graceful liar. I many times met with a story both in print and in conversation about hunters in the wilderness finding a human skeleton at the foot of a tree, and they knew that it had been there many years because the saddle he had hung on a branch before lying down to sleep had been lifted by the growth of the tree until it was fully fifty feet above the ground. I used to swallow that story regularly until I learned somehow, somewhere, that if he had hung his saddle on a branch and the branch continued to grow that saddle would never have moved a bit higher, except through the addition of rings of growth on that branch. It is too bad to puncture a dear old story like that, for I remember hearing it often on the lips of travellers who had returned from the West, and there may be liars still living who enjoy telling it as one of the wonderful things they saw in far parts of the earth.

We have not been paying much attention to the level crossings for some time past, but that was because I was waiting for some information from the Railway Board. The problem of punishing offenders so that they would learn to respect the law presented some difficulties, but yesterday I received a letter from an officer of the Board in which he says:

"If you can give the Board specific information to enable them to take proceedings against parties responsible, I can assure you the matter will be given necessary attention.

If you are unable to give the name of the employee who fails to give signal, give the number of the engine or the time such train passed a given point."

It now remains with us to see that the needless slaughter of human beings at the level crossings be stopped. If we will all report cases of neglect to the Board, the railways will soon find that they must obey the law, and give the signals with both bell and whistle at every level crossing. From now on I am going to report every case that comes under my observation. Will you do the same? Remember that human lives are at stake. To report neglect on the part of the railways is only a small matter, but it may be the means of saving many human lives. I hope you will help me in this.

A Farmer's Club of twenty members with their families has been in continual operation meeting on a day specially set aside for this and this only every month for the past twenty-seven years in North Trumbull County, Ohio.

In the list of Christmas examination results, at the Ontario Agricultural College, 139 names are included in the first year, 95 in the second year, and 49 in the third.

"The Farmer's Advocate" has saved me many times its price each year.  
Victoria Co., Ont. WILLIAM REED.

### \*Will the Winter be Hard?

Editor "The Farmer's Advocate":

Will the winter be hard? That's what we want to know. The Weather Bureau is a valuable institution and has given many a good warning to the people of the Dominion; but there is one thing it does not try to do. That is, to forecast just how hard the winter will be.

This is a wise act on the part of that much-abused organization, for who would believe that this is to be the hardest winter in a decade? Who would spend their hard-earned savings on food and coal and clothing, when it might be an open winter? Besides, we have Smith's Almanac for 1913, which says, quite contrary to Jones's, that the winter will be open and mild, and that the people will be subjected to heavy colds, etc., only curable by Smith's, etc.

When it comes right down to real weatherology the Weather Bureau leaves this delicate decision to the oldest inhabitants who are usually wise in the ways of nature, or at least pretend to be. You and I have our own opinion as to the probability of a severe winter, and this opinion is in no way shaken by the opinion of others. However, let us review some of the signs, which are the same as last winter and every winter before.

Hiram Doolittle, who lives between London and St. Thomas, says he looks for a hard winter. He says that for nine days he has had no rest from his rheumatism and that this is an unfailing sign with him.

George H. Tightwad, who lives right in London, Canada, remarked at the station the other day that he was certain of a very cold time this winter. When being questioned, he said that if he filled his cellar with coal, the winter was soft; if he did not, as this year, it would be very severe. He explained that owing to the cellar not being cleaned, he had only obtained one ton, which was delivered last week. A mean individual with straight, black hair, said he couldn't get credit for more.

On the farm is where they notice things. Frank Dean, who works by the year for Elias Perkins of Essex County, says the corn has a thicker and tougher shuck than usual, and Frank ought to know, as he has husked all the corn on rainy days and odd spells. Mr Perkins claims his apples have a much thicker and tougher skin than usual, he having had to use a knife for the first time in sixty-four years. It appears that the corn and apples will require greater protection this year.

A commercial traveller who makes a speciality of observing things, says he is positive of a severe winter season. He says he notices that as the winter advances and, in proportion to its severity, the women begin to wear low neck dresses, short skirts, and larger and larger muffs. So far this fall and early winter, he has seen a tremendous advance in these lines and looks for the worst.

Peter Hall, who lives down in Southern Ontario, where the nuts grow, claims practically every variety of nut he gathered this fall had a thick shell, and some which he used to crack with a little tack hammer now require the heavy claw hammer.

Peter also says his hogs have much longer hair than usual. He made a shake-down in a fence corner for two, and he says the long, curly hair they are growing is positively a shame. Every crow has left the neighborhood, too, he also admits.

The other day a man in Hichse's restaurant said he could tell the severity of the winter and the number of snows by the first snow. He admitted it would be hard, and, upon being pressed for the number of snows, he raised his tea to his lips and mumbled something which nobody caught and all felt ashamed to ask again. He was in a hurry.

One thing which looks bad is that Premier Borden admits sleeping under four blankets, with two at his side, against three of all other years.

Undoubtedly this will be a hard winter, the hardest of a decade. The weather is the one topic of conversation which never grows out of date. It is the most abused and most argued and most thought of.

No wonder we want a weather bureau, when our whole activity depends entirely upon that changeable thing, the weather. There is one real expert on the weather subject. He is the farmer. Did you ever get up about half-past four on a summer morning and watch the man of the house scan the sky for the first time and say, "Wall, I guess mebbe it'll rain t'day—'bout four o'clock." And it usually does.

In conclusion, let me ask you one little question I know you can answer. Will the winter be hard?

Elgin Co., Ont.

J. C. INMAN.

### Destroying Caterpillar Eggs.

Editor "The Farmer's Advocate":

On October 25th, 1912, I started a contest to collect the egg masses in which the leaf-eating caterpillar deposits its eggs. I told the children of the Melbourne Ridge School that I would give a prize to the boy and girl that would collect the most egg masses. The contest closed on the 19th of December. Total number of egg masses collected was 19,280. I allowed 300 eggs to each one which would mean 5,784,000 caterpillars destroyed.

The prizes were won by Miss Lottie M. Davidson, age 12, who collected 2,490 masses, and John Wilkins, age 13, who collected 8,393 masses. We have only ten pupils in our school, so I think they did very well.

I think the collection of these egg masses will be of much benefit to the country, and I mean to keep at it until I have destroyed all I can around here, and hope that all the people will take a helping hand in the good work, wherever they are bothered with caterpillars.

I would like to know what you and others think of this plan to get rid of these little leaf-eating caterpillars.

Richmond Co., Que.

E. DAVIDSON.

[Note.—Excellent.—Editor.]

### A Society for Maple-Sugar Makers.

The Hon. Minister of Agriculture for Quebec, J. Ed. Caron, has granted a charter for the formation of a co-operative society of maple-sugar and syrup makers. This society is to hold its first annual meeting for the election of directors at Waterloo, Que., on Thursday, January 9th, 1913, at 10 a.m. Sessions will also be held in the afternoon and evening, at which a number of addresses will be given upon the various aspects of the maple industry. Luc Dupuis, the Provincial Demonstrator, will give a lecture in French; M. F. Goddard, John H. Grimm, Prof. J. F. Snell, and others, are expected to speak in English. It is also hoped that President Carleton, of the Vermont Sugar Makers' Association, will either attend or send someone to represent the old-established and successful society of the neighboring State.

The meeting will not confine itself to the discussion of methods of making syrup and sugar, but will deal also with marketing problems and the problem of better legislative protection of the industry. It is believed that co-operation will enable Quebec farmers not only to sell more syrup than at present, but also to sell it at much better prices.

A display of maple products will be on exhibition in the hall, and manufacturers are invited to send exhibits of sugar-bush utensils.

### Parcel Post in United States.

With January 1st, 1913, started Parcel Post in the United States. It covers all the United States, and her outlying possessions. Americans will now carry on their own express business. It will be cheaper than express. For example, one can send a parcel weighing one pound from New York to Philadelphia for six cents, or to Chicago for nine cents. The charge for each additional pound will be four cents in the former case and seven in the latter. The country is divided into 3,382 zones, little squares, or postal units, as they are called. A number of maps corresponding with the zones has been published for the use of postmasters. There is only one zone map for each locality. Special parcel post stamps are issued. Parcels carried must not measure more than six feet in length and girth combined. Parcels may be insured against loss in transit. On the 43,000 mail routes the carriers will serve 16,000,000 persons, which should prove a boon to trade. Butter and lard and fish, fresh meats, dressed fowls, vegetables, fruits, and such perishable articles, will be accepted for local delivery. With an added equipment of 10,000,000 bundle tags, 30,000 weighing scales, 25,000 special mail sacks, 110,000 tape measures and 195,000 rubber stamps, the post office department of the United States has inaugurated what they believe to be a system which will greatly benefit the people, and at the same time add a magnificent sum to the returns of the department.

### A New Year's Wish.

I am delighted and much benefited by the many practical items of advice given in your editorials, and with your efforts to aid in securing Traction Ditchers in Canada duty-free, for they are much needed, and as yet not manufactured here. Success to you and Weldwood is the wish of

J. STANDISH (V.S.).

Leaf Eggs.

ed a contest to the leaf-eating old the children at I would give would collect test closed on number of egg allowed 300 eggs 5,784,000 cater-

ttie M. David- 0 masses, and collected 8,393 s in our school,

egg masses will ry, and I mean yed all I can the people will work, wherever rs.

you and others these little leaf-

. DAVIDSON.

Gar Makers.

ture for Quebec, charter for the ociety of maple- ociety is to hold election of direc- ursday, January will also be held g, at which a n upon the vari- y. Luc Dupuis, ill give a lecture John H. Grimm, are expected to oped that Presi- gar Makers' As- send someone to successful society

elf to the discus- and sugar, but problems and the ection of the in- operation will en- sell more syrup it at much better

will be on exhibi- rers are invited ensils.

United States.

rted Parcel Post s all the United s. Americans ress business. It For example, one pound from New ts, or to Chicago r each additional former case and ry is divided into postal units, as maps correspond- lished for the use one zone map for post stamps are not measure more combined. Pars- in transit. On rriers will serve ld prove a boon fish, fresh meats, and such perish- for local delivery. 10,000,000 bundle 5,000 special mail nd 195,000 rubber ent of the United hey believe to be benefit the people, magnificent sum to

Wish.

efted by the many in your editorials, securing Traction or they are much ctured here. Suc- he wish of ANDISH (V.S.).

Another Successful Sale at Tillsonburg.

That black and white is a first-class style in cattle colors was once more clearly demonstrated by the combination sale of 75 head offered by seven Holstein breeders at Tillsonburg, Ont., on New Year's Day. Keen demand and fine weather brought out a big crowd, which early filled to overflowing the garage where the sale was held. The barn where the stock was to have been stabled had burned down, and a livry stable had to be pressed into service at some inconvenience. Bidding was brisk and the cattle brought out for the most part in good fit were rapidly disposed of by B. W. Kelly, of New York State, and R. E. Haegar, of Illinois. As usual at sales, some few choice animals were knocked down at a sacrifice, but for the most part satisfactory prices were realized, and the chief problem in the breeders' minds is where to procure accommodation for the holding of the next sale. It is safe to say that with more ample seating the number of buyers would have been increased and some of the cattle run to higher figures. Consignors were: M. L. Haley and M. H. Haley, of Springfield; T. W. McQueen, R. J. Kelly and Geo. Rice, of Tillsonburg; L. H. Lipsit, of Straffordville, and E. Laidlaw & Sons, of Aylmer. Mr. Rice, by the way, has accepted a managing partnership in a large Holstein herd in New Jersey, but was on deck for the sale. Holstein interests in Canada, and especially in Oxford and Norfolk counties, owe a great deal to Mr. Rice, and a Tillsonburg sale without him would seem almost as incomplete as an omelet without eggs. The eight head consigned by Mr. McQueen averaged \$119.37; fourteen head by Edmund Laidlaw & Sons came close to the \$200 mark, their precise average being \$195.71. M. H. Haley's five head, including the Toronto and London first-prize cow, Queen Favorit Posch, which brought \$465, made the excellent figure of \$230 per head, while Mr. Lipsit's even score reached the very creditable average of \$202.75. M. L. Haley's ten head, including one two-months' calf, made \$148 apiece. R. J. Kelly's dozen head, \$154.58, and George Rice's half-dozen, mostly young stock, averaged \$122.50.

Consigned by T. W. McQueen.

Table listing cattle sales with columns for name, date, and price. Includes entries like Beauty Spink Hartog, Grace Teake, Sadie Jewel Teake, etc.

Consigned by M. H. Haley.

Table listing cattle sales with columns for name, date, and price. Includes entries like Lady Lucile Mercena, Maxwell, St. Anne de Bellvue, etc.

GOSSIP.

Three choice young Aberdeen-Angus bulls are offered for sale in their advertisement by Geo. Davis & Sons, Glengore Stock Farm, Erin, Ont.

At a sale of Percherons, at Gibson City, Ill., December 13th, twenty head sold for an average of \$500.25. The highest price for a stallion was \$975, for the two-year-old, Karbonado. The highest for a mare was \$600, for the five-year-old, Hozangee.

BRITISH HOLSTEIN SOCIETY.

At a meeting of the Council of the British Holstein Cattle Society, held on December 12th, 1912, the chairman stated that the membership of the So-

ciety stood at just over 250. Instructions were given for 500 copies of Volume II. of the herdbook. Liberal prizes have been provided by the Royal Agricultural Society, for Holsteins, at the Royal Show at Bristol, in the summer of 1913.

Attention is called to the advertisement of high-class imported Clydesdales and choice Shorthorns in this issue, the property of W. W. Hogg, Thamesford, Ont. Six stallions, two by the leading breeding horse of Scotland, Baron of Buchlyvie, one rising two years old, the other rising three, are an attractive offering. Another is by Pride of Blacon, and another by Baron Beaulieu. These young stallions should find a ready sale. A number of fillies and mares are also

offered, all being in foal. These mares are sired by such noted breeding sires as Royal Edward, Hillhead Chief, Farmer's Counsel, and Baron Lomond. These good fillies should be eagerly sought after, as the right kind are scarce. Among the Shorthorns is a young bull, sired by the good-breeding bull, Rob Roy (imp.). This bull is ready for service. A few choice heifers are also offered. Look up the advertisement and enquire about this stock, which will be sold right.

CLYDESDALE SHOW-YARD RESULTS. The Scottish Farmer Album for 1913, gives a list of the show-yard winnings in 1912, of the progeny of 39 Clydesdale stallions at the eight principal shows for Clydesdales, in which, as in the previous

Table listing cattle sales with columns for name, date, and price. Includes entries like Daisy Fayne, Queen Favorit Posch, Rose Abbekerk, etc.

Consigned by M. L. Haley.

Table listing cattle sales with columns for name, date, and price. Includes entries like Alice Mercedes Dekol, Lily Burton Dekol, Homewood Cornelia, etc.

Consigned by Geo. Rice.

Table listing cattle sales with columns for name, date, and price. Includes entries like Ruby Jean, Mono Grace, A. Robertson, etc.

Consigned by L. H. Lipsit, Staffordville.

Table listing cattle sales with columns for name, date, and price. Includes entries like Kathleen De Kol, Primrose Pauline De Kol, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like Daisy Alfaretta Korndyke, Fayne Burke Calamity, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like Lauretta Burke Fayne, Madolyn de Kol, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like Alice E. Netherland, Bessie Pontiac Lyn, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like King Segis of Forest Ridge 2nd, Doriska Persistent Mercedes, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like Maggie of Riverside 2nd, Minster Maid De Kol, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like King Segis of Forest Ridge 1st, Gladys May, etc.

Consigned by R. J. Kelly, Tillsonburg.

Table listing cattle sales with columns for name, date, and price. Includes entries like Roxie's Choice of Campbelltown, Pietje Young, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like Flossie De Kol Teake, Bessie De Kol Teake, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like Idaline Pauline De Kol, Richardson, etc.

Table listing cattle sales with columns for name, date, and price. Includes entries like Idaline Ladoga of Campbelltown, Grace Rose of Campbelltown, etc.

The Traction Ditcher Duty.

The movement for the removal of the duty on traction ditching machines, imported into Canada, is steadily gaining support, as readers of "The Farmer's Advocate" are aware. It is satisfactory to note that the Canadian Manufacturers' Association, which formerly took the attitude of simply "not opposing" the proposition, have again considered the subject and have decided to "recommend the removal of the duty." During the unsuccessful negotiations, which took place in recent years, with a view to promoting the manufacture of the machines in Canada, a fact was brought out the significance of which should be carefully borne in mind in connection with the working of our fiscal policies. The United States makers and every Canadian manufacturer or capitalist with whom the situation was discussed, in estimating the probable profits, determined the selling prices in Canada of a Canadian-made ditcher by adding the duty (27 per cent) to the United States selling price since they would have no competition. Under these conditions it appears that establishing a factory in Canada would not have cheapened the machines to any appreciable extent. A further point deserving consideration in regard to duty-removal is this—that the number of Canadians who might be employed in the manufacture of these ditchers would be less than the number of men who would be employed in producing the increased number of tile owing to the use of the ditchers, and less likewise than would be employed in building the extra tile-making machinery that would be required. Persons in all sections of the country interested in encouraging this all-important work of drainage would strengthen the hands of the House of Commons by asking their local representative at Ottawa to give hearty support to the resolution on the order paper of A. B. McCoig, M.P., that traction ditchers be placed upon the free list. That is a proposal upon which, in their own interests, farmers can unreservedly unite.

An order authorizing the winding up of the National Land, Fruit and Packing Co., Limited, was granted at Osgoode Hall last week, and G. T. Clarkson was appointed interim liquidator.

The company, which had offices at 37 Young Street, and a warehouse and factory on Fourth Avenue, Mimico, had a large share capital. It was formed with a large idea to deal in fruit and to manufacture such products as vinegar. It was proposed to secure possession of orchards, to pick, pack and sell the crop. The initial cost of the corporation was thus considerable.

Orchards in districts far from centres of population were to be acquired, plowed, pruned, sprayed, and generally brought into a state of cultivation, and the fruit produced was to be marketed by the company.

The thirtieth annual meeting of the Holstein-Friesian Association of Canada will be held in Room 1, Temple Building, corner Richmond and Bay Streets, Toronto, Thursday, February 6th, 1913, at 9.30 o'clock a.m. Lowest one-way first-class fare for the round trip, on the standard certificate plan, is being arranged.

Dr. C. J. S. Bethune, professor of entomology and zoology, at the Ontario Agricultural College, Guelph, has been elected President of the American Entomological Society at its meeting in Cleveland, Ohio.

year, Mr. Dunlop's Baron of Buchlyvie (11263), is an outstanding first. With 24 representatives, he had a total of 60 prizes, 16 of which were firsts, and 9 seconds. Six championships are also to his credit. His most conspicuous representative was his son, The Dunure (16839), which, as a two-year-old, was absolutely unbeaten in his class, and secured champion honors at Kilmarnock, Glasgow Summer Show, Edinburgh, the Royal, Doncaster, and the H. & A. S., Cupar-Fife.

Second in the winning list was Mr. Gray's Apukwa (14567), by Hiawatha, with 39 prizes, by 11 animals. The order of the next eight is Baron's Pride, Hiawatha, Royal Favorite, Bonnie Buchlyvie, Revelanta, Oyama, Everlasting, Scotland Yet.

## MARKETS.

## Toronto.

## REVIEW OF LAST WEEK'S MARKETS

At West Toronto, on Monday, January 6, receipts of live stock numbered 64 cars, comprising 1,025 cattle, 686 hogs, 359 sheep and lambs, 28 calves, and 4 horses; no business transactions. Hogs, \$8.50 fed and watered, and \$8.15 f. o. b. cars.

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

	City.	Union.	Total.
Cars .....	12	175	187
Cattle .....	176	1,961	2,137
Hogs .....	88	5,663	5,751
Sheep .....	119	1,420	1,539
Calves .....	18	208	226
Horses .....	—	4	4

The total receipts of live stock at the two markets for the corresponding week of 1911 were as follows:

	City.	Union.	Total.
Cars .....	50	67	117
Cattle .....	779	590	1,369
Hogs .....	484	2,133	2,622
Sheep .....	393	1,642	2,235
Calves .....	39	2	41
Horses .....	—	60	60

The combined receipts of live stock at the two markets for the past week show an increase of 70 cars, 768 cattle, 3,129 hogs, 185 calves; but a decrease of 696 sheep, and 56 horses, compared with the same week of 1911.

Receipts of all classes of live stock were light, and in consequence prices were firm all round.

Exporters.—Not enough export cattle were offered to make up a shipment that Swift & Co. had orders for. This firm quoted exporters as being worth \$6.50 to \$7, and bought one load, 1,250 lbs. each, for the Swift Canadian Co., at the latter price.

Butchers'.—Good to choice butchers' sold at \$6 to \$6.75; medium to good, \$5.40 to \$5.90; common, \$5 to \$5.30; inferior, \$4.25 to \$5; cows, \$2.50 to \$5.40; bulls, \$3.50 to \$5.25, and a few of extra quality, \$5.40 to \$5.75, and one choice bull brought \$6.

Stockers and Feeders.—None were offered, but prices would have been about steady, with our last report.

Milkers and Springers.—Few were offered, but prices were about steady, at \$40 to \$70 each, and we heard of one selling at \$85.

Veal Calves.—Receipts were light and prices firm, \$3.75 to \$9 per cwt.

Sheep and Lambs.—The market for sheep and lambs was firm. Sheep—Ewes sold from \$4.50 to \$5.25; rams, \$3.50 to \$3.75; lambs, \$7.50 to \$8 per cwt., the bulk selling at \$7.75.

Hogs.—Receipts were light, and prices higher. Selects, fed and watered, sold as high as \$8.80, and \$8.10 to \$8.15, f. o. b. cars at countrypoints.

## BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 90c. to 91c., outside. Inferior grades as low as 70c. Manitoba, No. 1 northern, 93½c.; No. 2 northern, 91c., track, lake ports; No. 3 northern, 90½c.; feed wheat, 65c., lake ports. Oats—Ontario, 83c. to 84c., outside; 38c., track, Toronto. Manitoba oats, No. 2, 41c.; No. 3, 39c., lake ports. Rye—No. 2, 75c. to 76c., outside. Peas—No. 2, \$1 to \$1.10, outside. Buckwheat—47c. to 48c., outside. Corn—No. 3 yellow, all rail, Toronto, 53½c. Barley—For malting, 60c. to 65c.; for feed, 40c. to 50c., outside. Flour—Ontario winter-wheat flour, \$4.05 to \$4.15, delivered. Manitoba flour—Prices at Toronto are: First patents, \$5.30; second patents, \$4.80; in cotton, 10c. more; strong baker's, \$4.60, in jute.

## HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$13.50 to \$14; No. 2, \$11 to \$12 per ton.

Straw.—Baled, car lots, track, Toronto, \$10 per ton.

Bran.—Manitoba, \$21 per ton; shorts, \$24.50; Ontario bran, \$21 in bags; shorts, \$24.50, car lots, track, Toronto.

## COUNTRY PRODUCE.

Butter.—Market steady. Creamery

pound rolls, 32c. to 33c.; creamery solids, 30c. to 31c.; separator dairy, 28c. to 30c.; store lots, 24c. to 26c.

Cheese.—Large, 14c.; twins, 15c. Eggs.—New-laid, 45c. to 50c.; cold-storage, 27c. to 28c.

Honey.—Extracted, 12½c. per lb.; combs, per dozen sections, \$2.75 to \$3. Potatoes.—Market steady. Ontarios, in car lots, track, Toronto, 85c.; New Brunswick Delawares, 90c. per bag, car lots, Toronto.

Beans.—Market easier. Primes, \$2.65 to \$2.75; hand-picked, \$2.30 to \$2.35, for broken lots.

Poultry.—Dressed, turkeys, 22c. to 25c.; geese, 17c. to 18c.; ducks, 16c. to 18c.; chickens, 15c. to 18c.; hens, 12c. to 13c.; with market firm at these quotations.

## HIDES AND SKINS.

No. 1 inspected steers and cows, 15c.; No. 2 inspected steers and cows, 14c.; No. 3 inspected steers, cows and bulls, 13c.; country hides, cured, 12c. to 13c.; country hides, green, 10½c. to 11½c.; calf skins, per lb., 14c. to 15c.; lamb skins, \$1 to \$1.25; horse hides, No. 1, \$3.50 each; horse hair, per lb., 37c.; tallow, No. 1, per lb., 5½c. to 6½c.

## TORONTO SEED MARKET.

Alsike No. 1, per bushel, \$11.50 to \$12; alsike No. 2, per bushel, \$10.50 to \$11; alsike No. 3, per bushel, \$9.50 to \$10; timothy No. 1, per bushel, \$1.90 to \$2.25; timothy No. 2, per bushel, \$1.25 to \$1.60.

## FRUITS AND VEGETABLES.

Apples.—Snows are becoming scarce, and sell from \$3.50 to \$4; Greenings, \$2.50 to \$3; Spies, \$3 to \$3.75; fall apples, \$2 to \$2.75; per basket, 25c. to 40c.; onions, per bag of 90 lbs., 90c. to \$1.10; beets, per bag, 70c. to 80c.; carrots, per bag, 50c. to 65c.; turnips, per bag, 40c.; parsnips, 60c. per bag; celery, 30c. to 75c. per dozen; cabbage, 40c. to 50c. per dozen.

## Montreal.

Live Stock.—The market for cattle showed considerable strength, and an advance of a fraction of a cent took place. Some choice cattle sold at 7½c. per lb., so it was said, although 7c. to 7½c. was a more general figure. Fine stock sold around 6½c., and good around 6c. to 6½c., while medium stock was 5c. to 5½c., and common down to 4c. Canners' sold as low as 2½c. per lb. Lambs were firm, being 7c. to 7½c. per lb., bucks and culls being 4c. to 4½c., and ewes being 4½c. to 5c. per lb. Hogs sold at 9c. to 9½c. per lb., f. o. b., this being for selects.

Horses.—There is almost no demand at the present time. Prices continue about as before. Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$300 to \$400; light draft, 1,400 to 1,500 lbs., \$225 to \$300; light horses, 1,000 to 1,100 lbs., \$125 to \$200; old, broken-down animals, \$75 to \$125, and choice saddle and carriage animals, \$350 to \$500 each.

Poultry.—Following the holidays, it is only natural that the market for poultry would be dull, as was the case. Very little change in price has taken place, quotations being as follows: Turkeys, 23c. to 24c. per lb.; ducks, 15c. to 16c.; chickens, 16c. to 18c.; fowls, 12c. to 14c., and geese, 13c. to 15c. per lb.

Dressed Hogs.—The market for dressed hogs was firm, and prices were fractionally higher. Abattoir fresh-killed hogs were 13c. to 13½c. per lb.; country dressed hogs were 12½c. to 12¾c. per lb. for light, and 11½c. to 12c. for heavy.

Potatoes.—The market showed no change. Green Mountains were still quoted at 85c. to 90c. per 90 lbs., car lots, track, and Quebecs at 75c. to 80c. In a jobbing way, prices were 15c. and 20c. more.

Eggs.—There was no change in price. Fresh-laid held around 60c. in a small way; selects were 32c. in cases, and No. 1 were 28c., while seconds sold around 22c.

Syrup and Honey.—Maple syrup is likely to hold steady for a considerable time to come. Prices were 8c. to 8½c. per lb. for syrup in tins, and 6½c. to 7c. per lb. in wood. Sugar was 8½c. to 9c. per lb. White-clover comb honey, 16½c. to 17c.; dark, 14c. to 14½c.; white extracted, 12c. to 12½c., and dark, 8½c. to 9½c. per lb.

Butter.—The market for butter showed very little change, prices still being 30c. to 31c. per lb. for choicest, while good butter could be had from 29c. to 30c., and some second-rate goods at 28c. to 29c. per lb., some fresh makes being that figure also. Dairies were 26c. to 27c.

Grain.—No. 2 Canadian Western oats, in car lots, ex store, were quoted at 43c. to 43½c. per bushel; extra No. 1 feed, 42c. to 42½c. per bushel.

Flour.—Manitoba first patents, \$5.40 per barrel, in bags; seconds, \$4.90, and strong bakers', \$4.70. Ontario patents, \$5.35, and straight rollers, \$5, in wood. Wood was 80c. per barrel more than jute.

Millfeed.—Bran changed hands freely at \$21 per ton, in bags; shorts, \$24; middlings, \$23 to \$30 per ton; mouille, \$34 to \$35 for mixed, and \$36 to \$38 for pure. There did not seem to be much of it around.

Hay.—Dealers quoted pressed hay, carloads, track, Montreal, as follows: No. 1 pressed hay, \$14 to \$14.50; No. 2, \$13 to \$13.50, for extra; ordinary, \$12 to \$12.50; No. 3 and clover mixture, \$10 to \$11.

Hides.—Although prices declined outside, Montreal prices were steady, though weak, as follows: 13c., 14c. and 15c. per lb. for Nos. 3, 2 and 1 hay, respectively; 15c. and 17c. for Nos. 2 and 1 calf skins; 90c. each for lamb skins; \$1.75 and \$2.50 each for horse hides; 1½c. to 3c. per lb. for rough tallow, and 6c. to 6½c. per lb. for rendered.

## Chicago.

Cattle.—Beeves, \$5.80 to \$9.50; Texas steers, \$4.75 to \$5.80; Western steers, \$5.75 to \$7.80; stockers and feeders, \$4.25 to \$7.60; cows and heifers, \$2.85 to \$7.60; calves, \$6.50 to \$10.50.

Hogs.—Light, \$7.30 to \$7.55; mixed, \$7.30 to \$7.60; heavy, \$7.25 to \$7.60; rough, \$7.25 to \$7.35; pigs, \$5.75 to \$7.50.

Sheep and Lambs.—Sheep, native, \$4.35 to \$5.45; Western, \$4.40 to \$5.50; yearlings, \$6.10 to \$7.70. Lambs, native, \$6.25 to \$8.65; Western, \$6.40 to \$8.65.

## Buffalo.

Veals.—\$4 to \$12.

Hogs.—Heavy, \$7.80 to \$7.90; mixed, \$7.90 to \$8; Yorkers, \$8 to \$8.15; pigs, \$8.10 to \$8.15; roughs, \$7 to \$7.15; stags, \$5.50 to \$6; dairies, \$7.80 to \$8.10.

Sheep and Lambs.—Lambs, \$5 to \$8.75; yearlings, \$4.50 to \$7.50; wethers, \$5.25 to \$5.50; ewes, \$3 to \$5; sheep, mixed, \$4 to \$5.

## TRADE TOPIC.

## SHARPLES SEPARATOR COMPANY STRENGTHENS ITS ORGANIZATION.

The Sharples Separator Company announce a number of important changes in its organization, taking effect on November 1, last. These changes are but the first step in the carrying out of a policy of unusual aggressiveness that will eclipse any past undertaking of this great cream separator concern. Dealers will have the satisfaction of seeing their separator business reach a point during the coming year that will exceed even their highest expectations. Attention is called to the promotion of these men "from the ranks," each having back of him years of special training and experience admirably fitting him for the new responsibilities placed upon him. The general manager is L. D. Logan, formerly with the Chicago office, and more recently manager of the Canadian main office and factory at Toronto, Ont., where he has met with marked success. The manager of the Chicago office is G. M. Gardner, recently with the West Chester office as Southern District Manager; Assistant Manager of Chicago office, L. P. Greene. The Manager of the Toronto office is M. F. Smith, during the past two years in charge of the West Canadian office at Winnipeg. With Mr. Smith at Toronto will be associated as Assistant Manager, F. S. Strickland, thoroughly familiar with the Canadian trade. The Manager of the Winnipeg office is R. N. Ray, who has been with the company for a number of years, and is especially familiar with the entire Canadian West. With Mr. Ray will be associated as Assistant Manager O. P.

MacLean, whose experience qualifies him well for his duties. Other changes have been made which will greatly strengthen the Sharples organization.

## BOOK REVIEW.

Good agricultural books cannot become too widely distributed, and there is always a place for a new, practical work, containing, in readable form, an abundance of information for those engaged in agriculture. Every farmer is interested in crops and methods for soil improvement, and this has been chosen by Alva Agee, M.S., Dean and Director of the School of Agriculture and Experiment Station of the State of Pennsylvania State College, as the subject of a well-illustrated 250-page volume, published by the Macmillan Company, New York. The book is divided into 23 chapters, covering liming and the need of it, organic matter, the clovers, alfalfa, grass sods, pastures, various other crops, stable manure, crop rotations, commercial fertilizers, tillage, soil moisture and drainage, several chapters being written on the different phases of each of these branches of agriculture. This useful book may be had through this office at \$1.35, postpaid.

## GOSSIP.

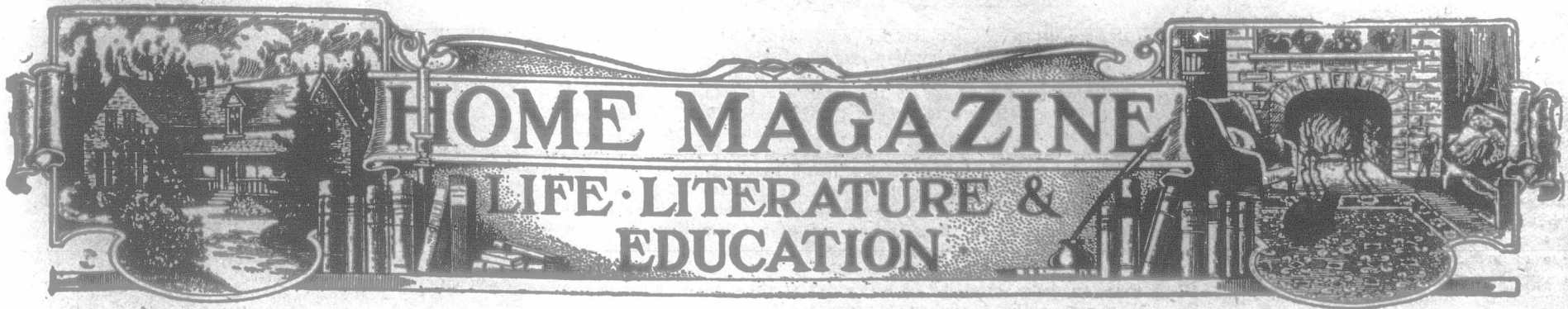
The dispersion sale on January 15th, of thirty-seven head of registered and high-grade Holstein cows, heifers, and the herd bull, Paul Sarcatic Lad, property of D. Campbell, Komoka, Ont., a station on the C. P. R., ten miles from London, should afford a very favorable opportunity to obtain excellent dairy stock at the buyer's own price.

## THE CANADIAN SHORTHORN SALE.

On another page will be found an advertisement of the annual sale, in Toronto, of Scotch Shorthorns, from some of the leading herds in Canada, to take place on February 5th. We are assured that the cattle are equal to the high mark that has been reached by the consignments in the past five years, the breeding is much the same, and it could not easily be better, the quality is just as good, and the consignment is well divided between males and females. This is a most important event, and cattle-breeders will do well to make their plans so as to attend. The annual meeting of the Dominion Shorthorn-breeders' Association is on February 4th; so that both events can be taken in at practically single expense. There will be reduced rates on all railroads in Ontario.

## PURE-BREDS TO BE SOLD AT OTTAWA.

At a recent meeting of the Eastern Ontario Sales Association, it was decided to hold the annual public auction sale of breeding stock at Ottawa on January 17th, the closing day of the Eastern Ontario Fat-stock, Poultry, and Dairy Show. Fifteen males and ten females of the beef breeds; twelve males and fifteen females of the dairy breeds, and a number of horses, both stallions and fillies, will be offered. The sale will commence at 11 o'clock this year, instead of two o'clock, as in former years. Special arrangements have been made with the Live-stock Commissioner, John Bright, to have expert judges from his department to inspect, previous to the sale, all animals entered. This ensures a splendid contribution of stock of the highest quality and best breeding. For many years the advantages arising from the use of pure-bred stock have been well understood, and the most successful farmers have been most persistent in the practice, and it is for the purpose of establishing more thoroughly and extending the pure-bred live-stock industry that this annual sale is held. The Association will load the stock free for the purchasers, and pay the shipping charges for a distance of fifty miles from Ottawa, provided the animals are sent by freight. It is to be hoped that farmers and breeders will lend this sale their united support and the patronage it deserves. Further particulars from Secretary-Treasurer, E. McMahon, 26 Sparks street, Ottawa.



**The Panama Canal.**

A TRIUMPH OF ENGINEERING.  
(Continued from issue of January 2nd.)

**THE HISTORY OF PANAMA.**

The famous Isthmus and its vicinity first became known to whites in 1501, when Rodrigo de Bastides, a Spaniard in charge of one of the Spanish galleons then cruising about the Southern seas in search of gold, chanced upon it. The outlook was promising, but nothing was done until 1509, when Vasco Nunez de Balboa planted a Spanish settlement at Nombre de Dios to serve as a base for exploring parties.

Before long, stories of the wealth of the natives on the other side of the central ridge of land came to Balboa's ears. Though the distance was only forty-seven miles across, the difficulties in the way, chiefly from malaria and fevers spread by insects, were not inconsiderable, but with the lure of gold ahead, Balboa and his men set out, and, on Sept. 29, 1513, waded into the waters of the Pacific. Gold and pearls were, indeed, found in abundance, and returning, Balboa, as Mr. Scott reminds us, spread the news "that was to turn Central and South America into a slaughter-house, through the mad traffic that debauched Spain, made pirates of England's navigators, and reduced the original population to wretched slavery."

For Balboa, however, the discovery of riches booted little good. During his absence from Nombre de Dios, a new governor, one Pedrarias, had been appointed. As soon as Balboa returned, therefore, he was seized, tried on trumped-up charges, and executed.

Pedrarias, in his turn, essayed an expedition to the Pacific. In 1519, he founded the old city of Panama, about twelve miles from the site of the present city, and subsequently caused to be created between that point and Nombre de Dios, at great expense of labor and life, a paved road, parts of which may even yet be descried among the tropical overgrowth. This was the first highway across Panama.

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For some time, as a base for Spanish expeditions, the "city" of Panama was known as a place of some importance, and it was from thence that Pizarro, in 1532, left on his famous venture which resulted in the conquest of Peru.

In 1584 the Spaniards left Nombre de Dios and founded a settlement at Porto Bello, and twelve years later Sir Francis Drake, cruising about the bay before the former in his search for treasure ships, died on board ship and was buried at sea.

Almost one hundred years later, events became once more spectacular in the vicinity of the Isthmus. In 1671, the famous Henry Morgan (knighted at a later date) made a successful attempt to take the city of Panama. With 1,600 men, he struck across the Isthmus, the party arriving before the city in a state of exhaustion. To meet the expected attack, the Spaniards and natives in Panama at once stampeded 2,000 bulls on the invaders, who immediately killed enough of the animals to suffice for their needs, then proceeded coolly to capture the city, which, as no treasure was found, was burned to the ground.

Early in the nineteenth century the Spanish power in these regions crumbled gradually away, and in 1821 the district of Panama joined the Confederation of New Granada, now known as Colombia. The Spanish power had passed, yet to this day Panama remains chiefly Spanish in language, customs, and religion.

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During all of these many years the need of a better way across the Isthmus

was often enough realized, and, no doubt, navigators on the Atlantic side, with imagination inflamed by the stories of wealth to be found along the Pacific, cast many an exasperated glance at the low buttresses of mountain to the westward, so insignificant a portion of the great backbone of the Americas, yet as insuperable, apparently, as an adamantine wall.

In the meantime a new nation was arising to the northward. The revolutionary war, resulting in the independence of the United States, had been fought, and new interests were becoming more or less dependent upon a passage across this portion of America to the Pacific.

In 1835, Senator Henry Clay intro-

The dream of a waterway was, however, by no means dispelled by these railway projects. As early as 1846, the United States Government had concluded a treaty with Colombia for the joint construction of a canal, but the clauses of the treaty were so unfortunate as to cause further delay and some unpleasantness. It excluded European powers from the use of the projected canal, and so precipitated a dispute with England, settled finally by the Clayton-Bulwer Treaty of 1850, providing that, in event of the construction of a canal, Great Britain and the United States guaranteed its neutrality and use on equal terms to all the world.

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Encouraged, probably, by the success

a company to which the French people subscribed \$265,000,000; had called a world's congress of engineers at Paris, and had decided upon a sea-level canal, despite the contention of one of the engineers, M. Lepinay, that a dam at Gatun, for a lock-type canal, would be more practicable.

On January 10th, 1880, the first blast was set off at Culebra by a young daughter of M. de Lesseps, and the work was under way. Locomotives and steam-shovels were brought in, tracks were laid, houses built, and an army of men brought to the spot, but the work did not prosper. Disease wrought havoc among the employees, the plans were found to be inadequate, and by 1885 it was found that a canal of the sea-level type would not do, and that calculations would have to be made for constructing one of a lock-type. By 1889, after \$284,795,017 had been spent, the company became bankrupt. The next year an extension of ten years' time for completing the canal was obtained from Colombia, a new company was organized, and \$18,000,000 more were spent; then the enterprise was given up.

The French had failed to complete their daring venture, but it must not be forgotten that they had paved the way, and paved it well, for the victorious Americans. They had made calculations that, when given over later to the United States, were of very great value; they had built houses which, subsequently, required but renovation to metamorphose them into habitable dwelling-places; they had brought in machinery, much of which, because carefully oiled and painted, was found, twenty years afterwards, to be in good condition and ready for work; they had excavated 29,908,000 cubic yards of soil (78,000,000 in all, but much not available) along the route ultimately chosen by the Americans, and, more important than all, they had discovered, by their mistakes, the pit-falls in the way, thus indicating to those who should follow the track that might safely be taken.

**THE AMERICANS IN PANAMA.**

In 1854, and again in 1875, United States exploring parties had crossed the Isthmus, and the last one, sent by President Grant, had surveyed the Panama route. In 1899, President McKinley also organized a Canal Commission, and again the Panama route, rather than the Nicaraguan, which some argued for, was chosen. It remained, however, for the pervading personality of Mr. Roosevelt to push the United States into the midst of the great undertaking.

On the 28th of June, 1902, the Spooner Act was passed, providing for the formation of an Isthmian Canal Commission, and authorizing the Panama route, if the French property could be bought for \$40,000,000, and a right of way could be obtained from Colombia.

The immediate future, however, brought nothing but ceaseless bickering with Colombia. Treaty after treaty was drawn up and killed, then an undertone began to be heard from Panama itself. In 1908, threats were made that if Colombia did not grant a treaty to the United States providing for a canal, the Province might rebel.

Now, it is distinctly to be understood, as Mr. Scott tells us ("The Americans in Panama," by Wm. R. Scott), that the natives in Panama, as a whole, had nothing to do either with these threats or with the events that transpired. To quote Mr. Scott's own words, "In Panama, the masses of the people not only did not know about the revolution until it had passed, but no more than an ordinary mob, such as may be aroused on an hour's notice in any city, participated in it."

The whole "revolution," indeed, was



Painting by Mrs. McGillivray Knowles.

Exhibited at Royal Canadian Academy Exhibition, Ottawa.

duced into the United States Senate a resolution authorizing President Jackson to appoint a Commission to investigate the feasibility of a rail or water route at the Isthmus. Nothing was done, however, and the project hung fire.

In the meantime, the French were attracted by the possibilities of such a route, and secured a concession to build a railroad from sea to sea. Again nothing was done, and it remained for three Americans, Aspinwall, Stephens, and Chauncey, of New York, to carry out the scheme, as has been noted, 1850-55, for a considerable part of the distance.

of the French engineer, De Lesseps, in the construction of the Suez Canal, the eyes of the French again turned longingly toward Panama, and at last something definite was decided upon; Frapca obtained a concession to build the canal, although to do so she had to buy the Panama Railroad, paying for it the sum of \$18,094,000. And now began one of the most tedious undertakings that ever led to gigantic failure.

In the first place, after the plans for the canal were made, this railway had to be moved back, an operation which involved five years' work. In the meantime, Ferdinand de Lesseps had floated

trumped up by a few "boosters," made up of "The French Canal Company, the capitalist Junta in Panama, and Theodore Roosevelt."

Naturally the French Canal Company were anxious to regain even a portion of what they had spent in their unfortunate undertaking; naturally also, the Panama financiers, some of whom were Americans, were solicitous for the impetus to business, and the increase in value of property which must come from the running of a canal across Panama; and naturally, also, a man of Col. Theodore Roosevelt's temperament was not averse that his regime as President of the United States should be marked by the inception of an undertaking which must mark an epoch in the history of the world.

The method of carrying out the "revolution" was ingenious to an extreme, if, so far as the Colombians were touched, as indifferent as ingenious.

In 1846 a treaty between the United States and Colombia had been ratified, providing for the joint sovereignty of Colombia and the United States over any canal that might be built in Panama, and guaranteeing the neutrality of the Panama Railroad, and in 1902, in accordance with this treaty, the United States had actually, by military intervention, establishing that neutrality, enabled Colombia to crush a serious revolution. In 1903 this treaty was still "good."

Now, the plan hatched up by the Junta in Panama was that on a given date Panama should declare its independence from Colombia; that the United States should recognize this, prevent Colombian troops, by virtue of maintaining the "neutrality" of the railway, from being transported across to quell the rebellion, and finally sign a treaty with the new "Republic," granting certain privileges and obtaining the right of way for a canal. This done, the United States could, in accordance with the Spooner Act, buy the French canal interests.

This plan was carried out almost to the letter. The scheme was proposed by Mr. Gabriel Duque to Secretary of State Hay, who, while committing himself but little, advanced no objection. On October 2nd, two Colombian gunboats in the harbor of Panama, understanding that a revolution was afoot, asked the Panama railroad for coal to

go to Buenaventura for troops to add to the Panama garrison. The superintendent of the road said that the coal was at Colon, thus heading off the immediate arrival of troops from the Pacific side. It now remained to carry out a similar coup on the Atlantic side, and the opportunity soon presented itself. All unsuspecting, the Colombians now sent two ships from Cartagena to Colon, and here, leaving their troops on board, the Generals went ahead to take charge of the garrison at Panama. They were at once arrested, as was also the Governor, while, zealously guarding the "neutrality" of the railroad, the officials on the Atlantic side would permit no troops to cross.

Now the "murder was out." The Colombians were quick to see that the fight was to be with the United States, and hesitated, their fears being confirmed by the speedy arrival, within a few days, of the United States vessels, Dixie and Atlanta, with troops. All unprepared as she was, there was nothing left for Colombia but to withdraw. Two days later the United States recognized the independence of Panama, and within twelve days the United States Executive had secured from the new republic a treaty providing for the cession of the canal zone, ten miles wide. In return, the United States promised to maintain the independence of the "Republic of Panama."

This treaty, it is true, was not ratified until February 23rd, 1904, but, as Col. Roosevelt explained, eight years later, "I took Panama and left Congress to debate the matter afterward." The canal zone, in short, had been acquired by a trick.

The sum of \$40,000,000 was paid by the United States to the "Interests" in Panama; \$10,000,000 to Panama,—as an "ease to the national conscience" of the United States, Mr. Scott considers. No reparation has, as yet, been made to Colombia.

Having acquired the canal zone, President Roosevelt now threw his influence on the side of having the canal run along the Panama rather than the Nicaraguan route; also he favored the lock-type rather than the sea-level type of canal. Grass was not suffered to grow long under the feet of the Americans. Almost immediately the beginning of the great work described in last issue was on.

Since people, as a rule, wish to know

about the most spectacular parts of any great work first, the preliminaries in regard to the making of the canal were not touched upon in last issue. These, however, being quite as important as the actual excavation and construction in the great task, may now be explained.

Profiting from the experience of the French in their losses through malaria and fever, it was recognized that the first thing that must be done was to house-clean the canal zone.

This accordingly was done, Colonel Gorgas being sent out almost at once with a large corps of men. Under his direction war was made on the mosquitoes, the carriers of yellow fever, by pouring coal oil upon all standing pools and slowly-running streams; the great undergrowths of tropical plants were kept down, hundreds of men being employed upon this task alone; and sewers, waterworks, and street-pavements were laid in all the towns and villages where the employees must live. . . . So successful has the work of Col. Gorgas been, that it has been demonstrated beyond chance of doubt that, by exercising proper care and cleanliness, tropical regions may be made quite as healthful as places of residence as anywhere else on the globe. This discovery alone promises tremendous economic advantages. It heralds the ultimate development of all tropical and semi-tropical America. Indeed, only last month Colonel Gorgas, with his staff, sailed to Guayaquil, where, at the request of Ecuador's Government, they will carry out sanitary improvements. A joint resolution, giving him leave of absence, was introduced in the United States Congress.

To the chief engineers who planned and carried out the great work, too much credit cannot be given. Two of them, it is true, Wallace and Stevens, resigned because of exasperation at the delays caused by the "red tape" that required certain procedures before matters could be rushed at the Isthmus, but they laid the foundation upon which the final Chief Engineer, Col. Goethals, has been able to perfect the magnificent structure. The entire work, it may be noted, has been carried out under Government supervision.

The question of salaries is always interesting in connection with any great work of this kind. That paid to Col. Goethals has been \$21,000 a year; the under engineers receiving in proportion.

Other employees receive from \$50 to \$200 a month, according to their services, the total pay-roll amounting to \$150,000,000.

In addition to wages, the employees have been furnished with free quarters, partly furnished, and supplied with electric lights and shower-baths; with club-houses, schools, and churches. In the warm climate, cotton clothes are sufficient, hence comparatively small expenditure on clothing has been necessary. There is, moreover, no tariff at the Canal zone, hence, in many ways, the people live more cheaply than they could in the United States. The employees have, in short, lived luxuriously, and their working hours have been reasonable. Mr. Scott concludes that on their return to the wages and conditions of living that await them at the end of their services in Panama, most of them will experience a rather rude jolt.

(To be continued.)

### Winter Evenings in the Country.

[A paper given by Miss M. McIntyre, at a meeting of the Lobo Branch of the Women's Institute.]

It has been said "God made the country and man the town." If this is true, how fortunate those who are born in the country, near to God and nature, for all lives, though we do not always realize it, are greatly influenced by environment. William Cowper says:

"'Tis pleasant, through the loop-holes of retreat to peep at such a world; to see the stir of the great Babel; and not feel the crowd."

After the strenuous labors of the day, everyone welcomes the long, quiet evening, when we are at liberty to choose what we shall do, or where we shall go. We now feel the need of something enlivening, entertaining, which will put aside the perplexities of the day, something which will divert our thoughts, broaden our ideas, and make us stronger, wiser, and more able to meet the duties of the morrow. All require this diversion, whether it be in the home, concert-hall, or spending the evening with a friend, when the events of the day are discussed, something beneficial heard, or confidences exchanged. James Russell Lowell says:

"What so rare as a day in June?"

But listen to Cowper's "Winter Evening":

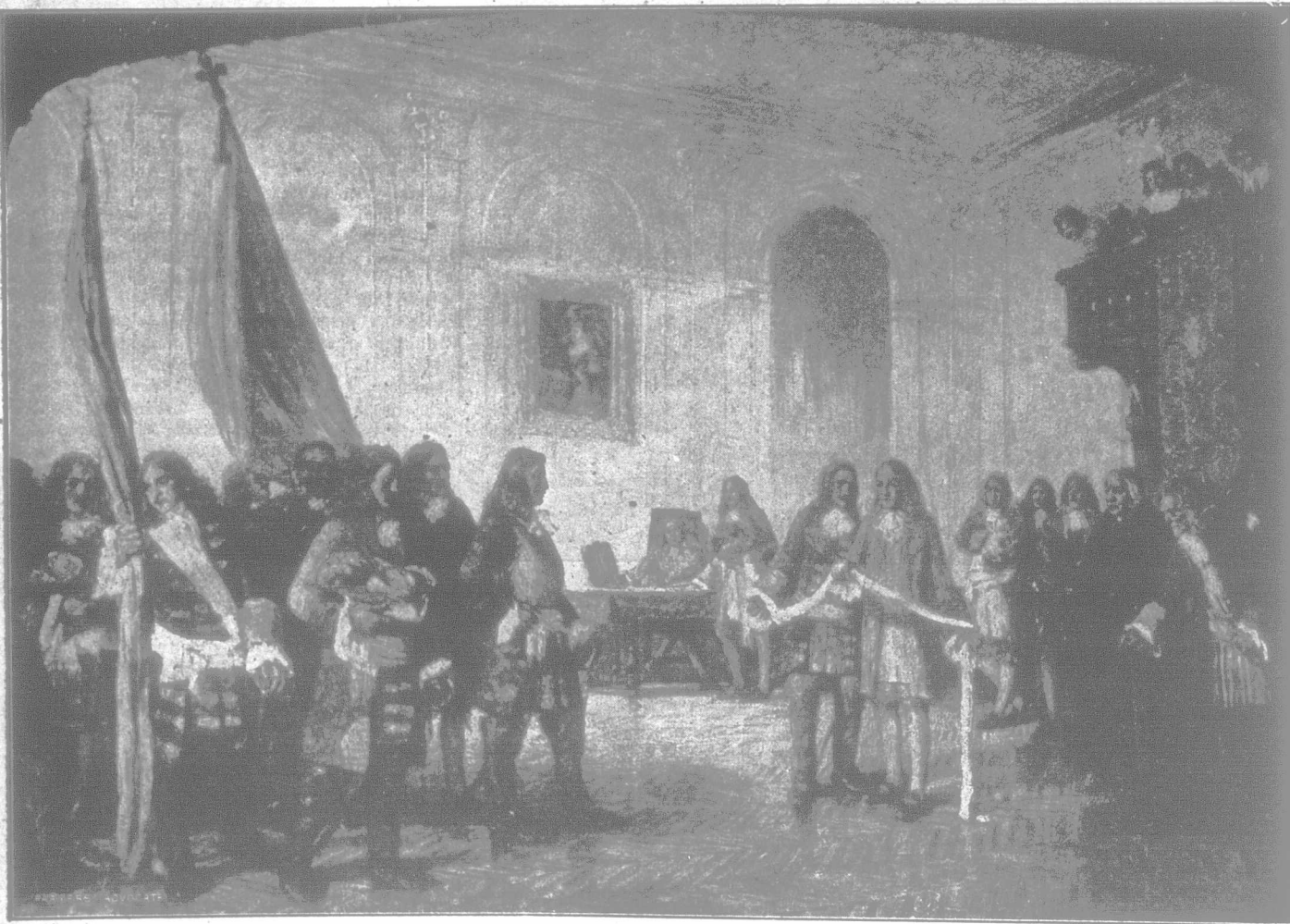
"And while the bubbling and loud hissing urn  
Throws up a steamy column, and the cups  
That cheer, but not inebriate, wait on each,  
So let us welcome peaceful evening in."

And Longfellow:

"The lamps are lit, the fires burn bright,  
The house is full of life and light."

At any rate, what so cozy and comfortable as the long winter evenings, spent with music, reading, or congenial companionship? Surely the woman with suffragette ideas has ample scope here. Why would she fight for Rights on the streets when she has the moulding of young characters in her home?

In the living-room of the home the fire burns brightly; methinks no winter evening would be complete without a fire, I mean an open one. The favorite papers, books and magazines, are by the lamp; the work-basket, games, and individual fancy of each member of the family are exhibited here. "Many men have many minds." To the dreamer it is enough to sit and watch the fantastic leaps of the fire, while the thoughts are far away. What of that? "Bobbie Burns," the best of poets, built "castles in the air." The student is reading and remembering, storing knowledge that will make him famous, perhaps. The industrious wife or sister is busy with needle or knife fashioning a fancy or useful article. The politician is comfortable in his slippers, and deep in the events of the day. Perhaps it is necessary that lessons be studied or patching and mending done, but as a general thing the evening ought to be a time



"Frontenac Receiving Sir William Phipps' Envoy."

From a mural decorative picture for the home of the late Sir Edward Clouston, painted by Mr. William Brymner. This picture was exhibited recently at the Royal Canadian Academy Exhibition, Ottawa.



of recreation. Let the musician play her prettiest and most entertaining selections; father read the liveliest sallies from the papers, and mother recount the humorous side of the day's proceedings. Of course, there are times when work must be done, and disappointments are unavoidable. Then, let us adapt ourselves to circumstances cheerfully.

As guests, we should always conform to the entertainment provided by the hostess. Not that the whole responsibility of an evening should rest on the shoulders of a hostess; the guest also has a duty in the matter. We should meet cordially the friends who are introduced to us, however little they attract us; and take an interest in any local happenings that are of vital importance to our entertainers. We should show lively appreciation of everything done for our entertainment, even though it may be but a commonplace and dull affair, according to our own estimation; and we should measure our gratefulness to the hostess, not so much by the degree of pleasure she actually gives us as by the amount of effort which she makes.

As for the kinds of amusement, they are many and varied. Especially are the progressive games interesting. They may be carried out with cards, crokinole, dominoes, or any of the table games. They are especially good when the guests are not really known to each other, as it gives all a chance to meet, and thus become acquainted during the game. If such is the custom of the house, end up with an informal dance, or some of the romping games which mix your guests generally, and induce all to be hilarious for the time being.

Among out-of-door sports, we have skating, tobogganing, snow-shoeing, and skeeing, but chief of all is sleigh-riding. On a clear, frosty night, when the moon rises big and round, and the loose snow comes creeping, creeping up over the frozen banks, and sleigh-bells jingle and hearts are light, then, we say, give to the city man his street-car, and the millionaire his auto and artificially-kept roads; as for me, I'll take the beaten track of nature that leads to health, wealth, and happiness.

Perhaps some think the winter evenings too long to spend in our own amusements only. Then, let our labor be the cultivation of the mind rather than the occupation of our hands. Let us read good books, attend good concerts. A literary society is a great benefit to a community, where, by striving to interest others, we must read, think, originate, and express our ideas, and find that we are really the benefited ourselves. Let us conclude then that winter evenings, and especially winter evenings in the country, are very desirable when there are so many ways of spending them.

Middlesex Co., Ont.

### Hope's Quiet Hour.

#### God's Preparations;

I go to prepare a place for you.—S. John xiv: 2.

Our Lord was spending His last evening as a Man among men. Those hours before His agony were very precious, and they were poured out in loving words of comfort and needful warning to His bewildered disciples. Those words are sweet and fragrant as ever, after nearly two thousand years of use. Probably no other words that were ever written have more power to comfort the weary and heavy-laden than this farewell message of the Master to His friends: "Let not your heart be troubled: ye believe in God, believe also in Me. In My Father's house are many mansions: if it were not so, I would have told you. I go to prepare a place for you."

God's preparations are no new thing in our lives. He is our Father, and has always prepared for us, as dear children are prepared for everywhere. Think how a woman prepares dainty garments for her treasure. Think how a few weeks ago—many thousands of happy parents planned Christmas gifts in advance, according to their means. I remember once hearing a mother talk delightedly about the pleasure her little daughter would take in eating an extra

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## A Good Bracer

A cup of BOVRIL between meals, or a BOVRIL Sandwich is a splendid bracer. BOVRIL contains all that is good in beef in its most concentrated form.

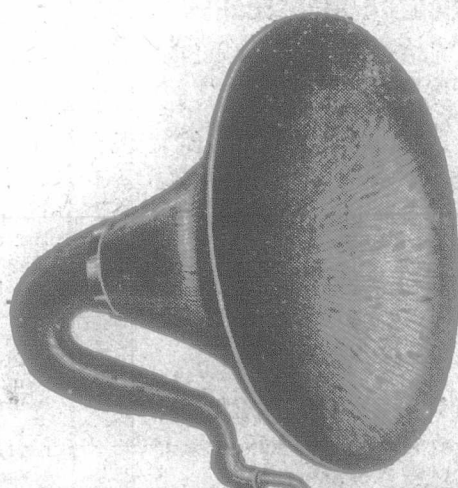
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DOUBLE VALUE FOR YOUR MONEY



### Mr. Edison's Pet and Hobby

He realizes the wonderful value of his phonograph as a cementer of home ties and as a maker of happy homes. And for this reason he worked for years striving to produce the most perfect phonograph. At last he has produced this new model, and his friends have induced him to take the first vacation he has had in over a quarter of a century. Just think of it; over twenty-five years of unremitting work on many inventions—then his pet and hobby perfected—then a vacation.

# Wonderful NEW Edison FREE Shipped

Write today for our new Edison catalog that tells you all about the wonderful new model Edison with Mr. Edison's new Model R Reproducer and the new parlor grand equipment. With this catalog we also send full explanation of our free shipment offer.

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"I want to see a phonograph in every home."

## The Offer

We will send you the new model Edison Phonograph and your choice of over a thousand records on an absolutely free loan. We want you to have all the waltzes, two-steps, vaudevilles, minstrels, grand operas, also the sacred music, etc., etc., by the world's greatest artists. Entertain your family and your friends. Give plays and concerts right in your own parlor. Hear the songs, solos, duets and quartettes, the pealing organs, the brass bands, the symphony orchestras, the choirs of Europe's great cathedrals, the piano and violin concerts, virtuoso—all these we want you to hear free as reproduced on the new Edison. Then, when you are through with the outfit you may send it back to us.

## Read this remarkable Free Shipment offer on the first lot

of the new style Edison Phonographs; these new Phonographs to be shipped FREE on this special offer NOW.

## The Reason

Why should we make such an ultra-liberal offer? Why should we go to all this expense and trouble just so you can have all these free concerts? Well, we'll tell you: we are tremendously proud of this magnificent new instrument. When you get it in your town we know everybody will say that nothing like it has ever been heard—so wonderful, so grand, so beautiful, such a king of entertainers—so we are pretty sure that at least some one, if not you, then somebody else, will want to buy one of these new style Edisons (especially as they are being offered now at the most astounding rock-bottom price and on easy terms as low as \$2.00 a month). But even if nobody buys there is no obligation and we'll be just as glad anyway that we sent you the New Edison on our free trial; for that is our way of advertising quickly everywhere the wonderful superiority of the New Edison.

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Write today for our new Edison catalog and learn all about the wonderful New Edison. Learn how thousands of people are entertaining their friends by giving Edison concerts—learn how the boys and girls are kept at home and all the family made happy by the wonderful Edison. No obligations whatsoever in asking for this magnificently illustrated catalog, so write now.

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Dear Sir:—Please send me your New Edison Catalog and full particulars of your free trial offer on the first lot of the new model Edison Phonographs.

Name.....  
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## MAPLE SYRUP MAKERS!

ENTER THIS CONTEST



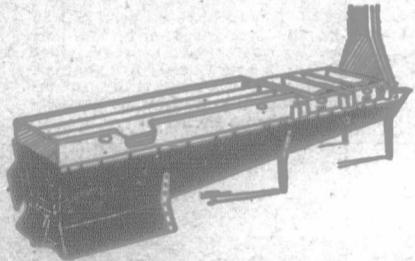
CUT OUT THIS COUPON

THE demand for genuine and high-grade goods so enhances the market price of Maple Sugar and Syrup that we have decided to open a competition to educate the consumer who is more familiar with the second- or third-grade article. To attain this result, we offer \$500 in gold for the best-made syrup and sugar.

### Syrup and Sugar on Exhibition in Montreal

The object of making a display of this kind is to show the public the products of the very best Maple Syrup and Sugar Makers in Canada, and must undoubtedly result in unlimited benefit to you should you be one of the exhibitors. All syrup must be made on a Grimm "Champion"—will be judged impartially—must be of a light color to stand a chance of winning a prize—will be paid for if you enter the contest, or returned after contest is over if you so desire.

The entries will be exhibited in the magnificent show window of the "Montreal Star." Why not properly equip yourself to be a winner in this contest? State number of trees you tap, and we will give you price on a suitably sized outfit.



For all conditions and particulars, address:

**PRIZE CONTEST**  
GRIMM MFG. CO. Limited  
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(Don't forget coupon.)

A word of thanks to

## FARM ENGINE CONTESTANTS

We do not wish to wait until the contest is decided to thank the farmers who have so kindly helped us by sending in lists of practical uses for

### Fairbanks-Morse Farm Engines

Thousands of lists have been received, many times the number that we expected. We had hoped to be able to announce the winner before this time, but the number of replies threatens to delay the verdict for several weeks.

We sincerely appreciate the time and trouble taken by every contestant, and regret that there were not more prizes offered. We have, however, devised a means whereby we can show our appreciation. If you sent us a list of suggestions, you will hear from us by letter in regard to this as soon as the prizewinner is decided.

In the meantime, rest assured that we are doing everything in our power to hasten a decision without injury to any contestants' interests, and accept our sincerest thanks.

FARM BOOKLET EDITOR

The Canadian Fairbanks-Morse Company, Limited  
MONTREAL

To those who did not enter the contest:

The purpose of this contest was to get information for a book entitled, "Uses for a Farm Engine," describing practical and profitable uses for a Fairbanks-Morse Engine. The first edition of this book will be off the press shortly. A copy will be sent without a separate request to every farmer who entered the contest. There will be several thousand copies, more than enough for contestants, however, and these will be mailed free to the farmers who first request them. If you desire a copy, we would urge you to write for it at once, as the demand promises to quickly exhaust the edition. Please state whether or not you already own an engine, and, if so, what size it is.

special "turkey dinner" which she was preparing. The child was skating, and would come back with a glorious appetite, and the mother rejoiced beforehand in the coming pleasure of her little girl.

God is like that. He delights to prepare pleasant surprises for His children. Moses told the Israelites that God would lead them by His Angel to the place He had "prepared" for them. The Psalmist says that He has prepared goodness for the poor, and has prepared the light and the sun. Isaiah and St. Paul remind us that no one has heard or seen, or even imagined, the good things God has prepared for those who love Him.

God's preparations are always being made for us. He goes before us, to make ready, every day of our lives.

We come into this world too helpless to take care of ourselves. That seems rather dreadful, but it is not really dreadful at all. The helpless baby finds plenty of people ready to wait on him. Home and clothes, strong arms and loving hearts, have all been prepared in advance. Morrison says:

"Does the new-born child need to be clothed? Sheep have been pasturing upon the hills. Does the new-born child need to be fed? Mysterious changes have been preparing food. And does the new-born child need to be warmed? Why then, unnumbered centuries ago, the leaves were falling with the sunshine in them, that to-day we might have summer on the hearth. Not into an unprepared world is the little infant flung. Nature never calls, 'I am not ready, nor can I support this gift of a new life.' Nature has been getting ready for millenniums, since she awoke from the primeval chaos; and in her depths, and on her hills of pasturage, has been preparing for this very hour."

God waterrest the earth and preparest corn for His children, as the Psalmist says, and He also prepares for their smallest needs. In the Book of Jonah, the veil is lifted, and we see God's minute and careful preparations. When the prophet was thrown into the sea, "the Lord had prepared a great fish" to carry him safely to the shore. When his soul was in danger of being destroyed by pride and selfish hardness, God "prepared" a gourd to shelter him, and then "prepared" a worm to destroy that shelter, and a sultry east wind to distress him. By his own discomfort, he was taught a lesson of love to his fellows. Would it have been kinder to Jonah to have left him in comfortable indifference about the fate of the people of Nineveh? He had prophesied that the city would be destroyed; and their repentance, which won God's forgiveness, only made him angry because his prophecy would not be fulfilled. Yet there were in the city more than 120,000 little children! Was it not a proof of God's mercy towards Jonah that He made him uncomfortable in body, that so his conscience might be awakened? But what close attention the Father must be giving to His children's affairs when He even sends a worm on an errand of mercy.

We move forward through life and always find that preparations have been made for our pleasure and for our education. Perhaps the child is almost afraid to face manhood, thinking that it must be stupid to give up running and jumping. But when manhood is reached new pleasures are found; and the man looks back almost in surprise, wondering how he could ever have cared for a toy pistol or a game of "I spy." The young man moves forward doubtfully towards mature age. It looks very dull and unromantic. But pleasures are prepared for middle age, too. Then old age lies ahead, and perhaps we are all a little afraid to face it. But our Father will still go before us, preparing new and unexpected blessings of goodness. Rabbi Ben Ezra had good reason to say:

"Grow old along with me,  
The best is yet to be,  
The last of life for which the first was made."

Each change comes over us so quietly that we do not notice any difference until we have reached safely another stage of life's journey. There is no shock or jar as the baby becomes a child and the child a youth, as youth changes into middle age, and middle age

into old age. As God has prepared for us in advance, all through this life on earth, so He still will make ready when we are called into the unknown life beyond the veil.

Our Lord's tender message to His friends is that He goes to prepare a place for them. "If it were not so, I would have told you," He assures them. More than that, He will not force them to take the dark and trying journey alone, but will come Himself to escort them through the gate of Death into Life: "I will come again, and receive you unto Myself." He will be our Companion and Guide, and He will go on ahead to welcome us Home. As we have changed from childhood to age unconsciously and peacefully, so it will probably be when we step out into the larger life ahead. We know many things now of which we once were ignorant, but the knowledge has come gradually as we were able to bear it. So our Lord has many things to say unto us which we cannot understand here. Why should we think it a terrible thing to pass through death? We have always found that God was beside us to give all necessary strength—why should we expect Him to desert us then? His promise can be relied upon: "When thou passest through the waters, I will be with thee; and through the rivers, they shall not overflow thee . . . since thou wast precious in My sight."

A baby is precious in the sight of its father, though it has done nothing to deserve the love it receives. The father knows it will soon return love for love, will increase in wisdom, and become more and more able to enter into real fellowship with him. So the Father of all goes on loving His children, even when they make no return. He makes the world beautiful for them, with the changing beauty of sky and water, of flowers and grass and trees. He touches a child's cheek caressingly in the soft wind of summer, and speaks to the heart in the music of the birds. He lifts the spirit of a man heavenward by the solemn majesty of the midnight stars, and by the innocent faces of the little children. Sometimes He draws His friends closer to His side by the dreaded mystery of pain:

"Because He cannot choose a softer way  
To make us feel that He Himself is near,  
And each apart His own Beloved and known.

He gives His angels charge of those who sleep  
But He Himself watches with those who wake."

How strange it is that we have so little trust in our God, when His watchful care has led us so long. When we can see our way, lying plainly ahead, there is little chance to prove our trust; but when darkness and trouble dog each step of the way we are apt to shrink back in fear. Our Father can see, and He will never leave us nor forsake us. Why should we fret ourselves and say: "I can't understand why great troubles should be heaped on me or on those I love." Is there any need for us to understand? Our business is to trust and to endure. He has prepared for us exactly what is most needed for our perfecting—the perfecting He is earnestly desiring for us—and our joy as well as our strength comes from Trust.

"Therefore gird up thyself, and come, to stand  
Unflinching under the unfaltering hand,  
That waits to prove thee to the uttermost.

It were not hard to suffer by His hand,  
If thou couldst see His face;—but in the dark!

That is the one last trial:—be it so."  
DORA FARNCOMB.

Not what we are, but what we would be, is our measure in God's sight. We may not be responsible for our failure to reach a high attainment, but we are responsible if we fail to strive toward that attainment. One who takes as his pattern the Perfect Life, is likely to do better than one who only wants to be as good as the average. It is in view of this truth that Lowell says, "Not failure, but low aim, is crime."

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**Why don't some flours behave?  
 Why don't they keep good?**  
 Because they contain too much of the  
 branny particles, too much of the  
*inferior* portions of the wheat—may  
 be little pieces of the oily germ.  
 Which *act* on one another—that's why  
 some flours "work" in the sack.  
**FIVE ROSES** is the purest extract of  
*Manitoba* spring wheat berries.  
 Free from branny particles and such like.  
 It will keep *sound*, and *sweet* longer than  
 necessary.  
 Keep it in a *dry* place, and when needed  
 you find it even *healthier, sounder,*  
 *fresher, drier* than the day you bought it.  
 Buy lots of **FIVE ROSES**.  
 It keeps.

# Five Roses Flour

Not Bleached



Not Blended

LAKE OF THE WOODS MILLING COMPANY, LIMITED, MONTREAL

## The Beaver Circle.

### ABOUT THE DOLLS' DRESSES.

Dear Beavers.—At least, the girls among you; probably you will be wondering what became of the doll dresses. Several of the girlies wrote about them, some asking that they be sent to sick children in a hospital, others that they be sent to homeless little ones in a children's shelter. Well, we chanced to hear of a shelter to which a number of dolls had been sent for Christmas—but without any clothes. Now just think how uninteresting a doll is without a pretty dress! We considered, too, that most sick children in a hospital have loving friends to send them things at Christmas, while the poor little waifs in a shelter have no one at all to think of them or care for them unless strangers choose to do so. So we bundled up all the dresses in a box and carried them down to this "Home for Children."

The matron was very glad indeed to get them for the naked dollies, and said that the children would be delighted, and anxious to try to sew themselves when they saw how well the Farmer's Advocate Beavers had done. We pinned the name and address of each Beaver to the dress she made, so that the children would know from whom the dresses came.

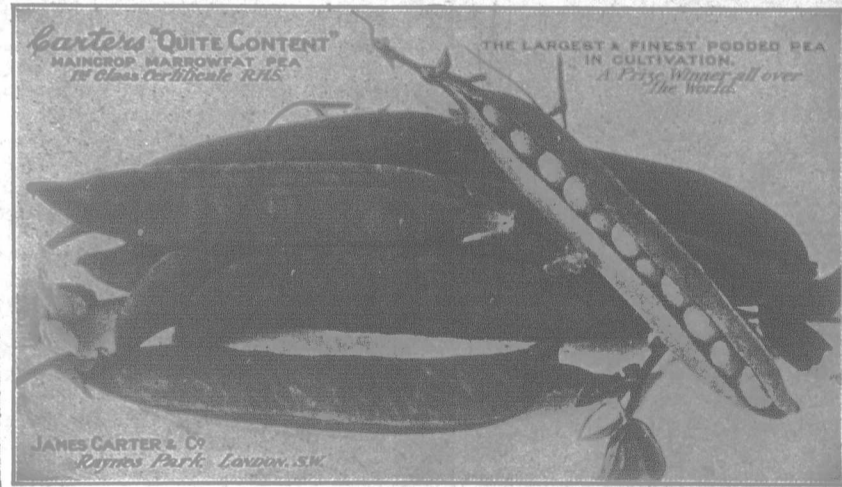
Thank you, very much, Beavers. Would you like to do the same thing before next Christmas?  
 PUCK.

### [Garden Competition Letters.

#### MY GARDEN.

The ground was ploughed last fall where I was to have my garden. When

**CARTER'S "Quite Content"** the finest Pea grown and winner of first prizes all over the world.  
 Pods 7½ inches long and well filled. This is an example of the superb vegetables grown from Carter's Tested Seeds.



All who are interested in flowers or vegetables, whether for market or home use, should know

## CARTER'S TESTED SEEDS

Because of their long pedigree, careful selection and thorough testing and cleaning, these seeds are superior for every purpose. They are grown by James Carter & Co., who are seed growers to His Majesty King George V. They have only one standard of quality—the highest. You receive the same quality of seeds as supplied to the Royal Gardens of England, —and they cost little if any more than inferior kinds.

Write for Catalog of Carter's Tested Seeds, containing descriptions, illustrations and prices in Canadian money. Address Dept. N.



**PATTERSON, WYLDE & CO.**

SOLE AGENTS FOR CANADA

133 KING STREET EAST, TORONTO, ONT.

ground is ploughed in the fall the frost kills insects and seeds of weeds, and also is good for it. When spring came it was disked three or four times and harrowed once. I had a plan drawn up for my garden before spring. The size of my garden is 12 feet by 12 feet. Then I raked it up nice and soft; I threw off all the stones that were on it.

I marked off rows for my flowers about twelve inches apart, and rows about fourteen inches apart for my vegetables. I started my flowers with one row everlastings, second row pinks, third row hibiscus, fourth row Shirley poppies, fifth row low hollyhocks. Then I put two rows carrots, one row beets, and three rows of beans.

Then across the back of my garden I put three rows of asters.

As soon as the plants came up I began to hoe and weed among them, and kept the ground worked up nice and soft. The weather in the latter part of May and the beginning of June was very wet, but after every rain I would hoe and work around the plants. There were very few insects to be seen in my garden, but I saw some toads. A pretty little humming bird would come around the poppies quite often. The bees used to be in swarms around the flowers.

About the first of July the everlastings began to flower. Very soon after the Shirley poppies and the low hollyhocks started to flower. There were some double pink poppies that looked like a rose, and there were some red ones that looked like ribbon rosettes. The low hollyhocks grow about twelve inches high when in rich soil, which mine were. Then the pinks started to flower; they look like Sweet William. About the tenth of August the asters began to flower. I have the prettiest of the Shirley poppies marked so as to keep them separate from the rest for next year. Any place where the plants

A Vigilant Unceasing  
Cleanliness / at every individual  
stage of its  
preparation

# "SALADA"

CEYLON TEA, IT'S SO CLEAN, IT COULDN'T BE CLEANER  
BLACK, MIXED OR NATURAL GREEN  
SEALED PACKAGES ONLY REFUSE SUBSTITUTES  
FREE Sample mailed on enquiry—Address: 'SALADA', Toronto

"Bissell" rollers are a specialty

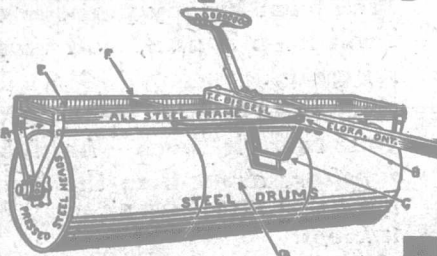
The "Bissell" Rollers are built by men who have made a life study of this work, and are SPECIALISTS IN THE BUSINESS. Search as you may, there are no such perfect Land Rollers on the Continent as the "Bissell." Make a note of

these points and compare the "Bissell" Rollers with any other Land Roller in America. If the "Bissell" does not convince you that it is the best Roller, then don't buy, but you ought to know the facts, and it will do any person good to make the comparison. No need to send special travellers to sell "Bissell" Rollers. Practical farmers see the difference and prefer the "Bissell."

The 18 cold rolled anti-friction Bearings  $\frac{1}{2}$  inch thick with lathe cut ends, held in the one piece Malleable Iron Cage, is a single point placing the "Bissell" Roller away ahead.

Look for the name "Bissell" on every Roller. No other is genuine. Ask Dept. W for free catalogue.

T. E. BISSELL CO., ELORA, ONT.



THIS FREE BOOK

## "When Poultry Pays"

IS WORTH DOLLARS TO  
ANY FARMER'S WIFE IN  
CANADA.

How to succeed with poultry without capital. Plain talk, solid facts, proofs. Sent for the asking.

Lee Manufacturing Co., Ltd.

13 PEMBROKE STREET

Pembroke - Ontario

MENTION THE FARMER'S ADVOCATE WHEN WRITING ADVERTISERS.

were killed out I transplanted asters, which I think looked better, for asters flower so much longer than most kinds of flowers. I see where I can improve upon the plan for next year.  
Hawkestone, Ont. EVA LEIGH.  
(Age 11, Book Sr. Third.)

### ISABEL YOUNG'S GARDEN LETTER.

Dear Puck and Beavers.—Well I guess it is time you are hearing from me again, as I am twelfth on the garden competition list.

My Daddie ploughed my garden last fall, after which he covered it with a heavy coat of manure. In the spring he ploughed it again and worked it with the Corbin harrows, then rolled and harrowed it with the iron harrows; this left the soil fine and loose to work in. Daddie measured off my plot which was 40 feet long and 14 feet wide.

I used a line for keeping the rows straight. The first seeds I planted were of lettuce. I dug a little trench along the line about half an inch deep, then I scattered the little seeds about it. Next I planted my onions. I made the rows about twelve inches from the lettuce. The onions I planted about three inches apart. Next I made another row about twelve inches from my onions, in which I planted a row of cress in the same way as I did my lettuce. Next I planted a row of beets. I scattered the seeds along the trench, for I could thin the beets out after they came up. Now I planted beans. These were planted differently from the other vegetables. I made hills for these about a foot apart, and into each hill I dropped from three to five beans and covered them about two inches with dirt.

Now I had a little change. I planted some musk melons and a mammoth squash; also I planted three hills of cucumbers; I loosened a place about a foot round and planted the seeds, covering them with about two inches of dirt.

Along one side of my garden and across the end I planted flowers; across the end I planted a row of sweet peas; along the side I divided the rows into spaces and planted nasturtiums, zinnias, phlox and asters. At the corner I planted a bunch of canary creepers. When I got all the seeds planted I was good and tired, but still I was glad to think that I had it all planted.

How I watched till the first seed peeped out its head above the ground! When I saw the rows pretty well filled I thought I had better start and hoe it the first time. Daddie told me to hoe it rather deep the first time to have a good depth of soil for mulch, as the little roots had not spread out.

The next time I hoed more lightly. I had to work very hard to keep down the weeds. The weed I had most trouble with was chick-weed, but I was fully repaid for some of my vegetables were ahead of mother's, so often I supplied the table with vegetables from my garden.

I also had a nice lot of bouquets, and I was able to supply some flowers for "Children's Sunday."

When working in my garden in the morning I would see the robin hopping across the lawn hunting for grubs, and the oriole, with his lovely song, in the elm tree. I would also hear the chatter of the sparrow in the lilacs and see great flocks of blackbirds flying, and perhaps they would light in a cherry-tree and have a long bird-talk. There were two old toads in my garden. If I went down in the evening I would see them hoping along between the rows. I noticed that day they killed a number of insects. I was well satisfied with my garden, and I think I will have to try again. Wishing the Beaver Circle every success I am, yours sincerely,  
Carlow, Ont. ISABEL A. YOUNG.  
(Age 10 years. Class Sr. Second.)

### LILLIAN GILLESPIE'S GARDEN LETTER.

Dear Puck and Beavers.—This is the first time I have entered my name in the "Garden Competition," and the first time I have had a garden "all my own," but I will try to tell how I cared for it.

It was late when I got my garden in, but when it was planted it grew well because it was ground that hadn't been dug up for a long time, and perhaps not at all.

On the sixteenth of May my father dug up a plot for me. I got a wire fence put around it to keep the hens out, because I think if they got at the plots they might rake it too much. I raked the ground well and got it quite loose, then I divided it off into nine plots, and put a path around it and between the plots.

I next bought some onions, carrot, lettuce and radish seeds, and planted them in plots. I watched and watered these, and four days later I saw some little green heads poking out of the onion-bed. It was not very long until the other vegetables were giving my garden signs of life. But the weeds will grow too. I got a hoe and quickly cleared them away. On the twenty-seventh of May I planted the flower seeds,—alyssum, candytuft, nasturtium and zinnias. These all came up well, but the seed which I got for alyssum turned out to be those of a weed—night-flowering catchfly. I planted gourd seeds along the fence, and they were large vines covered with white gourds.

Later I set out geraniums and tomato plants; but about this time it came very dry weather, so in the evenings I carried many pailfuls of water to the thirsty garden.

One night when I was watering a tomato plant I noticed a little toad hop under some of the leaves. I watched him for a while, but he was too shy to show me how he secured his food. The next night he was there again, but I guess he must have left his shyness behind, because he killed the injurious insects by unrolling his long tongue. He came out every night for a long time, but one night I missed him and I haven't seen him since.

I set out a few watermelon plants too, but there were some mischievous little pigs in a field beside my garden, and they got in some way and destroyed them.

My garden progressed very well, and when the flowers bloomed the bees were very busy gathering their supply of honey. I have gathered many beautiful bouquets from the nasturtiums and zinnias, and the candytuft made a fine border along the path. The flowers got so large that they trespassed and went on the path. My tomatoes are ripened well, but the hens managed to get in and eat some of them.

I have had a great deal of pleasure hoeing, weeding, training vines and watering my garden. I think I will have another garden next year because I have had good luck this year.

Galt, Ont. LILLIAN GILLESPIE.  
(Age 13, Sr. IV. Class.)

### The Ingle Nook.

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

### Being Comfortable in Cold Weather.

By the time this reaches you, readers, the thermometer may be registering twenty degrees below zero. I am writing, however, just two days before Christmas, and, as yet, people are saying, "What a lovely fall we have had!—Think of it,—no cold weather yet!"

Nevertheless, there have been a few fairly cold days, and this recollection brings me "into the middle of my song." The first indication of real winter in the air came two or three weeks ago, and on that day I sallied forth for the first time in a little fur hat. It is not a pretty hat; to tell the truth I am afraid it is rather ugly. I made it myself (!) out of an old hat-crown, some old fur, and a new bit of ostrich-feather mount, "on purpose" for stormy days, but it has proved so comfortable that I have worn it every day since, and shall continue to do so, if the police do not interfere, for the rest of the winter.

Before that day I had been wearing a concoction of the broad-brimmed variety, a shape that everyone says is "so becoming," with an emphasis on the "so," and, five days out of six, had reached

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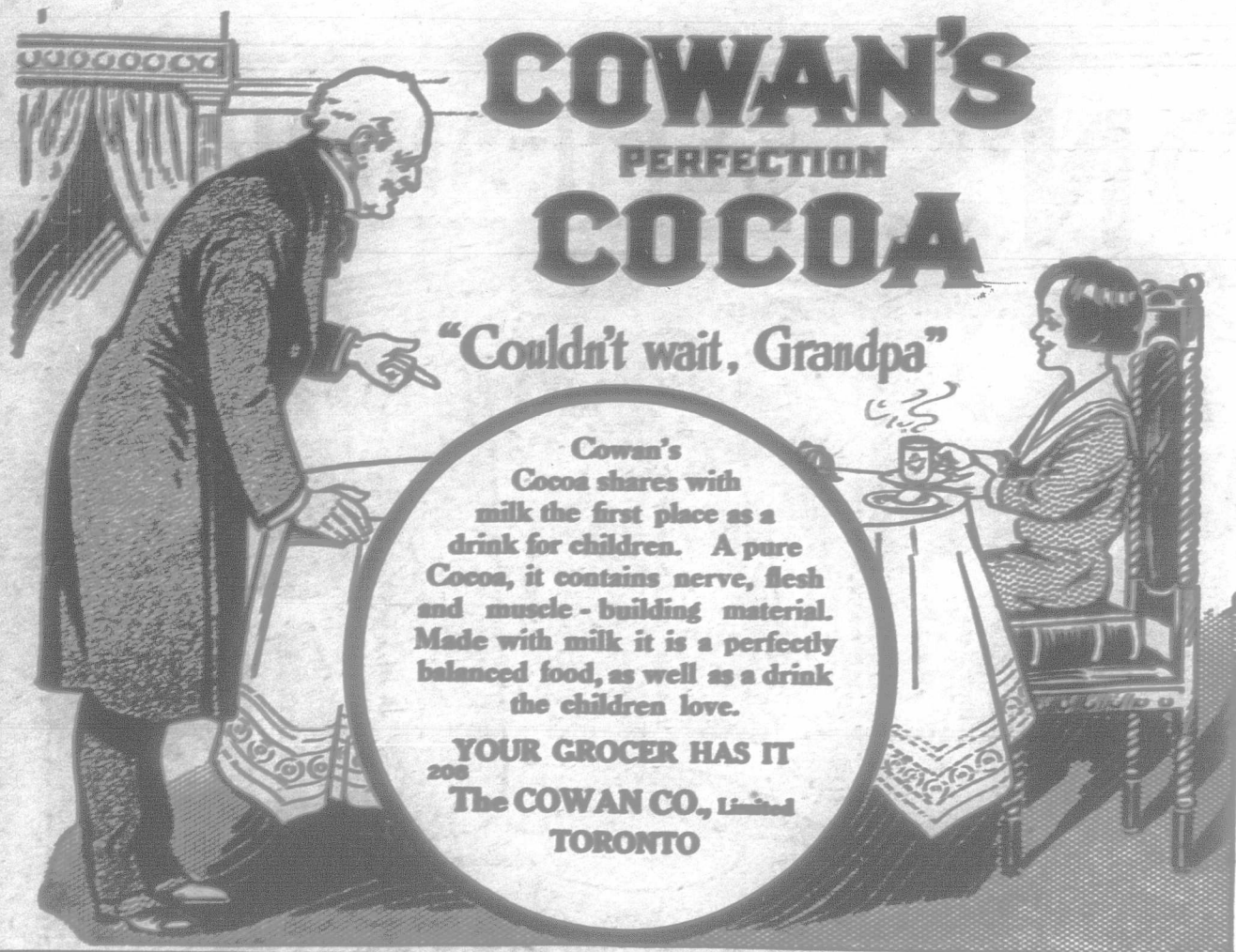
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the office in no very delectable frame of mind. Winds will blow, during even the finest fall; and I do hate "hanging on to" a hat, don't you?—especially with tingling fingers. Tuck the fingers into a muff and immediately the hat—of the broad-brimmed species—begins to perform; it stands up windmill-wise, it tugs at one's hat-pins, twists every wisp of hair on one's cranium into knots, and, when finally adjusted, leaves one laboring uncomfortably under the hallucination that it has settled down with a lurch

over one ear. Oh, for a mirror—or a shop-window! But that fur hat, that blessed, ugly little fur hat! On it goes, like an inverted pot, without even one solitary hat-pin to hold it, right down over my ears. It is warm; it enables me to walk along, head up, shoulders erect,—no more ducking against the wind, no more holding on to hat-brims. Indeed, this winter I have seen but one other head-covering better than it for comfort, and that was a very pretty, very becoming woollen

automobile hood (the kind with a scarf attached to be wound around the neck) worn by a very sweet-looking woman pushing a go-cart, whom I saw on the street one day. She looked so serene, so comfortable, so sensibly clad against our Northern winter, so perfectly "natural," even though walking on the sidewalk instead of sitting in an automobile, that the query could not but suggest itself: Why should not these cozy hoods become the fashion for wearing anywhere one chooses? Perhaps they

will as soon as the motorists make them common enough. Should automobiles do this for us, we may forgive them for frightening our horses a few times, for really, leading us into the way of wearing comfortable clothes would be far from being a trifling matter, would it not? Come to think of it, too, doesn't the woman who is dressed ready for the weather really look better, after all, than the one who is chiefly decorated?

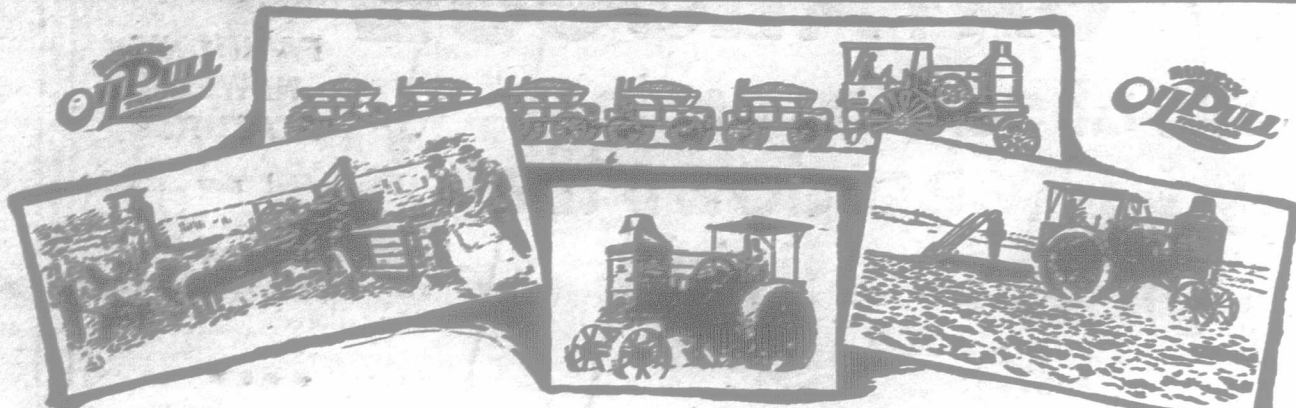


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Gradually we are coming to a realization of this, and to devise clothes accordingly. Four years ago the hats were poised on the very top of the head, now most of them come well down to the ears. Three years ago, thin white waists ran riot; this winter a white waist is seldom seen except, perhaps, an odd one of material so thick and close that warm underwear may be worn underneath. Two years ago, girls had a fad for wearing lace stockings on into cold weather, and one whom I know boasted that she had actually worn silk ones until Christmas; this year one hears no hint of thin stockings anywhere. Even a year ago we had new dresses made, in November at that, with elbow sleeves; this winter no one even considers such a thing. . . . Verily, may we not hope to arrive even at the automobile hood, with all its comfort, for general wear?

Yes, it has set me philosophizing.—this little fur hat of mine, and I have come to the conclusion that the winter we dread is not a dreadful thing at all, and that the only thing needed to transform it from an unpleasant to a pleasant season, is to prepare for it sensibly. With a snug hat or hood, warm underwear, thick leggings, and a woolen Spencer or sweater inside of one's coat on an extra-cold day, surely one may defy old Boreas' strongest blasts, even enjoy them, especially if one walks. One is tempted, I know, to get into a cozy cutter and hurry to one's destination as quickly as possible in winter-time, but there is nothing like swinging along on foot on a crisp, cold day, to set the oxygen piping to one's lungs, and send the roses to one's cheeks, and the cobwebs flying from one's brain. There is nothing equal to it, for health, for hardiness, and for optimism. And those are the things that are well worth while, are they not?

At the risk of dropping from the sublime to the ridiculous, have you ever tried discarding the bulky, heavy, second petticoat, in favor of long, black over-tights? If not, make a point of doing so at the first opportunity. The over-tights are so much warmer and neater that I am sure you will never, after having once worn them, want to return to double petticoats again.

### THE DEADLY "SPARE-ROOM."

Just a last word.—If a visitor comes to your house to stay all night at any time during the winter, do look to that "spare-room." Of course, if there is a furnace in your house and a little current of warm air is going into the guest-room all the time, you will not need to give thought to the matter; but if there is no furnace, do remember that the spare-room must not only be heated especially, but that the whole bed should be pulled apart and aired thoroughly—dried thoroughly—before it can possibly be fit for anyone to sleep in.

In most country-houses the guest-room is a sort of morgue, shut up most of the time, cold, damp, perhaps even dark. The bed becomes damp through and through, and yet, with no more precautions than building a fire in the room below, and trusting to a stove-pipe to do the rest, many a housewife will cheerfully send a guest thither to sleep. No wonder that doctors hate the guest-room! No wonder they have labelled it "the deadly spare-room"!

It is too bad that statistics have not been compiled to show the number of cases of colds, pneumonia, and tuberculosis contracted over a given area during a single winter because of the sufferers having slept in such rooms. The revelation would probably be startling.

Don't run any risks about it. No matter how fine your guest-chamber may be, unless you are perfectly certain that it, and especially the bed, is absolutely dry, do not put anyone to sleep there. Better make any kind of a "shake-down" than that. JUNIA.

### Quilt Patterns -- Fruit Pudding.

Dear Junia,—Enclosed you will find the quilt patterns which I said I would send if any of the readers wished for them, and I am sorry I have been so long about it, but they will be in time for the long winter evenings.

I must say I have found some splendid

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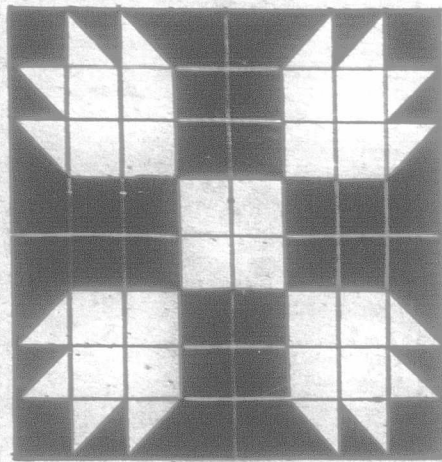
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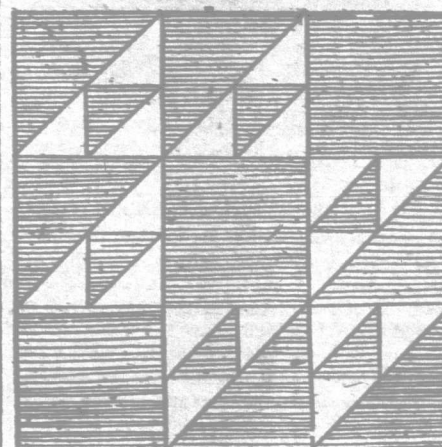
PLEASE MENTION THIS PAPER.

recipes, and I cut out those that I wish to save and paste them in a book so as to have them convenient when I wish to use them.

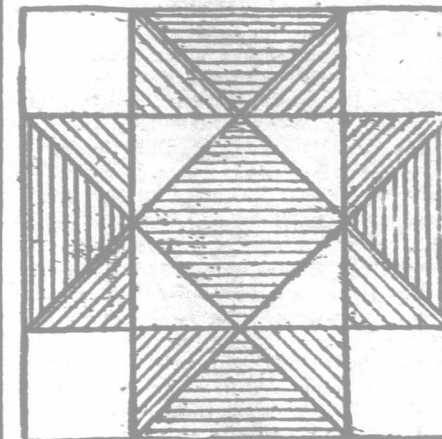
I must tell you, Junia, I had a good laugh when I read about your drive last summer, and the way the horse behaved when it met the auto. I was glad to know I am not the only one that is afraid to meet an auto while driving.



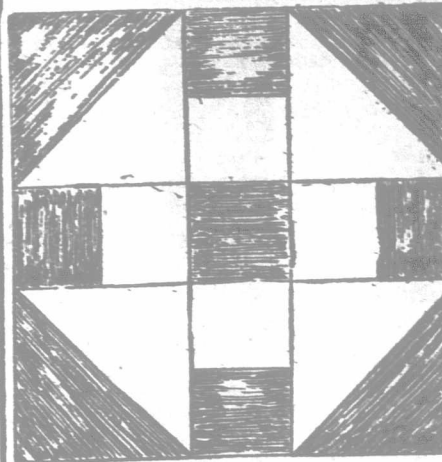
"Bear's Paw" Quilt Pattern.



"Kaleidoscope."



Quilt Pattern.



"Chopping Knife."

I am going to close for this time by sending a good recipe for a fruit pudding. One cup molasses, 1 cup sweet milk, 1/2 cup butter, 1 cup raisins, 1/2 cup currants, 2 1/2 cups flour, 2 eggs, 1/2 teaspoon soda dissolved in milk, 1/2 grated nutmeg. Steam three hours.  
Sherbrooke Co. COOK.

### CELERY SOUP.

Mrs. McN., Carleton Co., Ont., asks for recipe for the above, and for celery relish.

A Cream of Celery Soup, which is very nice for tea served with sippets of buttered toast or biscuits, is made as follows:

To a quart of celery cut in bits, add 1 1/2 pints cold water, 1/2 teaspoonful chopped onion and a bay-leaf, if you have it. Cover closely and stew slowly for three hours, adding a little more water if necessary. Strain through a cheesecloth or colander. Now rub together two tablespoonfuls flour and one of butter, add a little warm milk and stir all into the water from the celery, cooking until smooth. Add a pint of milk, and heat. Season to taste, and serve. Turnips, ripe beans, peas, or squash, may be used for this soup instead of the celery.

I have not yet found a recipe for celery relish, but will be on the lookout for it. In the meantime, perhaps some reader will be kind enough to send it for Mrs. McN.

### The New Leaf.

A leather-bound note-book, which, upon investigation, proved to be a diary, was found in a rude cabin, far, far up, in the timbered wildernesses of the mountains. The tragic ending of the pathetic tale, which the several entries tell, is verified by the fact that the writer was never seen again—in all probability having perished in the cold and terrific blizzard that was afterward recalled to have raged that day.

December 28th.—

Supper over, dishes washed, shack tidied up for the night. So tired I could fall asleep in my tracks—will be in my bunk soon. Must keep the fire going yet a while to dry my socks, overalls, and smock. The tress never stopped dripping soft snow since noon, but say! the fresh, white layer was great for tracking this morning!

Yes, I got him,—a fine big buck, six-pronged—must weigh over three hundred. Got him this side of the river, too, as luck happened. Hated to shoot him down, really—looked so nice as he stood there surprised-like, looking one mildly in the eye. Bullet entered the shoulder. Just one big rear, a plunge, and 'twas all over.

Hard work fixing him up alone, but it'll freeze to-night and to-morrow I can drag him the rest of the way down here. The carcass slips along easily on snow; lucky, too, for me, it's a little down grade.

Seems queer to be writing all this down. Guess I'm getting lonesome for someone to talk to. Wish't I had Janet—wonder if she's forgiven me that Christmas row. Confound it! Wish't I'd sense enough to leave the fellows and their fire-water alone. But it's hard for a fellow always to—never thought she'd take on so!

Fire's pretty low, duds most dry. Guess I'll chuck this.

December 29th.—

Stormed again to-day; couldn't see any distance. Followed up no fresh tracks; took most of the time getting the deer in. My, but he's fat!

Liver for supper to-night. If it snows much more, will have to pull up stakes and go home.

Lantern smoking. Also, shot three partridge to-day—very plentiful. I'll not starve, anyway!

December 30th.—

Climbed clear to the top of Castle to-day—rough old climb it is, too! Not so much snow to the south. Saw a bunch of sheep, but across the gulch, too far away to get one. How they bound and leap up those rocky ledges—beats all!

Had hard luck in not getting my deer to-day. A chattering chipmunk gave him the cue, and off he went. Couldn't help noticing how cleverly he escaped, sinking in the deep drifts—seemed to light into them on his knees, with fore feet doubled back.

A trap had a weasel in its clutches this morning. Think I'll go further back yet into the mountains; saw an elk track.

Much colder to-night, and raw, a little like a storm.

Wonder how Janet's faring in our shack down at the Mine. Left her lots of food and wood on hand. She can't say I'm not a good provider.

Sorry about that other—Christmas, too! Most forget there was something beautiful about that time, about the Virgin Mary and her Son. Guess I'm a whole lot blacker than the sheep I

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It is a well-known fact among hog-raisers that hogs have a craving for animal food—meat. The reason for this is because the usual foods, such as corn, clover, alfalfa, skim milk, wheat middlings, are deficient in protein and phosphate of lime, the two most important food elements needed for the development of the hog. On the other hand, animal food is rich in protein and phosphate of lime.

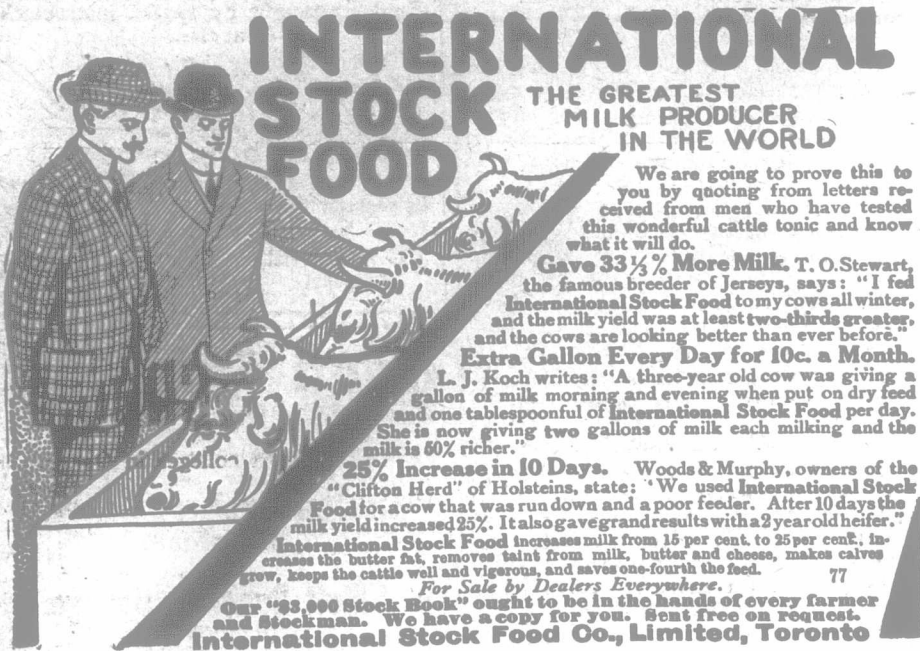
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WHEN WRITING ADVERTISERS PLEASE MENTION

# The Farmer's Advocate

saw to-day—lumberjack, trapper, miner, cowboy, and—yes, black sheep. Wish't I thought I'd stand half a chance at the Great Round-up.

But, say, little book! I'll be hanged if I don't burn you to-morrow night when I come back, though its done me a sight of good to write all this, and then—then—I'll turn over a new leaf. By all that's good and true, I swear I will! It'll be the first of the new year, and I'll go home, tell Janet how much I'm loving her, how I've been to blame for all the trouble, and the drink and all that 'll be cut out, now.

Gee! I'm about as happy as a kid. The awful quiet, the snow, the trees, and the cold up here—its done me good. Its made a man of me, and I'm going home to-morrow night to turn over a new leaf.

Ugh! It's pretty cold tonight. Have to sit up to keep fires going. A last hunt to-morrow, way up there back of old Castle—it'll be an elk.

P. S.—I slipped and fell when climbing a ledge to-day—Janet would worry if she knew—but I'll drive more spikes in my boots to-night for fear ———

Alta. "HONOR BRIGHT."

## Rebecca of Sunnybrook Farm.

By Kate Douglas Wiggin.

[Serial rights secured from Houghton Mifflin Publishing Company, New York.]

CHAPTER XII.

"SEE THE PALE MARTYR."

It was about this time that Rebecca, who had been reading about the Spartan boy, conceived the idea of some mild form of self-punishment to be applied on occasions when she was fully convinced in her own mind that it would be salutary. The immediate cause of the decision was a somewhat sadder accident than was common, even in a career prolific in such things.

Clad in her best, Rebecca had gone to take tea with the Cobbs; while crossing the bridge she was suddenly overcome by the beauty of the river and leaned over the newly painted rail to feast her eyes on the dashing torrent of the fall. Resting her elbows on the topmost board, and inclining her little figure forward in delicious ease, she stood there dreaming.

The river above the dam was a glassy lake with all the loveliness of blue heaven and green shore reflected in its surface; the fall was a swirling wonder of water, ever pouring itself over and over inexhaustibly in luminous golden gushes that lost themselves in snowy depths of foam. Sparkling in the sunshine, gleaming under the summer moon, cold and gray beneath a November sky, trickling over the dam in some burning July drought, swollen with turbulent power in some April freshet, how many young eyes gazed into that mystery and majesty of the falls along that river, and how many young hearts dreamed out their futures leaning over the bridge rail, seeing "the vision splendid" reflected there and often, too, watching it fade into "the light of common day."

Rebecca never went across the bridge without bending over the rail to wonder and to ponder, and at this special moment she was putting the finishing touches on a poem.

Two maidens by a river strayed

Down in the state of Maine.

The one was called Rebecca,

The other Emma Jane.

"I would my life were like the stream,"

Said her named Emma Jane,

"So quiet and so very smooth,

So free from pain."

"I'd rather be a little drop

In the great rushing fall!

I would not choose the glassy lake,

"T would not suit me at all!"

(It was the darker maiden spoke

The words I just have stated,

The maiden twain were simply friends

And not at all related.)

But O! alas! we may not have

The things we hope to gain;

The quiet life may come to me,

The rush to Emma Jane!

"I don't like 'the rush to Emma Jane,'

and I can't think of anything else. Oh!

what a smell of paint! Oh! it is on me! Oh! it's all over my best dress! Oh! what will aunt Mirandy say!"

With tears of self-reproach streaming from her eyes, Rebecca flew up the hill, sure of sympathy, and hoping for help of some sort.

Mrs. Cobb took in the situation at a glance, and professed herself able to remove almost any stain from almost any fabric; and in this she was corroborated by uncle Jerry, who vowed that mother could get anything out. Sometimes she took the cloth right along with the spot, but she had a sure hand, mother had!

The damaged garment was removed and partially immersed in turpentine, while Rebecca graced the festal board clad in a blue calico wrapper of Mrs. Cobb's.

"Don't let it take your appetite away," crooned Mrs. Cobb. "I've got cream biscuit and honey for you. If the turpentine don't work, I'll try French chalk, magneshy, and warm suds. If they fail, father shall run over to Strout's and borrow some of the stuff Marthy got in Milltown to take the curant pie out of her wedding' dress."

"I ain't got to understandin' this paintin' accident yet," said uncle Jerry jocosely, as he handed Rebecca the honey. "Bein' as how there's 'Fresh Paint' signs hung all over the breeidge, so't a blind asylum couldn't miss 'em, I can't hardly account for your gettin' int' the pesky stuff."

"I didn't notice the signs," Rebecca said dolefully. "I suppose I was looking at the falls."

"The falls has been there since the beginnin' o' time, an' I cal'late they'll be there till the end on't; so you needn't 'a' been in such a brash to git a sight of 'em. Children comes turrible high, mother, but I s'pose we must have 'em!" he said, winking at Mrs. Cobb.

When supper was cleared away Rebecca insisted on washing and wiping the dishes, while Mrs. Cobb worked on the dress with an energy that plainly showed the gravity of the task. Rebecca kept leaving her post at the sink to bend anxiously over the basin and watch her progress, while uncle Jerry offered advice from time to time.

"You must 'a' laid all over the breeidge, deary," said Mrs. Cobb; "for the paint 's not only on your elbows and yoke and waist, but it about covers your front breadth."

As the garment began to look a little better Rebecca's spirits took an upward turn, and at length she left it to dry in the fresh air, and went into the sitting-room.

"Have you a piece of paper, please?" asked Rebecca. "I'll copy out the poetry I was making while I was lying in the paint."

Mrs. Cobb sat by her mending basket, and uncle Jerry took down a gingham bag of strings and occupied himself in taking the snarls out of them—a favorite evening amusement with him.

Rebecca soon had the lines copied in her round schoolgirl hand, making such improvements as occurred to her on sober second thought.

THE TWO WISHES

By

Rebecca Randall

Two maidens by a river strayed,

'T was in the state of Maine.

Rebecca was the darker one,

The fairer, Emma Jane.

The fairer maiden said, "I would

My life were as the stream;

So peaceful, and so smooth and still,

So pleasant and serene."

"I'd rather be a little drop

In the great rushing fall;

I'd never choose the quiet lake;

"T would not please me at all."

(It was the darker maiden spoke

The words we just have stated;

The maidens twain were simply friends,

Not sisters, or related.)

But O! alas! we may not have

The things we hope to gain,

The quiet life may come to me,

The rush to Emma Jane!

She read it aloud, and the Cobbs

thought it not only surpassingly beautiful, but a marvelous production.

"I guess if that writer that lived on

Congress Street in Portland could 'a'

heard your poetry he'd 'a' been

astonished," said Mrs. Cobb. "If 'you



# POTASH

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Condensed advertisements will be inserted under this heading at three cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 50 cents.

**BARRED Plymouth Rocks** exclusively. Offering stock from my Toronto winners very reasonable. Leslie Kerns, Freeman, Ont.

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**CHOICE Rhode Island Reds, White Wyandottes, S. C. Brown Leghorns.** Wm. Bunn, Birr, Ont.

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**EXTRA Choice S.-C. Brown Leghorn cockerels** (Becker strain), \$2 each. David A. Ashforth, Maple Grove, Ont.

**FOR SALE**—S. C. Black Minorca cockerels. W. F. Carpenter, Ivy, Simcoe Co., Ont.

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## Young Men

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ask me, I say this piece is as good as that one o' his, 'Tell me not in mournful numbers; and consid'able clearer.' 'I never could fairly make out what 'mournful numbers' was,' remarked Mr. Cobb critically.

'Then I guess you never studied fractions!' flashed Rebecca. 'See here, uncle Jerry and aunt Sarah, would you write another verse, especially for a last one, as they usually do—one with 'thoughts' in it—to make a better ending?'

'If you can grind 'em out jest by turnin' the crank, why I should say the more the merrier; but I don't hardly see how you could have a better endin',' observed Mr. Cobb.

'It is horrid!' grumbled Rebecca. 'I ought not to have put 'me' in. I'm writing the poetry. Nobody ought to know it is me standing by the river; it ought to be 'Rebecca,' or 'the darker maiden;' and 'the rush to Emma Jane' is simply dreadful. Sometimes I think I never will try poetry, it's so hard to make it come right; and other times it just says itself. I wonder if this would be better?'

But O! alas! we may not gain  
The good for which we pray.  
The quiet life may come to one  
Who likes it rather gay.

I don't know whether that is worse or not. Now for a new last verse!

In a few minutes the poetess looked up, flushed and triumphant. 'It was as easy as nothing. Just hear!' And she read slowly, with her pretty, pathetic voice:—

Then if our lot be bright or sad,  
Be full of smiles, or tears,  
The thought that God had planned it so  
Should help us bear the years.

Mr. and Mrs. Cobb exchanged dumb glances of admiration; indeed uncle Jerry was obliged to turn his face to the window and wipe his eyes furtively with the string-bag.

'How in the world did you do it?'

Mrs. Cobb exclaimed.

'Oh, it's easy,' answered Rebecca; the hymns at meeting are all like that. You see there's a school newspaper printed at Wareham Academy once a month. Dick Carter says the editor is always a boy, of course; but he allows girls to try and write for it, and then chooses the best. Dick thinks I can be in it.'

'In it!' exclaimed uncle Jerry. 'I shouldn't be a bit surprised if you had to write the whole paper; and' as for any boy editor, you could lick him writin'; I bate ye, with one hand tied behind ye.'

'Can we have a copy of the poetry to keep in the family Bible?'

Mrs. Cobb respectfully.

'Oh! would you like it?'

asked Rebecca. 'Yes indeed! I'll do a clean, nice one with violet ink and a fine pen. But I must go and look at my poor dress.'

The old couple followed Rebecca into the kitchen. The frock was quite dry, and in truth it had been helped a little by aunt Sarah's misinformants; but the colors had run in the rubbing, the pattern was blurred, and there were muddy streaks here and there. As a last resort, it was carefully smoothed with a warm iron, and Rebecca was urged to attire herself, that they might see if the spots showed as much when it was on.

They did, most uncompromisingly, and to the dullest eye. Rebecca gave one searching look, and then said, as she took her hat from a nail in the entry, 'I think I'll be going. Good-night! If I've got to have a scolding, I want it quick, and get it over.'

'Poor little unlucky misfortunate thing!' sighed uncle Jerry, as his eyes followed her down the hill. 'I wish she could pay some attention to the ground under her feet; but I vow, if she was oun I'd let her slop paint all over the house before I could scold her. Here's her poetry she's left behind. Read it out ag'in, mother. Land!' he continued, chuckling, as he lighted his cob pipe; 'I can just see the last flap o' that boy-editor's shirt tail as he legs it down for the woods, while Rebecky settles down in his revolv'n' cheer! I'm puzzled as to what kind of a job editin' is, exactly; but she'll find out, Rebecky

will. An' she'll just edit for all she's worth!

'The thought that God has planned it so  
Should help us bear the years.'

Land, mother! that takes right holt, kind o' like the gospel. How do you suppose she thought that out?'

'She couldn't have thought it out at her age,' said Mrs. Cobb; 'she must have just guessed it was that way. We know some things without bein' told, Jeremiah.'

Rebecca took her scolding (which she richly deserved) like a soldier. There was considerable of it, and Miss Miranda remarked, among other things, that so absent-minded a child was sure to grow up into a driveling idiot. She was bidden to stay away from Alice Robinson's birthday party, and doomed to wear her dress, stained and streaked as it was, until it was worn out. Aunt Jane six months later mitigated this martyrdom by making her a ruffled dimity pinafore, artfully shaped to conceal all the spots. She was blessedly ready with these mediations between the poor little sinner and the full consequences of her sin.

When Rebecca had heard her sentence and gone to the north chamber she began to think. If there was anything she did not wish to grow into, it was an idiot of any sort, particularly a driveling one; and she resolved to punish herself every time she incurred what she considered to be the righteous displeasure of her virtuous relative. She didn't mind staying away from Alice Robinson's. She had told Emma Jane it would be like a picnic in a graveyard, the Robinson house being as near an approach to a tomb as a house can manage to be. Children were commonly brought in at the back door, and requested to stand on newspapers while making their call, so that Alice was begged by her friends to 'reevle' in the shed or barn whenever possible. Mrs. Robinson was not only 'turrible neat,' but 'turrible close,' so that the refreshments were likely to be peppermint lozenges and glasses of well-water.

After considering the relative values, as penances, of a piece of haircloth worn next to the skin, and a pebble in the shoe, she dismissed them both. The haircloth could not be found; and the pebble would attract the notice of the Argus-eyed aunt, besides being a foolish bar to the activity of a person who had to do housework and walk a mile and a half to school.

Her first experimental attempt at martyrdom had not been a distinguished success. She had stayed at home from the Sunday-school concert, a function of which, in ignorance of more alluring ones, she was extremely fond. As a result of her desertion, two infants who relied upon her to prompt them (she knew the verses of all the children better than they did themselves) broke down ignominiously. The class to which she belonged had to read a difficult chapter of Scripture in rotation, and the various members spent an arduous Sabbath afternoon counting out verses according to their seats in the pew, and practicing the ones that would inevitably fall to them. They were too ignorant to realize, when they were called upon, that Rebecca's absence would make everything come wrong, and the blow descended with crushing force when the Jebusites and Amorites, the Gergashites, Hivites, and Perizzites had to be pronounced by the persons of all others least capable of grappling with them.

Self-punishment, then, to be adequate and proper, must begin, like charity, at home, and unlike charity should end there too. Rebecca looked about the room vaguely as she sat by the window. She must give up something, and truth to tell she possessed little to give, hardly anything but—yes, that would do, the beloved pink parasol. She could not hide it in the attic, for in some moment of weakness she would be sure to take it out again. She feared she had not the moral energy to break it into bits. Her eyes moved from the parasol to the apple-trees in the side yard, and then fell to the well curb. That would do; she would fling her dearest possession into the depths of the water. Action followed quickly upon decision, as usual. She slipped down in the darkness, stole out the front door, approached the place of sacrifice, lifted the cover of the

well, gave one unresigned shudder, and hung the parasol downward with all her force. At the crucial instant of renunciation she was greatly helped by the reflection that she closely resembled the heathen mothers who cast their babes to the crocodiles in the Ganges.

She slept well and arose refreshed, as a consecrated spirit always should and sometimes does. But there was great difficulty in drawing water after breakfast. Rebecca, chastened and uplifted, had gone to school. Abijah Flagg was summoned, lifted the well cover, explored, found the inciting cause of trouble, and with the help of Yankee wit succeeded in removing it. The fact was that the ivory hook of the parasol had caught in the chain gear, and when the first attempt at drawing water was made, the little offering of a contrite heart was jerked up, bent, its strong ribs jammed into the well side, and entangled with a twig root. It is needless to say that no sleight-of-hand performer, however expert, unless aided by the powers of darkness, could have accomplished this feat; but a luckless child in the pursuit of virtue had done it with a turn of the wrist.

We will draw a veil over the scene that occurred after Rebecca's return from school. You who read may be well advanced in years, you may be gifted in rhetoric, ingenious in argument; but even you might quail at the thought of explaining the tortuous mental processes that led you into throwing your beloved pink parasol into Miranda Sawyer's well. Perhaps you feel equal to discussing the efficacy of spiritual self-chastisement with a person who closes her lips into a thin line and looks at you out of blank, uncomprehending eyes! Common sense, right, and logic were all arrayed on Miranda's side. When poor Rebecca, driven to the wall, had to avow the reasons lying behind the sacrifice of the sunshade, her aunt said, "Now see here, Rebecca, you're too big to be whipped, and I shall never whip you; but when you think you ain't punished enough, just tell me, and I'll make out to invent a little something more. I ain't so smart as some folks, but I can do that much; and whatever it is, it'll be something that won't punish the whole family, and make 'em drink ivory dust, wood chips, and pink silk rags with their water."

(To be continued.)

## News of the Week.

President Taft last week offered to Colonel Goethals, Chief Engineer at Panama, the Governorship of the Canal Zone.

The Chinese Government has issued a manifesto foreshadowing the suppression of the cultivation of the poppy for the manufacture of opium.

Suffragettes in England last week tampered with signal wires on the Great Northern Railway.

It is estimated that the cost of the war in the Balkans has amounted, up to the present, to \$175,000,000. If the value of the property destroyed and the cost of mobilizations in Russia, Austria and Italy be included, the amount is placed at \$400,000,000.

The Ambassadors of the Great Powers reassembled in London on January 2nd, to review the Balkan situation. The chief bone of contention at present is the possession of Adrianople, a city 137 miles north-west of Constantinople.

Dr. Alexis Carrel, of the Rockefeller Institute of New York, who was awarded the Nobel prize for medical research during 1912, has discovered a method of stimulating the growth of tissues which will heal a cutaneous wound in less than a day and repair a broken leg in four days. The results of his experiments along this line are said to be almost miraculous.

There may be an early election in Great Britain on the Home Rule issue.

China has replied to the British note declining to negotiate a new treaty regarding Tibet. By the Anglo-Thibetan

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agreement of 1908, Britain agreed not to interfere in the administration of Thibet, or to annex her territory, China agreeing to prevent other nations from doing the same. It was also provided that China must police the trade routes in Thibet. China now insists that she has carried out her part of the contract faithfully, and resents the sending of

British troops from India into Thibet. She also resents the closing, by the Indian Government, of all the roads between China and Thibet, by way of India, claiming that such restrictions are only imposed, rightfully, in case of war. The note expresses regret at Britain's threat not to acknowledge the new Republic.

## For Sick Children.

The Christmas Spirit should not end with Christmas. All the year long, and every day of it, there are hearts that need to be made glad. During the 37 years of the existence of the Hospital for Sick Children, Toronto, 153,094 children have been treated, 700 having been treated in the Orthopedic Department alone, for club-feet. Toronto grants an annual amount of about \$40,000 to this institution, but more is required to extend the work, which is now Provincial. Even a dollar will help. Send it to Mr. J. Ross Robertson, Chairman of the Trustees, Hospital for Sick Children, College street, Toronto, Ontario.

## PAT THE GIANT.

The picture of the big Irish steer, Pat the Giant, referred to on page 15 of our January 2nd issue, was inadvertently left out of that issue, but appears on another page in this.

## SALE DATES CLAIMED.

Jan. 14th.—Annual Combination Sale, Burford, Ont.; Shropshire and South-down sheep.  
Jan. 15th.—D. Campbell, Komoka, Ont.; Holsteins.  
Jan. 17th.—Eastern Ontario Sales Association, Ottawa; pure-bred horses and cattle.  
Feb. 5th.—Annual Contribution Sale, Toronto; Shorthorns.  
Feb. 12th.—Fred Bogart, Kettleby, Ont.; Shorthorns.  
March 5th.—Contribution sale of pure-bred cattle, at Guelph, Ont.

QUESTIONS AND ANSWERS. Veterinary.

BRONCHITIS.

Mare has had slight cough for a month. She eats and looks well, and is in good spirits. We called our veterinarian in, and he said she had bronchitis and left treatment for her. Have we been properly advised? T. F.

Ans.—No doubt the treatment advised by your veterinarian is correct. Continue to carry out his instructions. V

SKIN TROUBLE.

Two years ago my team commenced rubbing their heads, and they rubbed the hair off. About a year ago the trouble extended to neck, mane and breast, and has spread practically all over the body. In real cold weather they are not so bad. I have used Creolin and Zenoleum without results. H. R.

Ans.—This is eczema. The horses should have been clipped early in November. This would have given a much better opportunity to treat, but it is too late in the season to clip now. Feed bran only for a day, then give each a purgative of 8 drams aloes and 2 drams ginger, and feed bran only until purgation commences. When purgation ceases, give each 1 1/2 ounces Fowler's Solution of Arsenic sprinkled on rolled or chopped oats twice daily for ten days. Make a solution of corrosive sublimate, 30 grains to a quart of water. Heat this to about 120 degrees Fahr., and wash the horses well with it every third day until itchiness ceases. After washing, keep in a warm place and rub well with cloths until nearly dry, then blanket well and keep comfortable until quite dry. As the corrosive sublimate is poisonous, care must be taken not to allow the horses to lick themselves freely while the hair is wet with the solution. It is possible the trouble is due to hen lice. If hens be near the horses, remove them, and whitewash the premises. V.

Miscellaneous.

SILO QUERIES.

- 1. Do silos, built inside the barn, give as good satisfaction as those built outside?
2. How many cattle would a silo 11 x 14 feet, 33 feet high, feed with cut straw, say, 200 days?
3. Is 11 x 14 too large for 33 feet high?
4. Having hard and soft maple, grooved and tongued flooring on hand, would it be advisable to use it for a silo inside barn?
5. Would one thickness of inch lumber be sufficient if the supports were close, and would matched or battens be best?
6. How would elm or hemlock lumber last, or would it be cheaper in the end to put in pine?
7. Where cattle run loose in box stalls or open shed, with clay or ground floor, it is not easy to clean often. Would it be much better for cattle to have cement floor and clean every day?
8. Does it pay to sow ten per cent. potash fertilizer with oats and barley on land that is in fair condition?
9. Would a cement silo on north side of barn give trouble with freezing?
10. With silo inside, is there greater danger from lightning? F. A. W.
Ans.—1. Properly built they should, but to save space the outside is generally preferred.
2. From 25 to 28 head, providing about 35 pounds is fed daily to each cattle beast.
3. The silo could do to be a little higher. Why not build a round silo?
4. Could you not dispose of the maple at a higher price than would be necessary to purchase hemlock, which would answer just as well?
5. Inch and one-half or two-inch lumber would be better. The lumber might be bevelled and joined. Battens would not be necessary.
6. Pine is good, but very expensive. Elm would not be satisfactory. Hemlock would do all right.
7. With a cement floor, it would not be absolutely necessary to clean every day. The cement floor would give good satisfaction.
8. Under certain conditions it might.
9. Not necessarily. Many are thus situated. Some of the silage is sure to freeze, but by keeping the edges lower than the middle the loss is not great.
10. Why should there be?

What's the Cash Value of Your Stock?

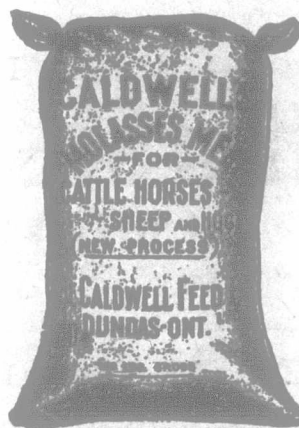
Suppose you had to "sell off" to-morrow, what would you get for your stock? Run your mind's eye over your cattle right now—pick them out one by one—mark down their value according to market conditions—total up the amount you could get for horses, cows, sheep and hogs! Now, what's the answer?

Hardly as much as you thought. Why? Because your cattle are not in prime condition! If they were, your stock would be worth from 25 to 50% more money. The difference is a mighty handsome amount—too much to allow it to slip through your fingers.

Get your stock into first-class condition! Get your horses and cows into a state of sleek, healthy contentment! Make your sheep and hogs step lively up to their highest market value! And—save money, while doing this, by feeding

CALDWELL'S MOLASSES MEAL

Yes, you can save money by using Molasses Meal, because it increases the value of the rest of the feed by at least 25%. But—be sure it's Caldwell's, because Caldwell's is guaranteed to contain at least 84% of pure Cane Molasses.



The Meal is dry to the touch, of a pleasant odor, easily digested and most palatable. Your animals will like Molasses Meal—they'll "take on" weight quickly, grow glossy coats and have all the natural spirits that comes from perfect health.

Caldwell's Molasses Meal is always uniform in quality. It will make your horses look better, work better and live longer. It will keep your cows in excellent condition—hence

You know a good deal about the nutritive value of pure cane molasses as a feed. You also know a good deal about its health-giving and health-conserving qualities.

But, the problem has been to find a convenient form in which to feed it. Caldwell's Molasses Meal solves the problem.

they will give more milk. It is the best and quickest conditioner of sheep, lambs and hogs.

N.B.—Ask us to prove to your satisfaction just how Caldwell's Molasses Meal will make your stock more valuable, and at the same time lower your feeding costs. Clip out coupon—mail to us, and we will send you full particulars.

The Caldwell Feed Co., Ltd. Dundas, Ont.

CUT ALONG HERE
Please send me booklet and full particulars as to cost, etc., of Molasses Meal.
Name.....
Post Office.....
Province.....

Children.

It should not end the year long, and here are hearts that ad. During the 37 of the Hospital Toronto, 153,094 treated, 700 having Orthopedic Department - feet. Toronto amount of about \$40,000, but more is rework, which is now a dollar will help. F. Ross Robertson, trustees, Hospital for age street, Toronto.

GIANT.

big Irish steer, Pat on page 15 of our was inadvertently sue, but appears on

CLAIMED.

Combination Sale. Wiltshire and South- bell, Komoka, Ont.; Ontario Sales Assn. pure-bred horses and Contribution Sale, ns. gart, Kettleby, Ont.; ution sale of pure elph, Ont.

**BEATS ALL PRICES** **DYER THE FENCE MAN** **GUARANTEES HIS GOODS**  
**FREE SAMPLE** **HE PAYS FREIGHT** **RUST PROOF**

**Fence Prices Up! Yes, But Don't Buy—  
 Never Buy—Until You Hear From DYER!**

Let me tell you, friends, steel and wire prices continue to advance. If you want to save good hard dollars that might just as well stay in your pockets, as in the steel makers', send me your order now. I will accept your order at prices below if postmarked not later than Jan. 16th, 1913. Why not get your neighbors together and buy in carload lots, it saves big money? I can take care of any order, big or little. I pay freight to any point in Ontario south of North Bay. I will accept money order (any kind), cash in registered letter, or your own personal cheque.

**ABOUT A STRETCHER.**—I have the most powerful, improved, all-metal stretcher on the market for you at \$6, when ordered with the fencing. Big railway fence contractors use it! Or I will loan it free on deposit of \$6.

**29 CENTS A ROD** for 10 strands, 51 inches high. Graduated spacing between line wires from 3 inches to 9 inches. Extra heavy farm fence.

**27 CENTS A ROD** for 9 strands, 48 inches high. Graduated spacing between line wires from 4 inches to 9 inches. Extra heavy farm fence.

**25 CENTS A ROD** for 8 strands, 48 inches high. Graduated spacing between line wires from 4 inches to 9 inches. Extra heavy farm fence.

**22 CENTS A ROD** for 7 strands, 48 inches high. Graduated spacing between line wires from 5 inches to 11 inches. Extra heavy stock fence.

**19 CENTS A ROD** for 6 strands, 40 inches high. Graduated spacing between line wires from 7 inches to 9 inches. Extra heavy stock fence.

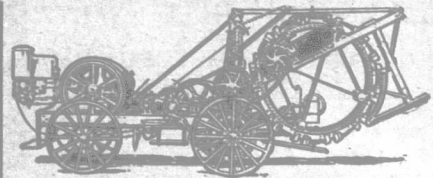
**17 CENTS A ROD** for 5 strands, 40 inches high. Graduated spacing between line wires from 9 inches to 10 inches. Extra heavy stock fence.

If you want the eight-, nine- or ten-strand fence, with 12 stays to the rod (16½ inches apart) add 3c. per rod to the above. Do you want a strong fence? A fence that will wear well, be rust-proof, and stand up against the strongest animal on your place? Then nothing but Dyer's Fence is good enough for you. Dyer's Fence is A No. 1 hard steel wire, highest galvanized and rust-proof. The only thing against Dyer's Fence is that I don't charge you a fancy price for it—no matter what you pay, you can't get a better fence. I guarantee my fencing absolutely. My guarantee is unconditional. It is your protection. Money back if not fully satisfied.

Get my cut prices on Gates, Lawn Fence, Poultry Fence, Roofing, Barbed Wire, etc.

**DYER, THE FENCE MAN,**

**Dept. C, Toronto, Ontario**



**The Ditching Business is  
 Waiting for Men  
 Like You**

**YOU** can't afford to let this opportunity slip by. It's your chance to get into an honest, legitimate, profitable business that will net you from \$15 to \$20 a day and keep you busy 9 to 10 months in the year. With the

**BUCKEYE  
 TRACTION  
 DITCHER**

you can realize your ambition to get into a good money-making business of your own.

Hundreds of men just like yourself have become independent, prosperous and respected men of weight in their communities through the help of the BUCKEYE.

The BUCKEYE digs ditches so much faster and better than slow hand-labor methods that you can easily find plenty of work among the farmers in your neighborhood.

You can get a BUCKEYE with either gasoline or steam power. One man can operate the gasoline, two the steamer. Either machine will cut from 100 to 150 rods a day, according to soil conditions.

If you want to know more about this machine and the possibilities of the ditching business, sit down and write for Catalogue "T." It's free.

**THE BUCKEYE  
 TRACTION DITCHER CO.**  
 Findlay, Ohio.

**"Go North Young Man"**

**WHY?**

Because there are millions of acres of agricultural land in Northern Ontario, in some cases free, and in others at 50 cents per acre, excelling in richness any other part of Canada, blessing and waiting to bless the strong, willing settler, especially the man of some capital. For information as to terms, home-stead regulations, special railway rates, etc., write to

**H. A. Macdonnell**  
 Director of Colonization

**TORONTO, ONTARIO.**  
**HON. JAS. S. DUFF,**  
 Minister of Agriculture

**PATENTS** procured everywhere  
**EGERTON R. CASE,**  
 Registered Attorney, Dept. E, Temple Building,  
 Toronto, Booklets on request, 20 years' experience.

**PEERLESS - PERFECTION**

**The Fence That's Locked Together**  
 The attacks and onslaughts of animals can't faze it. It's strong, yet springy. Manufactured from Open Hearth steel galvanized wire. When made by this process, impurities are burned out of the metal, removing one of the chief causes of rapid corrosion or rusting.

**Read What Others Say**  
 Gentlemen:—There is no fault to find with your fence. The fencing I put up 4 years ago is just as good as the day I put it up, showing no signs of rust, and giving good satisfaction. The Peerless stands the test better than any other make that I have seen. Yours truly,  
 JOHN MASON,  
 Spring Brook.

Gentlemen:—I have been in the fence business for ten years, and I find no fence like the Peerless, both for galvanizing and workmanship. I consider it equal, if not superior to any other make of fence on the market today. I have always found the Banwell-Hoxie Fence Co. people of their word. Yours respectfully,  
 Glenburnie, Ont. **MACK LILLIS.**

Send for our latest catalog. Ask about our poultry fencing and ornamental gates. Agencies nearly everywhere. Agents wanted in open territory.  
**Banwell-Hoxie Wire Fence Co., Ltd.** **Winnipeg, Man., Hamilton, Ont.**

**Eastern Ontario Sales Association  
 AUCTION SALE**

OF  
 PURE BRED

**Horses and Cattle**

at **OTTAWA, January 17th, 1913**  
 DURING WEEK OF FAT STOCK SHOW

Sale Starts at 11 a. m.

**E. McMahon, Sec.-Treas.**

**SHOWING AT OTTAWA**

About 20 of our Clydesdale Stallions and Mares

will be at the Ottawa Show from Jan. 13th to 17th. It will only be a pleasure to tell you about them and quote prices. **Smith & Richardson, Columbus, Ont.**

Stations—Myrtle, C. P. R.; Oshawa, C. N. R.; Oshawa and Brooklin, G. T. R. Phone Connections.

**Clydesdales in Quantity and Quality**

**ORMSBY GRANGE STOCK FARM, Ormstown, P. Que.**

As I am feeding no steers this winter I have filled my stables with imported fillies, selected personally in Scotland; many in foal to such sires as Hiawatha, Sir Hugo, King's Champion, Sir Rudolph, etc. Fourteen have been sold, eighteen of the best are still on hand—the selections being made more on account of price than superiority. There are no culls in the lot. Send for pedigrees and particulars before buying elsewhere. Inspection invited.

**D. McEACHRAN.**  
**Percheron, Belgian and Shire Stallions**—Imported and home-bred. Three to four years old, maturing 1,800 to 2,400 lbs. No finer lot in America. Prices and terms reasonable. Barns in city.

**LEW W. COCHRAN, Office, 205 Ben Hur Bldg., Crawfordsville, Ind.**

**Imported Clydesdale Fillies** of "Baron's Pride," "Hiawatha" and "Royal Favorite" strains; also children's ponies.  
**ALEX. F. McNIVEN,**  
 St. Thomas, Ontario

**BOOK REVIEW.**

**A GOOD BEGINNING.**

One might suppose from the number of excellent poultry books already in use that there was no place or need for another. But it is a mistake to suppose that the last word has been said, or said in the best way on any subject. This is proven by a new work called "The Beginner in Poultry," by C. S. Valentine, author of a former book called "How to Keep Hens for Profit." We are agreeably disappointed in the new volume. It is by no means an amateurish treatise, but it starts out by discussing the making of a poultryman from a new standpoint, viz., that of the birds themselves. In education, it is now well recognized that the most important stage is in the primary class, and it is there that the best teachers are required. So with this book. Though written in an easy, conversational way, it embodies a world of poultry experience in its thirty-four chapters, covering 450 pages, and four score instructive illustrations, many of which display a great deal of originality. Experienced poultrymen will find the book well stored with valuable technical information, embodying the results of experiments and demonstrations. To digest its pages thoroughly will save many an over-enthusiastic beginner from a lot of costly blunders, and it is full of practical hints, which he or she will find helpful from the first to the last day of any undertaking in the poultry business. Copies of this excellent work may be secured through this office, at \$1.65, postage paid. The Macmillan Co., Toronto, Canada, are the publishers.

**GOSSIP.**

The annual combination sale of high-class registered Shropshire and South-down sheep, 75 yearling ewes, 40 ewe lambs, and 20 rams, to take place on January 14th, at Burford, Ont., near Brantford, opens a rare opportunity to secure good foundation stock, or to improve and increase a flock with up-to-date material, on easy terms. See the advertisement.

Official records of 259 Holstein-Friesian cows were accepted for entry in the American Advanced Registry, from November 10th to December 7th, 1912. This herd of 259 animals, of which nearly one-half were heifers with first or second calves, produced in seven consecutive days, 104,255.9 lbs. milk, containing 3,672.087 lbs. of butter-fat; thus showing an average of 3.52 per cent. fat. The average production for each animal was 402.5 lbs. milk, containing 14.178 lbs. of butter-fat; equivalent to 57.5 lbs. or over 27.38 quarts milk per day, and 16.54 lbs. of the best commercial butter per week.

**A GREAT LINE OF SHORTHORNS.**  
 That blood will tell, and that the superior qualities of some lines are prepotent enough to transmit those qualities from generation to generation, was again exemplified at the late Guelph show, when four first-prize winners in the Shorthorn classes proved to be grandsons and daughters of that renowned bull Gold Drop =43723=, that for so many years, at the head of the Springhurst herd of Harry Smith, of Hay, Ont., produced for him more prizewinners than any other bull in Canada, imported or Canadian-bred, ever produced. The Guelph winners were: Ben, first-prize two-year-old steer, sired by Ben Wyvis 72369; Jim, first-prize yearling grade steer, sired by Viscount Vanity 72870; Lancaster Lily, first in the Shorthorn heifer calf class, sired by Mutineer 80006; Mischief E., first, Shorthorn yearling class, also won the Prince of Wales prize and grand championship over all breeds for the best fat animal of the show, sired by Village Bridegroom 72868. All these great sires were bred by Mr. Smith, and for this season he has about ten young bulls for sale of a quality never surpassed in his many years of successful breeding, and bred on the same prizewinning lines that has many times proven its superiority. Parties wanting a herd-header should make a note of this.

REVIEW.

from the number books already in use... mistake to suppose... has been said, or... on any subject... a new work called "Poultry," by C. S. of a former book... Hens for Profit." appointed in the new means an amateur... starts out by dis... a poultryman from... that of the birds... it is now the most important... class, and it is... teachers are re... is book. Though... conversational way... of poultry experi... chapters, covering... score instructive... of which display a... quality. Experienced... the book well... technical informa... results of experi... rations. To digest... will save many an... ginner from a lot of... it is full of prac... e or she will find... to the last day of... the poultry business... lent work may be... is office, at \$1.65... Macmillan Co., To... the publishers.

# Gombault's Caustic Balsam

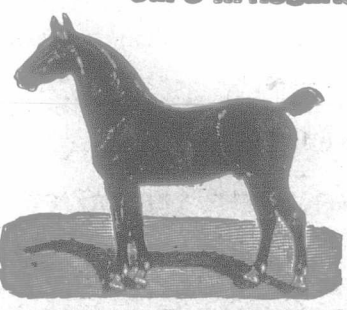
The Worlds Greatest and Surest Veterinary Remedy HAS IMITATORS BUT NO COMPETITORS!

**SAFE, SPEEDY AND POSITIVE.**  
Supersedes All Caustery or Firing. Invaluable as a CURE for  
**FOUNDER, WIND PUFFS, THRUSH, DIPHTHERIA, SKIN DISEASES, RINGBONE, PINK EYE, SWEENEY, BONY TUMORS, LAMENESS FROM SPAVIN, QUARTER CRACKS, SCRATCHES, POLL EVIL, PARASITES.**

**REMOVES BUNCHES OF BLEMISHES, SPLINTS, CAPPED HOCK, STRAINED TENDONS.**  
**SAFE FOR ANYONE TO USE.**

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

**The Accepted Standard VETERINARY REMEDY**  
Always Reliable. Sure in Results.



None genuine without the signature of The Lawrence-Williams Co. Sole Importers & Proprietors for the U.S. & CANADA. CLEVELAND, O.

**THE BEST FOR BLISTERING.**  
I have used GOMBAULT'S CAUSTIC BALSAM quite a good deal, and for a blister it's the best I ever used. I wish your remedy every success.  
CHAS. MOTT, Manager, Mayfield Stud Farm, Leesburg, Va.

**CURED OUB WITH TWO APPLICATIONS.**  
Have used your GOMBAULT'S CAUSTIC BALSAM to cure curb. I blistered it twice, and there is no sign of it any more. The horse is as good as ever.—DAN SCHWER, Evergreen, Ill.

Sole Agents for the United States and Canada. **The Lawrence-Williams Co.** TORONTO, ONT. CLEVELAND, OHIO.

## Champions in Clydesdales & Percherons

At the late horse show in Guelph my entries in both Clydesdales and Percherons won by far the largest number of first prizes besides four championships. When you want a Clyde or Percheron stallion or filly come where you can get the best the breeds produce. Over 60 head to select from, champions and prize-winners.

**T. H. Hassard**

Markham P. O., G. T. R. Locust Hill, C.P.R. is only 3 miles.

**CLYDESDALES OF SHOW-CALIBRE**  
We have stallions and fillies of our 1912 importation that have won many first prizes and championships. This type, quality and breeding is unexcelled. Prices as low as any, and terms the best.  
**ROBT. NESS & SON, Howick, Que.**

**CLYDESDALES OF CANADA'S STANDARD**  
They have arrived—my third importation for 1912, stallions and fillies. I have now the biggest selection in Canada, and a few toppers in stallions. High-class breeding and high-class quality and low prices.  
**G. A. BRODIE, Newmarket P.O.**

**Clydesdales and Percherons**  
Stallions and fillies of either breed. Over forty head to select from. Draft horses in reality as well as in name. Highest types of the breeds. Come and see them. Terms and prices to suit.  
**T. D. ELLIOTT & SON, BOLTON, ONTARIO**

**IMPORTED CLYDESDALES**  
A few choice young stallions always on hand and for sale. Frequent importations maintain a high standard. Prices and terms to suit.  
**BARBER BROS., Gatineau Pt., Que., near Ottawa.**

**Stallions — CLYDESDALES — Fillies**  
I have a big importation of Clyde stallions and fillies just landed; a lot that cannot be duplicated to-day in Scotland and never was in Canada. Let me know your wants.  
**ROBT. BEITH, Bowmanville, Ont.**

# TRANSIT Insurance

**H**ORSES and cattle shipped to the Western Provinces or elsewhere can be insured under short term Policies of 5, 10, 15, 20, 25, 30 days to cover the Railroad transit and a few days after arrival. These policies cover the Owner against loss by Accident or Disease and only cost a few dollars per carload. Losses are heavy on Live Stock shipments on account of injuries sustained in cars through rough shunting, trampling, car fever, etc. not to mention numerous other causes resulting fatally a day or two after landing at destination. We cover both on board car and after arrival, some other companies do not cover after arrival. Insure with us and get the most for an equal premium. Do not take any chances with others. All kinds of live stock insurance transacted. Write us for particulars and name and address of nearest agent. Head Office: **THE GENERAL ANIMALS INSURANCE CO. OF CANADA, 71a ST. JAMES STREET, MONTREAL, Que.**

### QUESTIONS AND ANSWERS. Veterinary.

#### SCALE ON LEGS.

Horse had scales on his legs last winter. I treated as advised in your paper and it effected a cure, but the legs swelled again this fall, and scales are again present.

E. M.

Ans.—It is not possible to prevent this condition reappearing in horses that are predisposed. Purge him with 8 drams aloes and 2 drams ginger. Get some oxide-of-zinc ointment and to each ounce add 20 drops of carbolic acid, and rub a little on twice daily. If possible, avoid mud and wet, but if he gets his legs muddy or wet, do not wash. Allow them to dry in the stable, and then brush clean.

V.

#### UNTHRIFTY HORSE.

Middle-aged horse is getting three quarts of oats twice daily, in addition to hay. He has a poor appetite. His coat is heavy and he sweats easily when driven. Would it be well to clip him?

G. A. McK.

Ans.—It is too late in the season to clip now, and no doubt you will have trouble if you do so. Wait until about the middle of April. Get your veterinarian to dress his teeth. To improve his appetite, give a tablespoonful of equal parts sulphate of iron, gentian, ginger, and nux vomica, three times daily. Feed him a gallon of oats three times daily, and hay night and morning (none at noon). Give a couple of carrots or a mangrel or turnip at noon, and give him regular exercise.

V.

#### LUMP JAW.

Cow has had a lump on her jaw for eighteen months. It appears to be grown to the jawbone. It has never broken. Are milk and meat fit for use?

T. P. C.

Ans.—This is lump jaw. In many cases a cure can be effected by the iodide-of-potassium treatment, but in chronic cases like this, a cure is more doubtful. The milk and flesh of an affected cow is not considered fit for use. Give her iodide of potassium three times daily. Commence with one-dram doses, and increase the dose by one-half dram daily until she refuses food and water, fluid runs from eyes and mouth, and the skin becomes scurfy. When any of these symptoms become well marked, cease giving the drug. If necessary, repeat treatment in two or three months.

V.

#### ENLARGED KNEE.

One morning last spring I noticed my yearling colt's knee swollen and discharging matter out of a puncture. I called my veterinarian in, and under his treatment the wound healed, but the knee remained enlarged. We blistered it twice, and used an ointment, and while it has become reduced some, it is yet quite large.

H. L. H.

Ans.—Chronic enlargements are the usual result of punctures such as this. They are very hard to reduce, and in many cases it is not possible to entirely remove them. Get a liniment made of 4 drams each of iodine and iodide of potassium, and 4 ounces each of alcohol and glycerine. Rub a little of this well in once daily. Do not expect quick results, but keep up the treatment for a few months, and you will probably succeed in reducing the enlargement considerably, and probably altogether.

V.

**Brilliant Light ON YOUR TABLE**  
Five times more powerful than largest circular coal oil lamp, this clear soft white light makes reading a pleasure. Cheaper than coal oil. Costs less than 1/2c per hour. Always ready. Generates itself. Burns its own gas with mantle same as city gas. No chimney. No odor.  
Beautiful ornament to any table. Art dome of rich amber glass with 2 1/2 inch beaded fringe. Write to-day for descriptive circular and card. A showing lamp in natural colors.  
**RICE-KNIGHT Ltd.**  
Toronto or Regina

**DR. PAGE'S ENGLISH SPAVIN CURE**  
For the cure of Spavins, Ringbones, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on cattle, and to remove all unnatural enlargements. This preparation, unlike others, acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9 Yorkville Road, London, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents:  
**J. A. JOHNSTON & CO., Druggists, 171 King St. E. TORONTO, ONT.**

**ABSORBINE**  
Removes Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Swellings from any Bruise or Strain, Cures Spavin Lameness, Allays Pain. Does not blister; removes the hair or lay up the horse. \$3.00 a bottle after bottles delivered. Book 1 is free. ABSORBINE, etc., liniment for manning, for Synovitis, Strains, Gouty or Rheumatic Deposits, Swollen, Painful Varicose Veins; Allays Pain. Will tell you more if you write. \$1 and \$2 per bottle at dealers or delivered. Manufactured only by J. J. YOUNG, P.O. 735 Evans Bldg., Montreal, Can.

**Messrs. HICKMAN & SCRUBY**  
Court Lodge, Egerton, Kent, Eng.

**Live Stock of all Descriptions**  
Draft horses of all breeds a specialty. Intending buyers should write us for particulars, as we can place before them the most attractive proposition they have yet experienced. We can send highest references from satisfied buyers of nearly all breeds.

**Notice to Importers C. CHABOUDEZ & SON**  
205 rue La Fayette, PARIS, FRANCE.

If you want to buy Percheron Horses and Mares, I will save you time and money and all trouble with papers and shipment. Will meet importers at any landing port. I am acquainted with all breeders and farmers. Thirty years' experience. Best reference. Correspondence solicited.

**Bickmore's Gall Cure** For Galls, Sore Shoulders, Cuts. Cures while horse works. Horse book free. **WINGATE CHEMICAL CO., 80 Notre Dame St. W., Montreal, Canada.**

**Clydesdales, Standard-breds, and Shorthorns.** Our herd numbers about 40 head. Headed by the great stock bull, Trout Creek Wonder. Ten bulls for sale, from 6 to 14 months old; all good colors and good individuals. **DUNCAN BROWN & SONS, Walnut Grove Stock Farm, Iowa, Ont.**

**NO OFFENSE.**  
She—"Pardon me, sir, for walking on your feet."  
He—"Oh, don't mention it. I walk on them myself, you know."

**A Fortune in Chicks**

**One Man and His Son Made \$12,000 In One Year With Poultry**

You will want to read his letter telling how it was done. And best of all any one who will follow the same simple practical rules will be sure to make big money with poultry. Every one who keeps poultry or who is thinking of starting in this business should have a copy of this big

**112 Page Book--Free**

Nothing like it has ever been published before. It is filled from cover to cover with splendid illustrations and bristles with money making--money saving facts. You will be interested in the articles by Prof. W. R. Graham of Guelph, Ontario, "Hatching and Rearing" and "The Automatic Henhouse." Other subjects discussed are "How to Select Layers," "Which Breed is Best," "How to Treat Diseases." Just think of it--75 of the 112 pages contain no advertising--just helpful information from the greatest authorities on poultry raising. This book will save you a thousand mistakes and make poultry raising profitable if you will follow the advice it gives.

**Write Your Name on a Postal Card** and mail it to us at once. We will send the complete book free of postage. You will want to know about the new **FRANKLIN STATE INCUBATOR** with **Sand Tray**--the **FRANKLIN STATE UNIVERSAL HOVER BROODERS** which you can operate at home and save money. All leading agricultural colleges and experimental stations use **Franklin State Incubators** because they hatch chicks that live. Write for free book **Ship your card to us and we will send you the book.**

**Gunn, Langlois & Co., Ltd.**  
Box 116 Montreal, Canada  
New York in Canada of the famous Franklin State Incubators.

**This Will Stop Your Cough in a Hurry.**

Save \$2 by Making This Cough Syrup at Home.

This recipe makes 16 ounces of better cough syrup than you could buy ready made for \$2.50. A few doses usually conquer the most obstinate cough--stops even whooping cough quickly. Simple as it is, no better remedy can be had at any price.

Mix two cups of granulated sugar with one cup of warm water, and stir for 2 minutes. Put 2 1/2 ounces of Pinex (fifty cents' worth) in a 16-ounce bottle; then add the sugar syrup. It has a pleasant taste and lasts a family a long time. Take a teaspoonful every one, two or three hours.

You can feel this take hold of a cough in a way that means business. Has a good tonic effect, braces up the appetite, and is slightly laxative, too, which is helpful. A handy remedy for hoarseness, croup, bronchitis, asthma, and all throat and lung troubles.

The effect of pine on the membranes is well known. Pinex is the most valuable concentrated compound of Norwegian white pine extract, and is rich in guaiacol and all the natural healing pine elements. Other preparations will not work in this formula.

This Pinex and Sugar Syrup recipe has attained great popularity throughout the United States and Canada. It has often been imitated, though never successfully.

A guaranty of absolute satisfaction, or money promptly refunded, goes with this recipe. Your druggist has Pinex, or will get it for you. If not, send to the Pinex Co., Toronto, Ont.



**THE NATIONAL STOCK FOOD COMPANY**

Ottawa, Ontario.

The home of all kind of the purest **VETERINARY MEDICINES**

Get your supply direct from the company. It's economy.

**NOTICE TO HORSE IMPORTERS**  
**GERALD POWELL,**

Commission Agent and Interpreter,  
**NOGENT LE ROTROU, FRANCE**

Will meet importers at any port in France or Belgium, and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking, and pedigrees. Many years experience; best references. Correspondence solicited.

**DR. BELL'S** Veterinary Medical Wonder. 10,000 \$1.00 bottles **FREE** to horsemen who will give The Wonder a fair trial. Guaranteed to cure Inflammation, Colic, Coughs, Colds, Distemper, Fevers, etc. Agents wanted. **DR. BELL, V.S., Kingston, Ont.**

**Aberdeen Angus**--A few bulls to sell yet; also females. Come and see them before buying. Drumbo Station.

**WALTER HALL, Washington, Ont.**

**Aberdeen-Angus Cattle** Mature early. Several young bulls for sale. Apply **MANAGER "GRAPE GRANGE" FARM** Clarksburg, Ont.

**3 Choice Aberdeen-Angus Bulls** For Sale, from 8 to 14 months of age. **Glengore Stock Farm,** R. R. No. 2, Erin, Ontario

**QUESTIONS AND ANSWERS.**  
**Miscellaneous.**

**OIL-SKIN MOCCASINS.**

Are oil-skin moccasins good things to wear in the country? Will they keep the feet warm? I do not mean for snow-shoeing, simply to wear instead of shoes, with plenty of socks. D. S.  
[Note.--Brief letters from those who have used such moccasins would be in order.]

**THRESHING CLOVER.**

I have a big crop of second-growth clover which I know is well seeded, and as clover seed is not raised in this part of the country, I would like to know whether it could be threshed with a common grain separator, as there is no clover thresher in this part of the country. J. S. H.

Ans.--There is an attachment for the regular grain thresher which is often used for clover threshing. If you cannot get a clover huller to thresh it, get a machine with this attachment.

**A CLIPPED DRAKE.**

I have a drake and I cut his tail feathers off so as to know him from those that were related to the ducks which I am keeping for breeding. I have been told that the drake would be of no use for breeding purposes unless his tail feathers grow out. Is there any ground for such an idea? J. F. B.

Ans.--Unless you cut his tail off "right behind his ears" he will likely be as useful as a breeder as ever he was. The loss of the ends of a few feathers could not in any way affect his usefulness.

**ELECTRICAL ENGINEERING.**

I am a farmer's son, and am very fond of machinery. I would like to take electric engineering.

1. What does an electrical engineer do?
2. Is it good employment?
3. About what salary does it command?
4. Would the Toronto School of Practical Science be a good place to take it up?

Ans.--Correspond with A. T. Laing, B. A. Sc., Secretary of the Faculty of Applied Science and Engineering, University of Toronto, Toronto, Ont.

**BREAST BONES CROOKED.**

When I killed my turkeys for market this month I found that several had crooked and twisted breast bones. Explain the cause. A. S. M.

Ans.--Many poultry-raisers believe that crooked breast bones are a result of the birds roosting at too early an age. This may have a tendency towards producing the trouble, but the real cause is that the birds inherit crooked breasts from either their sire or mothers. The trouble is hereditary, and care should be taken to use perfectly-formed males and females for breeding.

**IMPORTATION OF GERMAN COACHERS.**

What papers are required to import a German Coach stallion from the United States? Do they enter Canada on the free list? J. S.

Ans.--German Coach horses from the United States may enter Canada free of duty, if they are imported from Germany, recorded in one of the following Foreign Studbooks: Ostfriesisches Stutbuch, Stutbuch der Munsterlandisch-Oldenburgischen, Oldenburger Stutbuch. American-bred horses are not granted import certificates. Foreign certificate of registration must be sent to the Canadian National Live-stock Records, Ottawa, for certification and import certificate.

**A PROLIFIC COW.**

A correspondent of the Irish Farming World reports a case of extraordinary productiveness by a muley cow that has given birth to eight healthy calves in a little more than thirty-seven months. The detail is October 26th, 1909, twin bulls; November 15th, 1910, twins, bull and heifer; November 17th, 1911, twin heifers; December 5th, 1912, twin bulls. Who can announce an equal record?

**The Great Canadian Shorthorn Sale**

WILL BE HELD AT THE

**UNION STOCK YARDS, TORONTO, ONTARIO**

**Wednesday, the 5th February, 1913**

This is the sixth Annual Sale made by practically the same men, and they will offer 60 head of pure Scotch Shorthorns, male and female.

In the lot are bulls that have been tried and proved genuine good sires, and great show bulls. There are also young bulls that are of the very best breeding, from winning sires and dams, that look like winning themselves when shown. There are females that have won the highest honors that they could compete for in the best shows, there are others that will make great show heifers and cows, and every one is fit to put in the best herds in the land, to make producers of the very best.

**J. A. Watt, Salem, Ont.; Peter White, K. C., Pembroke, Ont.; John Miller, Jr., Ashburn, Ont.; W. R. Elliott & Sons, Guelph, Ont.; and Robt. Miller, Stouffville, Ont.; will furnish the cattle.**

ASK ROBT. MILLER, STOUFFVILLE, ONT., FOR CATALOGUE, and make your plans to attend the sale; it is the day following the Annual Shorthorn Meeting.

**UNION STOCK YARDS of TORONTO, Limited**

**Horse Department**

**Auction Sale every Wednesday Private Sale every day**  
**Railroad Loading Facilities at Barn Doors**

**W. W. SUTHERLAND, IN OFFICE J. H. ASHCRAFT, Jr., MANAGER**



**To Prospective Stallion and Mare Buyers**

We have at our barns the largest and finest bunch of imported approved Percheron stallions and mares ever brought into this country. Our stallions range in age from two-year-olds to six, and are all the large, drafty, heavy-boned type and good movers.

Our mares, of which only a few are left, range from two to five years old, and are all in foal.

As we buy for cash direct from the small French farmer, we are able to sell at prices that will save any buyer from \$200 to \$500 on a stallion, and give more quality and breeding.

To all parties contemplating buying a stallion, we feel confident that it will be to their advantage to inspect our stock, as we sell below competition.

Correspondence invited from all interested parties.

**R. HAMILTON & SON, SIMCOE, ONTARIO**

**Columbus Clydesdales at Guelph**

We will make it worth your while to look over our string of 20 stallions and fillies at the Show. Look us up.

**SMITH & RICHARDSON, Columbus, Ontario**  
Stations: Myrtle, C.P.R.; Oshawa, C.N.R.; Oshawa and Brooklin, G.T.R. Phone connections.



**Just Arrived--Clydesdale Stallions and Fillies**

Bigger and better than ever before in our 1912 importation just arrived. Stallions with size, character, quality and breeding. Fillies of high-class breeding and quality for show or breeding purposes. Come and see them. Terms and prices right. **JOHN A. BOAG & SON, Queensville P.O. and Sta., on Toronto to Sutton Electric Line L.-D. Phone.**

**CLYDESDALES --- A NEW IMPORTATION**

We have lately landed a shipment of Clyde stallions and fillies, several Scotch winners among them. Their breeding is unsurpassed. Comparison with any others in the country will make you a buyer from us. Our prices are as low as the lowest. L.-D. Phone. **GOODFELLOW BROS., MACVILLE P. O., ONT.; BOLTON STATION, C. P. R.**



**QUALITY AND SIZE IN CLYDESDALES** For the best breed produces in the combination of size, character, quality, breeding and action, see my 1912 importation of Clyde Stallions and Fillies. Prices and terms unequalled.  
**JAMES TORRANCE, MARKHAM, Locust Hill, C. P. R. P. O. and Sta., G. T. R. L. D. Phone**

**PERCHERONS, STANDARD-BRED and FRENCH COACHERS**

I am offering prizewinners and champions in Percheron stallions, Standard-bred stallions, French Coach stallions and Percheron mares, filly and horse colts. Prices very low. C. P. R., Ottawa to Montreal line. **J. E. ARNOLD, Grenville, Quebec.**



**THE MAPLES HEREFORDS** Never before have had so about one year old, including the 1st-prize calf herd at Toronto. We can also spare a few older ones. We breed our winners and win with our breeding. Inspection invited. Write us your wants. **MRS. W. H. HUNTER & SONS, THE MAPLES, ONTARIO**

**Orchard-Grove Herefords** I have lately made a big importation of the leading herds of Illinois. In my herd you now have 25 Bulls to select from; a big range of Heifers and Cows. High-class show and breeding stock a specialty.  
**L. O. CLIFFORD, Oshawa, Ontario, G.T.R. and C.N.R.**

BEST RESULTS ARE OBTAINED FROM ADS. IN "ADVOCATE."

**"Little Wireless Phones"**  
For the ears that will cause you to

**HEAR**

What eye glasses are to failing sight, my invisible ear drums are to lost or failing hearing. Just as simple and common sense and on the same principle, for they magnify sound as glasses magnify sight. They are really tiny telephones of soft, sensitized material, safe and comfortable, which fit into the orifice of the ears and are invisible. They can be removed or inserted in a moment and worn for weeks at a time, for they are skillfully arranged for perfect ventilation and anti-friction. These little wireless 'phones' make it easy to hear every sound distinctly, just as correct eye glasses make it easy to read fine print. Among the nearly 400,000 people whom they have enabled to hear perfectly, there has been every condition of deafness or defective hearing. No matter what the cause or how long standing the case, the testimonials sent me show marvelous results.

**Common-Sense Ear Drums**

have restored to me my own hearing—that's how I happened to discover the secret of their success in my own desperate endeavors to be relieved of my deafness after physicians had repeatedly failed.

It is certainly worth your while to investigate. Before you send any money just drop me a line. I want to send you *free of charge* my book on deafness and plenty of evidence to prove to you that I am entirely worthy of your confidence. Why not write me today?

GEORGE H. WILSON, President  
WILSON EAR DRUM CO., Incorporated  
764 Inter-Southern Building, Louisville, Ky.

**Ring-Bone**

There is no case so old or bad that we will not guarantee

**Fleming's Spavin and Ringbone Paste**

to remove the lameness and make the horse go sound. Money refunded if it over falls. Easy to use and one to three 45-minute applications cure. Works just as well on Sidebone and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of Fleming's Vest-Pocket Veterinary Adviser.

Ninety-six pages of veterinary information, with special attention to the treatment of Blemishes. Durable bound, indexed and illustrated. Make a right beginning by sending for this book.

FLAMING BROS., Chemists,  
75 Church Street, Toronto, Ont.

**"The Manor" Scotch Shorthorns**

Present offering: Three choice yearling bulls. Young cows in calf. Yearling heifers; Clippers, Minas, Wimples, Julias, etc. Inspection solicited. Prices moderate. Phone connection.

J.T. GIBSON, DENFIELD, ONTARIO.

**SPRING VALLEY SHORTHORNS**

Herd headed by the two imported bulls, Newton Ringleader, =73783 =, and Scottish Pride, =36106 =. The females are of the best Scottish families. Young stock of both sexes for sale at reasonable prices. Telephone connection.

KYLE BROS. - - - Ayr, Ontario.

**Woodholme Shorthorns**

I have for sale two very choice young bulls (pure Scotch). Also a number of heifers of this level type, and richest breeding. G. M. FORSYTH, North Claremont, Ont.

**1854 Maple Lodge Stock Farm 1912**

Have the best lot of young Shorthorn bulls ever in herd at one time. Several from cows that give 50 lbs. milk per day, and sired by "Senator Lavender." A few excellent Leicester ewes and rams for sale.

A. W. SMITH, Maple Lodge, Ont.  
Lucan Crossing, G.T.Ry., one Mile.

**OAKLAND 50 SHORTHORNS**

Present offering is eight bulls, including our champion stock bull, Scotch Grey =72692 =, all rams and reds. Also a goodly number of females, all of the dual-purpose strain. Good cattle and no big prices.

JNO. ELDER & SON, HENSALL, ONTARIO

**Shorthorns** of both sexes at all times for sale at very reasonable prices.

ROBERT NICHOL & SONS  
Hagersville, Ontario.

**"RED COMPOUND BLISTER"**

The old and reliable for "SPAVIN," "RING-BONE," etc. Price 50c. Write now to National Stock Food Company, Ottawa, Ont.

**SHORTHORNS and SWINE**—Have some choice young bulls for sale, also cows and heifers of show material, some with calves at foot. Also choice Yorkshire and Berkshire sows. ISRAEL GROFF, Elmira, Ontario.

**Fletcher's Shorthorns** Our herd of Pure Scotch Shorthorns (Imp.) or direct from imported stock, is headed by the grandly-bred Bruce Mayflower bull, Royal Bruce (Imp.) =55038 = (89909) 273853. Choice young stock for sale.

GEO. D. FLETCHER, R. R. No. 2, Erin, Ont.

**QUESTIONS AND ANSWERS.**  
Miscellaneous.

**TOP DRESSING CLOVER.**

I have a ten-acre field of this year's seeding, timothy and red clover, which made an exceptional growth, about fifteen or eighteen inches. What I want to know is, would it smother this clover if I gave it a top dressing of manure, applied with a manure spreader. If it would be safe, I would like to put the manure on reasonably heavy. R. F.

Ans.—It should not smother the clover if the manure is at all well rotted, and not applied too heavily.

**DARK SILAGE.**

I am sending you, under separate cover, sample of corn silage which was taken eighteen inches from top of bin. When corn was cut it had to stay on ground for two weeks before filling silo on account of rain. It also got some frost, but only leaves were affected. Corn was in glazed state, and of King Phillip variety, and has been in silo for fifty days. Was well tramped and covered with oats. Top that came off was only eight inches thick, and next the center the silage is the same as sample at the eighteen inches. Is the silage safe to feed, and will it keep cows that eat it well. Will it keep the season through? T. E. W.

Ans.—While dark-colored, as much of the silage is this year, the sample smelled all right, and appeared to be by no means unwholesome. We should not hesitate to use it, rejecting, however, as always, any moldy portions. It should keep, and you will no doubt find the quality improving somewhat as you go down.

**UNCERTAINTY AS TO PREGNANCY—HENS CROWING.**

1. What is the surest way of ascertaining whether a heifer is in calf? I bought a two-year-old heifer in October, supposed to be in calf, but am beginning to fear she is not so.

2. Can you tell me the reason for hens starting to crow? I have a pen of Buff Orpingtons, kept in a warm house, and up to two days ago I had some young roosters fattening in a coop in the same house, and these young birds used to answer the old rooster when he started crowing in the morning. Since killing the young roosters, two of the hens have started crowing, answering the old cock bird crow for crow.

"MATHESON."

Ans.—1. The absence of oestrus in a perfectly normal and healthy heifer is about the only sure sign.

2. These hens seem to be good imitators. You know the old adage, "A whistling girl and a crowing hen, will surely come to some bad end," and it would likely pay you to act accordingly and make a "pot-pie" or a "roast" of the two crows, unless they be very valuable birds for showing or breeding, as it is not likely that they will prove very valuable as layers.

**FEEDING QUERIES—LINE FENCE.**

1. Which is better for calves, whole oats or chopped oats?

2. Is cut corn and straw mixed, and turnips on that, and oat chop after that is finished, and clover hay afterwards, a good feed for a two-year-old bull three times a day. One half gallon of chop is given, or should he have whole oats?

3. Is oil cake good for little calves, put in the milk?

4. Is a neighbor compelled to keep his portion of the line fence up. If he refuses what steps should be taken to compel him to do so?

5. Are people allowed to contribute to your columns?

Ont. Co. T. H. B.

Ans.—1. Either is good, we prefer the chopped.

2. The feed as given should be satisfactory. A little heavier meal might be added to the ration.

3. A little might be added. The most successful method of feeding linseed meal to calves is in the form of a jelly made by steaming flax seed.

4. Yes. He must make it a lawful fence. Each township has fence viewers. Apply to them.

5. We are always glad to get contributions from practical men on practical subjects.

**Pure OIL CAKE Meal**  
*DIGESTIBILITY is the TRUE TEST*

What the animals digest will produce flesh and milk. USE J. & J. LIVINGSTON BRAND OIL CAKE made by the old process. Fine Ground, Coarse Ground and Pea Size. Also Linseed Meal and Flax Seed.

If your dealer cannot supply you, write us for prices

**THE DOMINION LINSEED OIL CO., LIMITED**  
MANUFACTURERS  
BADEN, ONTARIO, and MONTREAL, QUEBEC.

**EASTERN ONTARIO LIVE STOCK and POULTRY SHOW**

WILL BE HELD AT

Ottawa, January 14th to 17th, 1913

Increased prizes and classes for HORSES, DAIRY and BEEF CATTLE, SHEEP, SWINE, SEEDS and POULTRY.

\$12,000 IN PRIZES

Practical Lectures will be given by prominent men on subjects relating to the various Live Stock classes, also Seeds, Poultry and Field Crops.

SINGLE FARE RATES ON ALL RAILROADS.

For programme of judging and lectures, apply to Secretary.

PETER WHITE, President,  
Pembroke, Ont.

W. D. JACKSON, Secretary,  
Carp, Ont.

**SCOTCH SHORTHORNS FOR SALE**

Two high-class imported yearling bulls. Eighteen bull calves, 8 to 14 months old, by the imported sires Bandsman and Village Duke. Forty heifers and young cows of best Scotch families, bred to imported sires. Some Toronto and London prizewinners, both sexes; also some imp. yearling heifers.

MITCHELL BROS.

Burlington, Ontario  
Farm ¼-mile from Burlington Junction Station.

**SHORTHORNS!**

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application. H. Cargill & Son, Props., John Glancy, Manager.



**I Have SHORTHORN Bulls and Heifers, SHROPSHIRE and COTSWOLD Rams and Ewes, GLYDESDALE Fillies and Colts**

that are as good as I have ever had, and that I will sell for prices within the reach of all. We have been in the business 75 years, always in the front rank, and propose to keep that position. You cannot afford to buy without writing us for prices. ROBERT MILLER, STOUFFVILLE, ONTARIO

**1861 Irvine-Side Shorthorns 1912**

Offering for sale young bulls and heifers that are the result of over 50 years successful breeding. Pure Scotch, and carrying the best blood of the breed. Few good Oxford Down rams. John Watt & Son, Salem P. O., Ont. Elora Station, G. T. and C. P. R.

**10 SHORTHORN BULLS 10**

If in need of a bull those that we are offering should interest you. They range from 8 to 14 months old, and are nearly all bred direct from imported stock. We also have females of all ages. Bell 'phone. Burlington Junction, G. T. R. W. G. PETTIT & SONS, Freeman, Ontario.

**SCOTCH SHORTHORNS** At prices that defy competition. I am offering a big, choice and royally-bred selection of females from calves up. Also a few right good herd headers, including my great stock bull, Lord Lavendar. A.J. HOWDEN, COLUMBUS P.O., ONT. Brooklyn Sta., G.T.R.; Myrtle Sta., C.P.R.

**Shorthorns** of breeding and quality—Our offering this year in young bulls and heifers, out of Scotch cow, and sired by our great Mildred Royal, are put up on show lines, and strictly first-class. GEO. GIER & SON, Grand Valley, Ont., P.O. and Sta.

**SALEM SHORTHORNS**

The unexcelled source of first-prize and champion winners at leading shows in America. Come and see, or write. J. A. WATT, SALEM, ONTARIO

**Springhurst Shorthorns** Four of the first-prize Shorthorns at the late Guelph show, including the champion and grand champion fat heifer, were all sired by bulls of my breeding. I have now for sale ten young herd headers of this champion-producing breeding. HARRY SMITH, HALEY P. O., ONT. Exeter Station. Long-distance 'phone.



THE STANDARD

Other makes of separators, skimming at their listed capacity, average about .10 per cent., which represents the loss of 1 lb. of butterfat in 1,000 lbs. of milk. The Standard, skimming at away over its listed capacity, saves  $\frac{3}{4}$  of a lb. more butterfat in every 1,000 lbs. of milk.

Test No. 1 therefore goes to show that the owner of a Standard 450-pound machine could open it up to skim 550 lbs. per hour and still do equally as good or better work than any other separator running at only its listed capacity or less. In other words, if you would be satisfied with the skimming that ordinary machines do, a 450-Standard will skim equally as much as any other 550-lb machine, and will give as good or better results.

## Remarkable Skimming Records Reported by Eastern Dairy School.

CANADIAN dairymen look upon the Eastern Dairy School at Kingston with great respect, and know that the School's reports are always accurate and reliable. One of the late reports of the School is of great interest to dairymen, as it shows some remarkable skimming records made by the Standard Cream Separator.

Test No. 1 (printed on right side of ad.) shows that the No. 4 Standard skimmed at the rate of over 520 lbs., although listed at only 450 lbs. capacity of milk per hour. Not only skimmed at nearly 100 lbs. over its rated capacity, mind you, but skimmed down to .025 per cent., which represents the loss of but  $\frac{1}{4}$  lb. of butterfat in 1,000 lbs. of milk.

# Standard

But if you desire to skim more closely than an ordinary separator will do, just run the Standard at its listed capacity as it comes from the factory. You will then secure results such as shown in Tests Nos. 2 and 3 at right, which results

cannot be secured by any other separator.

Running on the basis of Tests Nos. 2 and 3 you will be making with an ordinary herd of cows an extra profit (as compared with other separators) of almost enough to pay for the Standard in two years' time, or an extra profit (as compared with deep-setting or pan-skimming) of sufficient to pay for the Standard in one year.

### TESTS OF STANDARD

Size No. 4. Listed Capacity, 450 lbs.

#### Test No. 1, April 23rd

Minutes running..... 23  
Temp. of Milk..... 90° Fahr.  
Lbs. of milk separated..... 200  
Per cent. of butterfat in skimmed milk..... .025  
Per cent. of butterfat in cream. 27.5

#### Test No. 2, April 24th

Minutes running..... 25  
Temp. of milk..... 90° Fahr.  
Lbs. of milk separated..... 200  
Per cent. of butterfat in skimmed milk..... .01  
Per cent. of butterfat in cream. 39

#### Test No. 3, April 26th

Minutes running..... 19  
Temp. of milk..... 90° Fahr.  
Lbs. of milk separated..... 150  
Per cent. of butterfat in skimmed milk..... .01  
Per cent. of butterfat in cream. 41

The STANDARD is indeed, "The World's Greatest Separator," and the machine you will select, if you go into the separator-question thoroughly and buy a machine solely on its merits.

Let us send you booklets containing further records of STANDARD tests and proofs of its superiority.

Send us your name and address to-day.

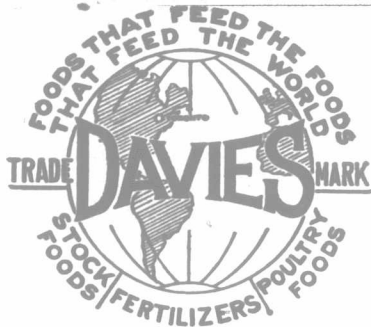
## THE RENFREW MACHINERY COMPANY, Limited

Head Office and Factory: Renfrew, Ont.

Sales Branches  
WINNIPEG, MAN. SUSSEX, N. B.

### Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ont.



Information from our local agent, or write:  
**The William Davies Co., Limited**  
Commercial Fertilizer Department,  
Toronto, Canada.



Lump Rock Salt, \$10.00 for ton lots, f.o.b. Toronto  
Toronto Salt Works, 128 Adelaide Street E.  
G. J. CLIFF, MANAGER, Toronto Ont.

**Hillcrest Ayrshires**—At head of herd is Ivanhoe of Tanglewild, a son of the champion Ayrshire cow, Primrose of Tanglewild, R. O. P. test 16,195 lbs. milk and 625.62 lbs. fat; 60 head to select from. Inspection invited.  
F. H. HARRIS, Mt. Elgin, Ont.

### QUESTIONS AND ANSWERS. Miscellaneous.

#### COAL MINES—TUNNEL.

1. To whom could I write to get to know about coal mines, and secure employment, and where are the mines and the best way to get there?

2. Is there a quarry cutting or tunnel going on in the Rocky Mountains with the railway company; to whom could I write to get particulars? D. E.

Ans.—1. There are coal mines in many districts of North America. Coal is mined extensively in the Maritime Provinces, and also in the Rockies. Application to companies in either of these districts, which may be reached by rail, should get you employment.

2. Ask your local railway agent to find out for you.

#### LUMP JAW—LIGHTNING RODS.

1. Yearlings had lumps on jaws. Used lump-jaw cure and left a bad scar. They were killed and sold. Was the meat fit to eat, or would the law allow you sell it?

2. Has the Weldwood Farm buildings got the lightning rods on?

3. Is the copper twisted-ribbon rod as good as the round-plated or woven-copper cable? The — and the — Cos. make the ribbon-twisted copper cable with paints about the same as the —. J. H. F.

Ans.—1. If this was lump jaw it was illegal to sell the meat as human food, though we will not say that it was unwholesome outside of the local area affected by the ray fungus which causes the trouble.

2. No, the buildings when purchased were already equipped with another make of rods.

3. As we have not seen all the various makes of rod you refer to, we can scarcely offer a positive opinion. So far as shape alone is concerned, the twisted-ribbon rod should be very good, in that it would offer considerable attractive surface. In other respects the woven cable would have some advantages. Of course, you know, an excellent homemade rod may be constructed of nine strands of number nine galvanized-iron fence wire, or twelve strands of telephone wire twisted together.

### You Can't Control the Price of Feed

but you can so manage your poultry as to prevent waste of feed and make a profit on every pound consumed. It is merely a question of keeping the digestive system in condition to properly perform the work of turning feed into eggs and meat.

#### Pratt's Poultry Regulator

does just this. It sharpens the appetite, increases digestion, stimulates the egg producing organs, purifies the blood. 25c, 50c, \$1; 25-lb. pail \$2.50. Don't wait for disease to sweep through your flock. Use

#### Pratt's Roup Cure

25c, 50c, \$1  
to prevent colds, catarrh and roup. It cures too!  
"Your money back if it fails"  
Pratt's 160-page poultry book 4c in stamps.

Our products are sold by dealers everywhere, or  
PRATT FOOD CO. OF CANADA, LTD., TORONTO.



## MALASOFAT A BALANCED FOOD

Wholesome, nutritious, palatable, digestible. Feed your milch cows "Malasofat" and increase your profits. "Malasofat" produces maximum results at a minimum cost. Ask your dealer, or send direct for information.

## DAIRY MEAL

**PARK FEED MILLING COMPANY, LIMITED**  
17 River Street Toronto, Ontario, Canada

## 80 Imported and Canadian-bred Ayrshires

I am now offering by private sale my entire herd of 80 Ayrshires, imported, imp. in dam and Canadian-bred; big producers, show stock, high-class in quality, with best breeding. L.-D. PHONE. **DAVID HUNTER, MAXVILLE, ONTARIO**

## GLENHURST AYRSHIRES ESTABLISHED OVER 50 YEARS

high standard. We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding; 45 head to select from. Let me know your wants. **JAMES BENNING, WILLIAMSTOWN P. O. Summerstown Sta., Glengarry**

## STOCKWOOD AYRSHIRES

This herd is now headed by White Hill Free Trader (imp.) No. 33273, champion bull at Sherbrooke; also headed the 1st-prize aged herd. All ages for sale. Satisfaction guaranteed. **D. M. WATT, St. Louis Sta., Que. Telephone in house.**

## Stonehouse Ayrshires

Of choicest imported stock and with imp. sires and dams. I am offering young cows, 3, 4 and 5 years of age; a grand bunch of imp. yearling heifers, and a particularly good pair of young bulls. L.-D. Phone. **HECTOR GORDON, Howick, Que.**

**Ayrshires and Yorkshires**—We now offer at bargain bull calves dropped in dams with good records, or their daughters either imported or home-bred. Some choice February pigs; also young pigs. **Alex. Hume & Co., Menie, Ont.**



**Maple Grove, Crescent Ridge and** Welcome Stock Farms—Motto: Richest breeding, superior individuals, representing the famous Tidy Abbekerk's, the Mercena's, also granddaughters of Pietertje Hengerveld's Count De Kol, and Pontiac Korndyke and other rich producers; 100 head to select from. King Lyons Hengerveld and two grandsons of Pontiac Korndyke head the herds.

H. BOLLERT, Tavistock, Ontario  
R. R. No. 1.



**PURE-BRED REGISTERED Holstein Cattle**  
The most profitable dairy breed, greatest in size, milk, butter-fat and in vitality. Send for FREE illustrated descriptive booklets.

HOLSTEIN - FRIESIAN ASSOCIATION,  
F. L. Houghton, Sec., Box 127, Battlesboro, Vt.

### Holsteins of Quality

Write us to-day for our proposition, telling us how any good dairyman may own a registered Holstein bull from a Record-of-Performance cow without investing a cent for him.

**MONRO & LAWLESS, "Elmdale Farm"**  
Therold, Ontario



**Cherrybank Ayrshires**  
We are offering 5 young bulls fit for service, from dams of 40 lbs. to 50 lbs. daily of 4% milk. Anything else in the herd priced reasonable. This herd won over \$1,200 prize money in 1911. P. D. McArthur, North Georgetown, Quebec

**AYRSHIRES FOR SALE!**  
Seven bulls and a few heifers of different ages, sired by Woodroffe Comrade, whose first heifer in milk gave 11,392 lbs. milk, 439 lbs. butterfat in one year. Prices right. H. C. HAMILI, BOX GROVE P. O., ONT. Markham, G. T. R.; Locust Hill, C. P. R. Bell phone connection from Markham.

**Holsteins and Tamworths**  
I am over-stocked and will sell a lot of young cows and heifers, winners and bred from winners; officially backed and right good ones. Also Tamworths of all ages.

**R. O. Morrow & Son, Hilton P.O., Ont.**  
Brighton Station. Phone.

**HOLSTEINS and YORKSHIRES**  
Richly-bred young bulls, officially backed on both sides. Yorkshires of highest type and quality at rock-bottom prices. R. Honey & Sons, Brickley, Ont. "Minster Farm."

**The Maples Holsteins**  
I am now offering for sale 10 young bulls, official record on both sire's and dam's side. They are bred enough for service, and my prices should soon sell them.

**WALBURN RIVERS, Foldens, Ont.**  
Phone. Oxford County.

**Maple Holstein-Friesians Special offering:** Bulls from 1 to 15 months old. The growthy kind that will give good service. One from a son of Evergreen March, and all from Record of Merit dams. Write for particulars. G. W. CLEMONS, St. George, Ont. Bell telephone.

**ARE YOU GOING TO THE SHANTY THIS WINTER?**  
Write at once for "SHANTY SPECIAL MEDICINE" for horses.

**National Stock Food Company, Ottawa, Ont.**

**Balaphore Farm Jerseys** Present offerings: Choice bull calves from three to sixteen months, at very reasonable prices for quick sale. **JOSEPH SEABROOK, Havelock, Ontario.**

**For Sale** Choice Reg. HOLSTEIN HEIFER CALVES, sired by Homestead Colantha Sir Abberkerk 2nd, whose dam and sire's dam average 26.81 butter 7 days and from tested dams; and two yearling heifers, sired by Corinne Calamity Ormsby. **W. A. Bryant, Cairnsgorm, Ont.**

**STRONG ONE WAY.**  
Wife—"My husband is not well. I'm afraid he'll give out."  
Wife's Mother—"Well, he may give out. He certainly never gives in."

**Chapped Hands Won't Bother You**

If instead of soap you use **SNAP**, the original hand cleaner.

**SNAP** contains no lye or acids, but glycerine and neutral oils which keep the skin smooth and in splendid condition.

Try **SNAP** for a week and notice the difference.

**SNAP**  
Order from your dealer to-day. Save coupons.

### QUESTIONS AND ANSWERS. Miscellaneous.

#### BATTERIES FOR GASOLINE ENGINE.

In "The Farmer's Advocate" of March 7, 1912, I read a recipe for making batteries for a gasoline engine. The recipe said to make a saturated solution of sal ammoniac and chloride of zinc (crystals). I understand what is meant by saturated solution, but would like to know how much sal ammoniac and chloride of zinc to put into a pint of water. Please say whether the carbon out of old batteries can be used again. Do you know where a person could get carbon? I once saw a recipe for making batteries for gasoline engines, but have forgotten all about what they were made of. Among the things used was copper wire and some pieces of copper. I think it was a liquid battery, but I am not sure. If you know any recipe for liquid batteries, please publish one.

I. G. K.

Ans.—Six ounces of sal ammoniac (ammonium chloride) will saturate a pint of water, and this solution will dissolve only a small amount of zinc chloride, although pure water will dissolve twice as much zinc chloride as sal ammoniac. For the recipe mentioned, six ounces of sal ammoniac and one ounce of zinc chloride will be ample.

There are many kinds of liquid batteries, but they are not usually satisfactory for gasoline engines, because they are clumsy and often easily broken, but especially because their internal resistance is high. Dry cells are the more satisfactory, and experience will show that it would be better for you to buy them than attempt to make them in small quantities.

One form of wet cell can be made as follows: Procure a vessel, glass or earthen, that will hold a quart and a half of liquid, then a plate of zinc, or preferably, a "crowfoot," which can be suspended in the vessel about one-third of the way down. This is the zinc electrode. This "crowfoot" should have a wire soldered to it, or else a binding screw by which a wire can be attached or detached. Then make a copper electrode in the following manner: Take a thin sheet of copper, from the edge cut two strips about 1 1/2 inches wide, and say 6 inches or 8 inches long, bend each strip in a half-circle, punch a rivet hole in the center of each strip, place the two half-circles back to back and rivet them together. To this copper plate must be attached a rubber insulated copper wire. The end of the wire may either be soldered to the copper or it may be put around the rivet between the strips before the riveting is done. A copper electrode is sometimes made by taking a longer strip and making a spiral coil much in the form of a wedge spring, the wire being fastened to either the inner or outer end of the copper. When the material is all in readiness, fill the vessel nearly full of water, then put the copper electrode down on the bottom of the vessel, being careful to bring the copper wire out over the edge, next put in a liberal quantity of blue stone (copper sulphate), now suspend the zinc "crowfoot" in the liquid, and the battery is assembled. But it will not give much current just yet. It will be observed that the water becomes blue throughout as the blue stone dissolves and especially if stirred. However, connect the wire of the copper plate with the wire or binding screw of the zinc plate, and let the cell stand for a few hours. The liquid is no longer a uniform blue, but whitish-yellow or yellowish-white near the top, being blue near the bottom. If you will examine the zinc plate, you will see that some of it is dissolved. As a matter of fact the upper solution is zinc chloride and the lower one copper sulphate. The latter being heavier than the former is held down by gravity; in fact, this is what is known as a gravity cell. Once the cell has been short-circuited through itself long enough to produce two liquids distinctly, then it is in condition for use. One thing more, however, is necessary for cleanliness and permanence. If you made a cell exactly as described

## 37 HEAD DISPERSION SALE 37 HEAD

of REGISTERED AND HIGH GRADE

### HOLSTEIN FRIESIAN CATTLE

at Hillview Farm, Komoka, 10 miles west of London, on the C.P.R. and G.T.R. (C.P.R. Station on farm. G.T.R. Station 1 mile.)

Wednesday, Jan. 15, 1913, at 1 o'clock sharp **STORM OR FAIR**

16 High Grade Cows, from two to eight years old, bred and safe in calf to Paul Sarcastic Lad, No. 7335, the herd header, which is included in this sale.  
4 heifers, rising three years old, due to calve about the time of sale.  
8 heifers, rising two years old, sired by Paul Sarcastic Lad, and safe in calf to Homestead King Colantha Abbekerk 10467.  
7 heifer calves, sired by Paul Sarcastic Lad and 1 bull calf sired by the herd header and out of Dinah Bell, No. 10737.

There will also be offered 1 yearling heavy draft stallion colt, sired by Masterpiece imp. [8036] dam Holdenby Housewife (imp) [325] (vol. 29 E.)

This comprises one of the best lots of dairy heifers and young cows ever offered in Western Ontario. Each individual is right in every way, some having records as 2 year olds of over 40 lbs. of milk per day and matured cows as high as 76 lbs. per day. Every animal offered will positively be sold without reserve as the proprietor intends keeping in the future nothing but registered stock. (Lunch will be provided for those from a distance.)

Write for poster giving full particulars. **D. CAMPBELL, Proprietor, Komoka, P.O., Ont.** R. H. LINDSAY, Aylmer, Auc. JNO. McPHERSON, Coldstream, Ont., Clerk.

# MOLASSINE MEAL

Pigs fetch higher prices and are ready for market three weeks earlier when fed on MOLASSINE MEAL, than when fed on any other food. It is the best food known to Science for all Live Stock. It puts the digestive organs in perfect condition and enables the animals to obtain all the nutriment of their entire food. It keeps them free from worms.

Get the genuine made in England

**THE MOLASSINE CO., LTD., LONDON, ENGLAND**  
Distributors for Canada, L. C. PRIME CO., LTD.  
St. John, N.B. 402 Board of Trade Building, Montreal. Pacific Building, Toronto.

## Avondale Holstein Cattle AND DORSET HORNED SHEEP.

To make room for daughters of Prince Hengerveld Pietje, we are offering a few females bred to the greatest bred bulls in Canada, and at rock-bottom prices. Also a few extra good yearling rams. Address: **H. LORNE LOGAN, MANAGER. A. G. Hardy, Brockville, Ont.**

**Silver Creek Holsteins**

You can have your choice, at moderate prices, of 52 head—45 females and 7 young bulls; all the female are young, majority of them heifers. They carry the best blood of the breed. The best lot ever offered for sale in Canada. **A. H. TEEPLE, Curries P.O. and Station. OXFORD COUNTY. L. D. Phone from Woodstock.**

## King Segis Walker

The highest pedigreed sire in Canada. Average record of dam, grandams and g. gr. dams: Butter, 28.36 lbs.; milk, 644.43 lbs.; fat, 4.24 lbs. Fee for service, \$25. This sire's get are 80 per cent. females. For sale: A grandson of King Segis and Pontiac Pet, record 37.67 lbs. butter and the world's champion—a bull calf whose dam is a daughter of Pontiac Korndyke, and just completed a record of 723 lbs. in seven days.

**A. A. FAREWELL, OSHAWA, ONTARIO**

## LAKEVIEW HOLSTEINS

To make room for the coming crop of calves, we are offering bulls of the richest breeding at farmers' prices. Grandsons of Pietertje Hengerveld Count De Kol and of Colantha Johanna Lad, all out of Record-of-Merit dams. Come now and get your choice.

**E. F. OSLER, BRONTE, ONTARIO**

**FAIRVIEW FARM'S HERD OFFERS** sons of Pontiac Korndyke 25083, the greatest sire that ever lived, and the only bull that ever sired 12 daughters that have made 7-day records above 30 pounds each. Do you want your next bull to be a brother to such cows as Pontiac Lady Korndyke (38.02), Pontiac Pet (37.67), Pontiac Clothilde De Kol 2nd (37.21), Sadie Vale Korndyke (36.20), and eight others above 30 pounds? If you do, write me for price on a son of Pontiac Korndyke. I also have sons of Rag Apple Korndyke and Sir Johanna Colantha Gladi. **E. H. DOLLAR, HEUVELTON, NEW YORK. Near Prescott.**

## Summer Hill Holsteins

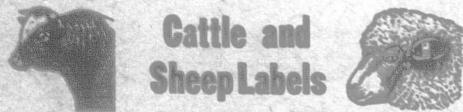
Would you like your next bull to be from the same sire as the heifer that holds the world's record for yearly work, and the same sire as the Champion Cow of Canada in the seven day work, and the same sire as the Champion four-year-old of Canada in the thirty day work? We have bulls of this breeding to offer whose dams have records of over 27 lbs. We have also some extra choice heifers bred to our junior herd bull whose dam has a record of 34.60 lbs. butter in seven days and 111 lbs. milk a day. Yorkshires of all ages. **D. G. FLATT & SON, R. R. No. 2, Hamilton, Ont.**

**HOLSTEINS AND YORKSHIRES** We have at present a number of two-year-old heifers, some in calf and some just bred, also our stock bull King Peter Teak sired by Peter Teak O. A. C. dam Queen Mabe. Also some sows safe in pig. **A. WATSON & SONS, R. R. NO. 1, ST. THOMAS, ONTARIO.**

## Brampton Jerseys

Bulls fit for service are getting scarce. Just a few left. Yearling heifers in calf are in great demand, 6 for sale; 6 now being bred. Brampton Stockwell the sire. A few good cows and some calves for sale. Production and quality.

**B. H. BULL & SON, Brampton, Ont.**



### Cattle and Sheep Labels

A cent spent now may be the means of saving you three calves next fall. Send your name and address for free sample and circular. It is no trouble, and you can judge them for yourself. Write to-day.

F. G. JAMES, Bowmanville, Ont.

**Farnham Oxfords and Hampshires.** The oldest established flock in America. Present offering: a few two-shear and older ewes of both breeds, bred to our imported champion ram. Also a few nice ewe lambs by imported sires. Prices reasonable. Henry Arkell & Sons, Arkell, Ont. L.-D. phone in house.

## Dorset Ewes

In lamb. Ewe lambs. Chester White Boars about five months old. One Holstein bull 12 months old. All of the choicest breeding, and will be sold at a bargain to make room.  
R. H. HARDING, THORNDALE, ONTARIO  
Mapleview Farm.

### ALLOWAY LODGE

#### Southdown Sheep Aberdeen - Angus Cattle

A few young bulls and heifers that are right in breeding and quality, will go at farmer's prices.

ROBT. McEWEN, Byron P.O.  
Phone. R.R. Stn. London.

**SPRINGBANK FIFTEEN EWE LAMBS** by imported sires. Prices right. Order quickly.  
**WILLIAM BARNET & SONS,**  
LIVING SPRINGS, ONTARIO.

#### Maple Grove Yorkshires & Holsteins

Eight young boars fit for use; good, long, straight, growthy ones, and young pigs of various ages and both sexes, sired by S. H. Jack (28315) (imp.), for three years champion at Toronto. A few beautiful sows, big enough to breed. One two-year-old Holstein bull—a show animal that has few equals—to be sold very cheaply; out of a heavy milking dam. One yearling Holstein bull, a good one, sired by Dutchland Olantha Sir Abbecker, and out of a grand young cow; also a heifer calf, just lately dropped, a beautiful, straight calf, out of the same dam; also grade heifer, calves and yearlings. All will be sold at bargain prices.

H. S. McDIARMID, Fingal, Ont.  
Long-distance phone. Shedden Station.

#### Large White Yorkshires

Have a choice lot of sows in pig. Boars ready for service and young pigs of both sexes supplied at reasonable prices. All breeding stock imported, or from imported stock, from the best British herds. Write or call on:

**H. J. Davis, Woodstock, Ont.**  
C. P. R. and G. T. R. Long-distance phone

#### Newcastle Tamworths and Shorthorns

Present offering: Seven boars from 6 to 10 months old; boars and sow pigs 6 weeks to 4 months; sows bred and others ready to breed, from such noted stock as Colwill's Choice, Canada's champion boar, 1901, '02, '03 and '05, and Imp. Chelsterton Golden Secret. Also a few choice Shorthorn heifers in calf; beef and milk combined. Show stock a specialty. Prices right. L.-D. Phone. A. A. Colwill, Newcastle, Ont.

#### Registered Tamworths.

We are offering boars ready for service, sows bred and ready to breed. Young pigs all ages, from six weeks up.  
W. W. GEORGE, Crampton, Ont.

#### Duroc Jersey Swine AND JERSEY CATTLE.

Grand stock, either sex, constantly for sale. Price reasonable. MAC CAMPBELL & SONS, Northwood, Ontario.

#### "LACTOLINE" and "CEREALINE"

Best all round TONIC for every domestic animal. Have them direct from  
THE NATIONAL STOCK FOOD COMPANY,  
Ottawa, Ontario

#### Cloverdale Berkshires

Present offering: Sows bred and others ready to breed. Choice boars ready for service, also younger stock of both sexes. Also stock boar. Prices reasonable. C. J. LANG, Hampton, Ont.

#### Morrison Tamworths and Shorthorns

Present offering: Four dandy bull calves that will make show winners, from 6 to 10 months old. Choice Tamworths, both sexes.  
Chas. Currie, Morrison, Ontario.

#### HAMPSHIRE SWINE

Both sexes and all ages, from imported stock. Prices reasonable.  
C. A. POWELL, Arva, Ontario  
Four miles north of London.

**TAMWORTHS** A few sows bred to farrow in February and March; Also choice pigs from three to five months. Bell phone, HERBERT GERMAN, St. George, Ont.

above and set it aside for a week or so, you would find the top of the vessel covered with a white, powdery substance. The zinc chloride solution creeps up the wall of the vessel, and as the water evaporates the zinc chloride remains deposited on the wall. To prevent this creeping, it is necessary before putting anything into the vessel to thoroughly dry it, then turn it bottom upward, and dip the edge into some melted paraffine wax. If the edge of the vessel is warm before being dipped in the wax, or is left in the melted wax long enough to become warm, the wax forms a better bond and will adhere longer. The zinc chloride solution will not creep over this paraffine.

The same remark may be made as regarding the dry batteries, namely, that you will probably do better to buy these wet cells than to make them.

W. H. D.

### QUESTIONS AND ANSWERS. Miscellaneous.

#### LUMBER FOR THE WEST.

I am going West in the spring, and I would like if you could tell me how much building material I am allowed to take with me, such as lumber and felt paper.

WALTHAM.

Ans.—As settler's effects, you are allowed to take up to 2,000 feet of lumber. We presume you would be allowed to carry enough building paper to line it.

#### GROUNDHOGS AND FERTILIZER QUERIES.

1. We have a lot of woodchucks around fences. How would it do to sow rape in the grain and spray with some poison every few days? What would be the best poison to use? Would strong Paris green kill them? They like to eat turnips or rape. Would it do to put it on the clover in the early stages? Of course, I mean to use this where there would be no stock. I have tried smothering in the hole. Sometimes I would see nothing of them for two or three weeks, and then they would come out again.

2. What is the best kind of fertilizers to use on potatoes on a large scale? How would it do to throw a handful in each hill when planting, or would it be better to throw it on the hill after the potatoes come up? How is it usually done in parts where they grow a lot of potatoes?

3. Do potatoes do as well plowed in as put in with the hoe?

4. Will the potato digger work as well when they are plowed in? You can only go through them one way with the horse when they are plowed in.

5. Would the tubers be larger if put on the square, three feet each way, and then one could go through them both ways?

6. Is there a digger that bags them rightly?

ANS.—1. The most effective means of ridding the land of woodchucks is to use carbon bisulphide in each hole. Soak a small piece of rag with an ounce of this, put it down the hole as far as possible, and cover up the hole with sod and tramp solid. Be careful not to allow loose dirt to cover the soaked rag. If there are two holes leading to one nest, cover each. Properly done, the woodchucks are killed. We would not advise trying to poison by spraying poison on rape or clover.

2. Use a complete fertilizer where no manure is applied, of 150 to 200 lbs. of nitrate of soda, 300 to 400 lbs. of acid phosphate, and 150 to 250 lbs. of sulphate of potash per acre. Phosphates and potash could be applied in the working of the soil as early as the land will work well in the spring. The nitrogen might be half put on at time of planting, and the rest soon after the potatoes come up. Sow broadcast, and do not drop it in the hills.

3. Good results are obtained from plowing potatoes in from three to five inches deep.

4. The digger should work all right.

5. The only advantage would be in cultivation.

6. We do not know of any.

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Free Plans

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Contributed by the undermentioned breeders:

H. N. GIBSON, C. HODGSON, J. LLOYD JONES and J. G. HANMER

75 Yearling Ewes, 40 Ewe Lambs and 20 Rams

Will be sold by public auction at the Agricultural Park, Burford, on  
January 14th, 1913, at 1 o'clock p.m.

TERMS—Eight months' credit on approved security.

W. ALMAS,  
Auctioneer.

J. G. HANMER, Secretary,  
Burford, Ont.

## SHROPSHIRE and COTSWOLD EWES

50 young Shropshire ewes of good size and quality, bred to the great breeding ram, Belvoir Sensation. 40 Cotswold ewes, from one to three shears, bred to choice rams. Also a few extra good ewe lambs. Get my prices before you buy, as I have never been able to offer such good value at a reasonable price.

Claremont Stn., C.P.R., 3 miles. JOHN MILLER, Brougham, Ont.  
Pickering, Stn., G.T.R., 7 miles.

## Belmont Shropshires and Southdowns

I have a grand lot of rams and ewes for sale, both breeds.

Anyone wanting a good ram, or a few good breeding ewes, should write me at once and get the first choice.

## C. Hodgson, Brantford, Ont.

**COTSWOLDS AND SHROPSHIRE** At Toronto I won 1st on flock, champion on both ram and ewe in Cotswolds. I have for sale a big lot of shearing rams and ewes, ram and ewe lambs of both breeds; strictly high-class.

J. MILLER, JR., "BLAIRCOWRIE FARM," ASHBURN P. O., ONTARIO  
**AMERICAN SHROPSHIRE REGISTRY ASSOCIATION**  
Only Shropshire Association recognized by U. S. Government. Largest membership of any live-stock association in the world. Life membership \$5.00. No yearly dues. Write for information. I. M. WADE, SECRETARY, LAFAVETTE, INDIANA

## ELMHURST LARGE ENGLISH BERKSHIRES

Present offering: Select sows. Choice boars ready for service; also younger stock, the get of Duke of Somerset, imp., and out of imported dams. Satisfaction and safe delivery guaranteed. H. M. VANDERLIP, Breeder and Importer, CAINSVILLE P. O. Langford station, Brantford and Hamilton Radial.

**You Would Not Go Barefoot in Winter**  
Why not give your face equal thought? If the neck and face are kept warm, the rest of the body will not readily become cold.

**Dysthe's Face Protector**



enables you to face the worst weather comfortably. Dr. Speechly, of Pilot Mound, Man., says, "Your protector is the best defence that I know of." Hundreds of others who must face all kinds of weather RECOMMEND IT.

Made of flannel to fit all faces, with double transparent goggles that NEVER FREEZE.  
WRITE FOR ONE TO-DAY  
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Write to-day to John Hallam, Mail Dept. 31 TORONTO, 111 Front St. E.

**STUMP EXTRACTOR**

If you are troubled with stumps, give our "Patent Samsen Stump Extractor" a trial. It has now been in use in Europe for the past three years with the greatest success. By its assistance, two men will do the work of three men and a horse. It can also be used for felling trees.

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**RAW FURS**

Ship your furs to a reliable firm, where you can depend on receiving good assort and highest market prices. Write at once for price list, tags, etc.

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72 Colborne Street TORONTO, ONT. Dept. A

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We are the largest buyers of raw furs in Canada, and we pay the highest cash prices. WRITE AT ONCE FOR PRICE LIST AND OTHER PARTICULARS.

A. & E. PIERCE & CO.  
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**BULKLEY TRAINING SCHOOL FOR NURSES** of the N.Y.S. & C. HOSPITAL. This school is prepared to receive a limited number of pupils for training in general Medical, Surgical, Obstetrical and Dermatological Nursing. Course two and one-half years; remuneration \$354. Applicants must be between the ages of twenty and thirty-five years, and must have eight years' grammar grade instruction and one year's high school or its equivalent. Apply to Superintendent at 301 East 19th Street, New York City.

**FREE to FARMERS, REEVES and MUNICIPAL OFFICERS**

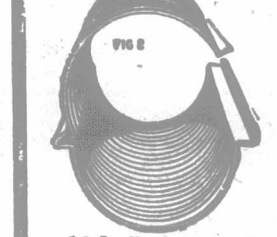
**a Sample of the Easiest Laid, Strongest Frost-proof Culvert Ever Made for Farms and Roads, with Book of Facts.**



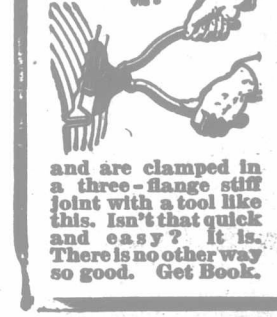
You put Pedlar's Perfect Corrugated Culvert up like this—right at the job



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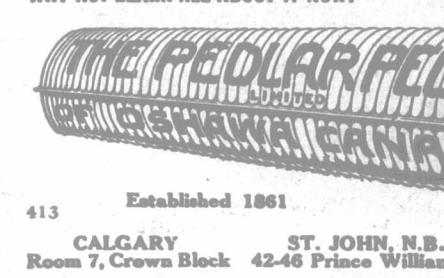
and are clamped in a three-flange stiff joint with a tool like this. Isn't that quick and easy? It is. There is no other way so good. Get Book.

**EVERY** farmer wants to reduce his taxes and statute labor. Pedlar's strong, non-rusting corrugated culvert saves excavation hauling and time, and makes a culvert that will not wash out or cave in like brick or cement. Much better than wood. Needs no attention. Time you now give to culvert repairs can be given to the road surface only. Learn about Pedlar culvert and how much better it is.



**YOUR** own farm ought to have this culvert at every open drain. Useful for drains, feed chutes, stable ventilation shafts, barn bridges on sidehills. Strong enough for holding up traction engines. Remember it is easy to use, stands frost and ice, never corrodes, being made from non-corrosive Toncan metal, takes only a short time to put in place. Get the free sample and book. Learn how to use it on your farm.

**SEND NOW** A SAMPLE OF THE CULVERT IN STRONG, NON-CORRODING GALVANIZED METAL WILL SHOW THE WHOLE STORY AND THE BOOK WILL HELP. WHY NOT LEARN ALL ABOUT IT NOW?



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**The Why and How of this Wonderful Culvert**

**P**EDLAR'S Perfect Corrugated Culvert is in very heavy and thick, strong metal, galvanized after being deeply corrugated. Unlike wood, it never rots. Unlike brick or concrete, frost and ice cannot burst it. A single man can make it up, clamp the wide, flat flanges tightly, and roll it into place. Not a useless shovelful of earth has to be lifted, as in every other kind of culvert, and Pedlar's Perfect Culvert is so strong it can hold up a traction engine on the ground itself. You save teaming, because the nested sections are compact. Washouts are impossible. Once you use it, you have no more culvert trouble.



See what a neat bridge it makes across the highway ditch at your gate. Placed in half a day. Remember you can make any length culvert from sections of Pedlar's Nestable Culvert.

Below are two men doing statute labor. They are just setting a section of built-up Pedlar Culvert in place. See how little excavation is needed—hardly any. This means quick, easy work. This culvert will stand the heaviest loads and the hardest freshets without washing out. It comes from 8-inch sizes up. You build any length you need right at the job. Use Pedlar Perfect Culvert.



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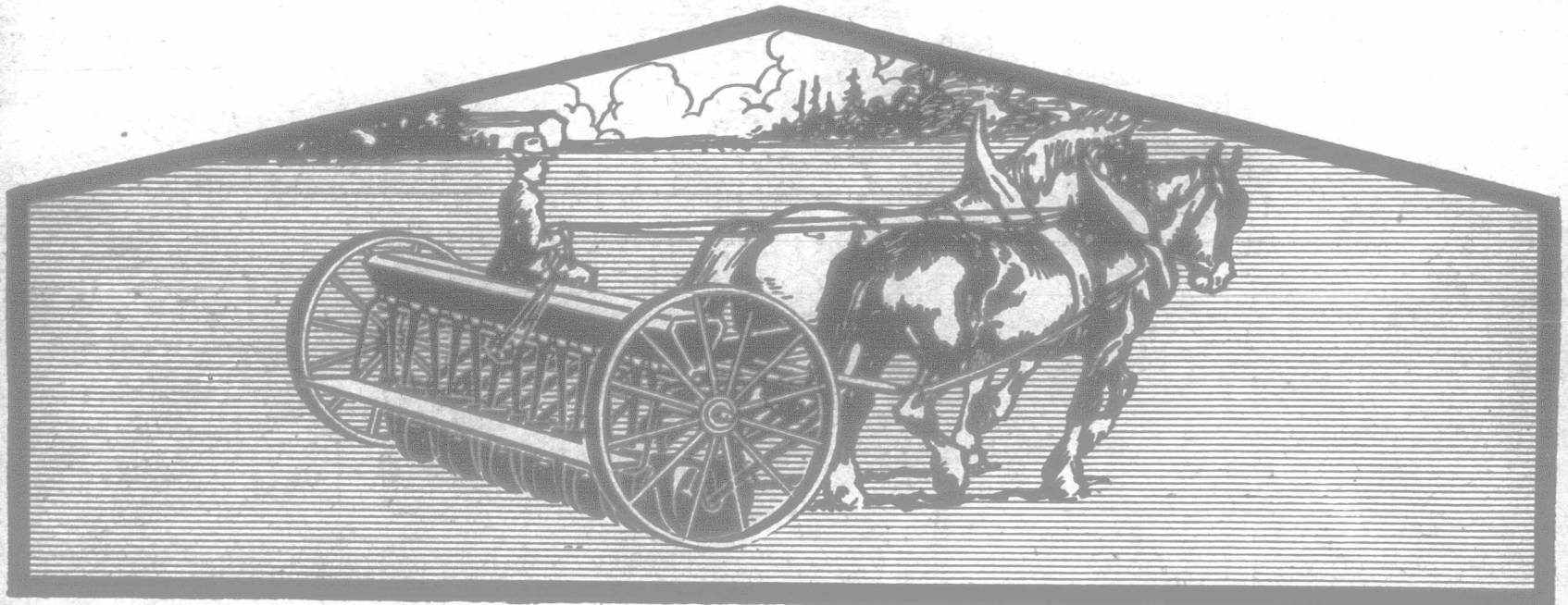
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You get three to five extra bushels, just by using a Cockshutt drill. Remember this is profit. These extra bushels are found money for every acre you seed with a Cockshutt.

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## Here is Why this Drill Is Your "Best Buy"

**T**HE Cockshutt Drill is made with a strong I-beam frame that keeps all discs at the same height. It is carried on wide-tired wheels, revolving on short axles with renewable bushings. The draft is always light. The discs are self-cleaning. They drop trash automatically. The boots cannot clog with mud. The discs are self-piling. The feed won't smash, break or bruise the kernels—is always accurate.

### YOUR CROP NEEDS A "SQUARE DEAL"

The Cockshutt Feed gives you perfect control of the seeder. The feed is always just right for your land. The "I"-beam keeps your drills up, without sagging.

This means that you sow just enough seed at just the right depth for a quick start. You get prompt, early, even growth—half the battle for a big harvest.

### KEEP YOUR TEAM GOING

The Cockshutt Disc "draws away" from the trouble-proof grain boot. As trash rises on a disc, it simply falls off, instead of wedging.

This keeps your drills running steadily. You have no stops. You sow without an hour's delay from the day you start seeding till you are done. This means big money saved in wages, and full advantage of spring growth.

### GUARD AGAINST DROUGHT

The close-set rows seeded only six inches apart are protection against drought. Your crop shades your land so well in June and July that drought trouble is minimized. The Cockshutt Drill brings you the full benefit of summer rains, simply by giving a compact crop that uses every drop of rain for growth.

### GET FIVE EXTRA BUSHELS PER ACRE

With the Cockshutt your crop gets an even, early start. It grows compactly. It takes full advantage of summer rain. It ripens evenly. It gives the same crop on six acres that you now get from seven acres.

You get five extra bushels per acre per year using a Cockshutt Drill. You don't pay a cent extra for seeding—in fact, you pay less wages, and do the seeding quicker.

### OUR DRILL PAYS!

**Send Us a Postal!** Write us a card. Say: "I want more information on your drills." This does not obligate you to buy. It will get you facts about the Cockshutt market. That alone ought to give it the preference. But when you consider its effectiveness—the harvest it brings you, the crop it protects, the early spring growth it insures, the Cockshutt Seeder is THE DRILL. Write that card to us to-day, please. Now is the time to investigate.