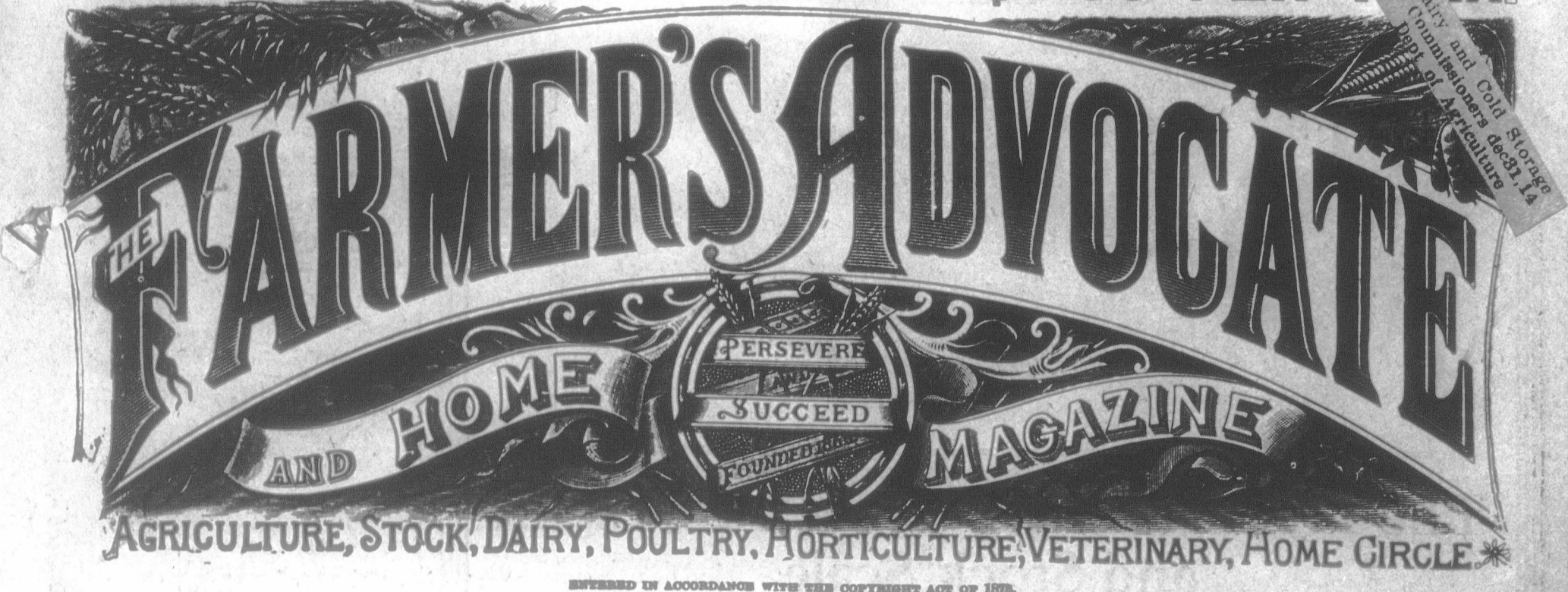


Dr. Maria Montessori

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.



VOL. XLIX.

LONDON, ONTARIO, JANUARY 22, 1914.

No. 1086

Make Your Stock and Poultry Pay Better With

Royal Purple

STOCK AND POULTRY SPECIFICS

At a cost of less than a cent a day per head of stock, ROYAL PURPLE STOCK SPECIFIC will increase their value 25 per cent. Permanently cures Colic, Debility, Worms, Bots and Skin Diseases. Tones up run-down animals so that they quickly gain weight and vigor. Increases the yield of milk cows three to five pounds a day, besides enriching the quality of the milk.

ROYAL PURPLE STOCK SPECIFIC is not a food. It is a conditioner—the best ever sold. If there was any better we would be making it. It enables your stock to eat the natural food they should eat and get the most benefit from it. Here is the advice of all thorough veterinary doctors: "Feed your stock on food of your own growing," not pamper them with soft predigested mush, so that after a time they cannot digest good, wholesome feed. Feed the good food grown on your own farm—hay, oats, bran, chop, etc. You know what these things cost you and what they will do.

ROYAL PURPLE STOCK SPECIFIC is an aid to these natural foods, and if you use it as directed, we can guarantee better results than if you feed any of the concoctions offered on the market as "prepared foods."

Try It on a Poor-Conditioned Animal

If there is a run-down, poorly nourished beast on your farm, see what ROYAL PURPLE STOCK SPECIFIC will do for it. A 50-cent package lasts a cow or horse 70 days. The cost is so trifling that no farmer in Canada has any excuse for having out-of-health stock around his place. Try it on the poorest-conditioned animal you have, and we know you'll be surprised at the result of a short treatment. Cattle and hogs fatten up a month earlier than without it, which means you save a month's feed and a month's labor. You can bring six pigs to the pink of condition at the cost of \$1.50. Steers treated in the same way cost no more than \$1.00 each to put in prime state for market. ROYAL PURPLE STOCK SPECIFIC fattens and keeps well horses, mares, colts, cows, calves, steers, hogs. Sold in packages, 50c., and air-tight tins, \$1.50.

NOTE.—We have hundreds of recommendations from all parts of the country. If ROYAL PURPLE STOCK SPECIFIC does not give you better results than anything you ever used, or give you satisfaction, we will refund your money.

No matter what you may think of other preparations, we want to induce you to try ROYAL PURPLE on your stock or your poultry, or both. The benefit will be yours.

Stock Raisers in all Parts of the Country Praise

Royal Purple Stock Specific

We give below a few out of the hundreds of recommendations on file at our offices. Original letters can be seen any time. Write any of these people for further proof:

Cow Treated Gained; Others Lost.

Toledo, Ont., July 1, 1913. I have used a part of your Royal Purple Stock Specific. I fed it to one cow according to directions. She gained six pounds of milk, while using part of a package. The rest of my herd reduced in milk while this one gained. I consider it has no equal. T. J. BELLAMY.

Results in the West.

Saskatoon, Sask., Sept. 20, 1913. Have tried your Royal Purple Stock Specific and find it to be the best conditioner we have ever used for our animals. A. MARRIOTT, Mgr. Saskatoon Nursery.

Yearling Colt Soon Got Well.

Hammondvale, N. B. This is to certify that I have brought from pasture a yearling colt that was hide-bound, hair dry and full of worms. I fed your specific and in a week's time he showed no signs of worms, and after three weeks and a half course of your Specific, he is a sleek-looking animal. R. PAXTON SHERWOOD.

Try ROYAL PURPLE POULTRY SPECIFIC On Your Hens

N.B.—This is an entirely different preparation from ROYAL PURPLE STOCK SPECIFIC.

Do you know that ROYAL PURPLE POULTRY SPECIFIC makes hens lay in winter as well as in summer, and keeps them free from disease? It does, and helps them over the moult, fattens and keeps them in vigorous health. A 50c. package lasts 25 hens over 70 days. Shouldn't you try it? We have hundreds of recommendations from all parts of the country. If ROYAL PURPLE POULTRY SPECIFIC does not give you better results than anything you ever used, or give you satisfaction, we will refund your money. No matter what your opinion of other preparations, we want you to give ROYAL PURPLE POULTRY SPECIFIC a chance to show what it can do for your poultry—and a 50c. package will show you some fine results. Sold in 25c. and 50c. packages, and \$1.50 air-tight tins.

READ RESULTS OTHERS HAVE GOT!

Gets More Eggs—Helps Chicks, too.

Hensall, Ont., May 29, 1913. I have been using your Royal Purple Poultry Specific for the past year, and it pays for itself many times over in the extra production of eggs and makes my hens lay in the winter when the price of eggs is high. I have also used it with great success in the water given my young chicks. ROBT. CAMERON.

Gets Eggs—Others Don't.

Port Colborne, Ont., Nov. 21, 1913. Please find enclosed \$6 for four tins of Poultry Specific. I am well pleased with its results. I get eggs right along every day during the winter when other people who are not using the Specific are not getting any eggs, and I find it very profitable to use your Specific. C. RICHARDSON.

Royal Purple Roup Specific

Costs You Little --- Saves You Much For Roup, Pip, Diphtheria, Typhoid fever, Canker, White Diarrhea, Swelled Head, etc., in Poultry. There are few poultry raisers who do not lose birds every year from roup. We print a letter from one of the most expert breeders in the country, a winner at all big shows. He finds it pays him well to use ROYAL PURPLE ROUP SPECIFIC, and it will certainly pay you.

ROYAL PURPLE ROUP SPECIFIC

Is Sold in 25c Tins; By Mail 30c.

766 Waterloo St., London, Ont. Sept. 30, 1912.

Please fill my order for another 25c package of your Roup Specific. I have had very gratifying results from this cure. At the time I purchased the first package I had a very sick hen. She was not a very valuable hen, but a very sick one. I asked the advice of Mr. McNeil, the well-known poultry man, and he advised me to kill her at once. It was impossible to save her life. I had your Roup Specific and I thought I had better try it on her, as I might have a more valuable hen in the same condition. She then was almost dead, just gasping for breath. The Roup Cure relieved her at once and at the end of a week's time she was completely cured. I would not be without your Roup Cure at any price. F. C. DULMAGE.

London, Canada, Jan. 5th, 1914.

I beg to state that I used your Poultry Specific and Roup Cure this Fall with remarkable success. I had a flock of about 70 Black Minorcas, that came from the country this Fall in very bad shape. (I hatched them and sent them out to be reared). They were running at the nostrils and generally out of condition. After using your Roup Cure for about ten days, they were entirely cured. T. A. FAULDS.

Crediton, Ont., Jan. 3rd, 1914.

Last fall we had a large flock of fine turkeys, when they began to die from roup and swelled heads. We lost several a day after being sick about one week. I then heard of Royal Purple Roup Cure, and procured a box from Mr. Zwicker. Several of the birds were then affected with the disease, and I expected more of the flock to die; but, to my surprise, upon using the cure according to directions, each one of them recovered and soon began to thrive and do well. We have not lost a bird since we began to use the Roup Cure. We had equally as good success using it for our hens, which were also dying in numbers. I can heartily recommend its use to anyone raising poultry. GOTTFRIED WEIN.

WE ALSO SELL

Royal Purple Cough Specific for cough and distemper. (Will cure any ordinary cough in four days.) 50c., by mail, 60c.

Royal Purple Sweat Liniment for lameness, rheumatism, sprained tendons, etc., 50c., by mail, 60c.

Royal Purple Worm Specific for animals; removes the worm, also their larvae, 25c., by mail, 30c.

Royal Purple Disinfectant, in 25c., 50c., and \$1.00 tins.

Royal Purple Lice Killer for poultry and animals, 25c. and 50c., by mail, 30c. and 60c.

Royal Purple Gall Cure for scratches, harnes, scalds, open sores, etc., 25c. and 50c., by mail, 30c. and 60c.

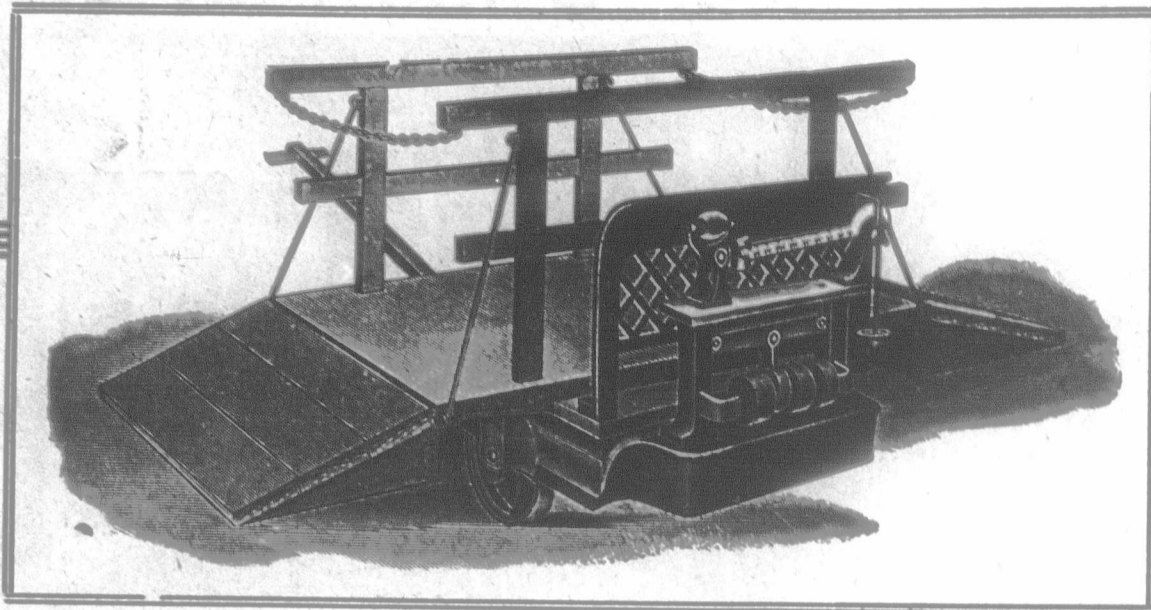
Royal Purple Roup Specific for roup, pip, diphtheria, typhoid fever, canker, white diarrhoea, swelled head, etc., in poultry, 25c., by mail, 30c.

Free TO STOCK AND POULTRY RAISERS

We will mail for the asking our new revised 80-page book on common ailments of stock and poultry. Tells how to feed light and heavy horses, colts, mares, cows, calves, steers, hogs; also how to feed and keep poultry so that they lay winter and summer. Cover lithographed in six colors showing farm utility birds in their natural colors. This is a book that should be in every farmer's possession. IT'S FREE. Write for your copy today.

W. A. JENKINS MFG. CO.,

London, Canada



The Aylmer Three-Wheeled Wagon and Stock Scale

Aylmer Scale is the only 3-point bearing scale on the market.
 The only scale that will weigh correctly on an uneven surface.
 The wheels are large and encased.
 All material and workmanship are first-class and guaranteed.
 Capacity of this scale, 2,000 lbs.
 Size of platform without rack, 24"x36".

Why should YOU not weigh your stock and grain and ascertain where you are making money, so as to enable you to increase your profits?
 This scale will pay for itself in a short time. Mail us \$20 to-day, and we will deliver this scale, with Government certificate attached, to your nearest railway station, if in Ontario, or \$35 with cattle rack.
 Let us hear from you.

The Aylmer Pump & Scale Co., Limited, Aylmer, Ontario

The Call of the North

Do YOU know of the many advantages that New Ontario, with its millions of fertile acres, offers to the prospective settler? Do you know that these rich agricultural lands, obtainable free, and at a nominal cost, are already producing grain and vegetables second to none in the world?

For literature descriptive of this great territory, and for information as to terms, homestead regulations, settlers' rates, etc., write to

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 Director of Colonisation
 Parliament Bldg.
 TORONTO, ONTARIO

GRAND TRUNK RAILWAY SYSTEM

Time Table Changes

A general change of time will be made January 4th, 1914. Time tables containing full particulars may be had on application to Grand Trunk agents.

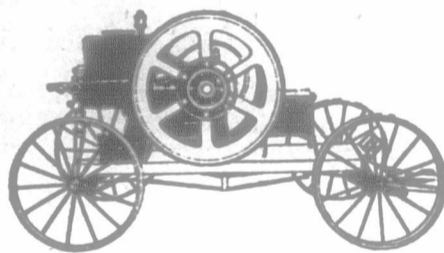
LOW RATES TO CALIFORNIA, FLORIDA

AND THE SUNNY SOUTH NOW IN EFFECT

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

Full particulars at Grand Trunk Ticket Offices, or write C. E. HORNING, D.P.A., Toronto, Ontario

SAFETY—SERVICE—SATISFACTION



FOR EVERY POWER USER IF HE GETS A

GILSON "GOES-LIKE-SIXTY" ENGINE

MORE VALUE, MORE POWER, MORE SERVICE, MORE SATISFACTION.

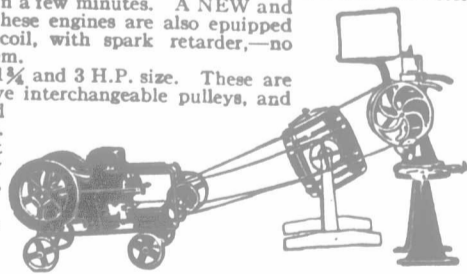
Does SERVICE, SAFETY and SATISFACTION mean nothing to you? Does money saved in repairs and expense bills, time, equipment, etc., mean anything to you? Get Gilson Facts and find out how the Gilson 60-speed and 100% Service Engines do the greatest variety of work—give the maximum satisfaction—are trouble proof and fool proof. Their scientific design makes them absolutely safe—they are approved by the National Board of Fire Underwriters; no insurance troubles.

NEW FEATURES AND LATEST IMPROVEMENTS.

The new Gilson 100% SERVICE ENGINES, 4 H.P. and upwards, are equipped with our new friction clutch pulley with 5 interchangeable rims, each of a different diameter. Change to the proper speed for every job in a few minutes. A NEW and EXCLUSIVE GILSON FEATURE. These engines are also equipped with a magneto, without batteries or coil, with spark retarder,—no cranking necessary. A child can start them.

We also make 60-SPEED engines in 1 1/2 and 3 H.P. size. These are mounted on truck, with line shaft and five interchangeable pulleys, and we will send you full descriptive literature. We are making special prices to the first purchasers of one of these engines in every locality. Write NOW. Agents Wanted.

GILSON MFG., CO., LTD.
 2209 York St., Guelph, Ont.



Don't Offer Ice Cold Water to Your Stock

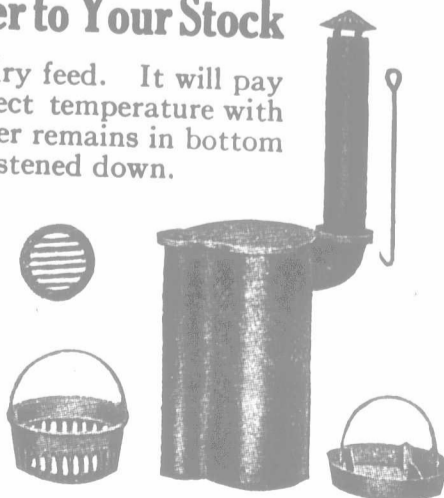
They require more water on dry feed. It will pay you big to warm the water at correct temperature with our TANK HEATER. The heater remains in bottom of tank or trough without being fastened down.

Made of high-grade iron, weighs 155 lbs., will last a lifetime with proper care and burn any kind of fuel, wood, coal or corncobs.

Price complete, as shown, \$7.75
 Order right away and get full benefit this winter.

Catalogue of "BAKER" Windmills, Tanks, Pumps, etc., sent on request.

THE HELLER - ALLER CO.
 Windsor, Ontario

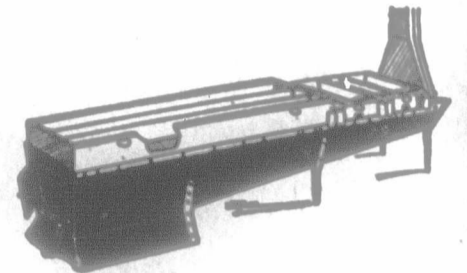


PROFITABLE MAPLE SYRUP

can only be made by the Shallow Boiling System, which produces a very light colored syrup, providing the sap is fresh from the tree.

This is the high priced syrup—the syrup that makes syrup-making profitable.

The "Champion" Evaporator is a shallow boiler and has the largest sale of any Evaporator on the market. The "Champion" captured over 90% of all prizes at the Fall Exhibitions.



The reasons why the "Champion" is the Evaporator you need are given in our free booklet, together with a lot of information that will double the value of your sugar bush.

Don't put it off, now is the time to think about your Maple syrup business for the coming season.

Write us to-day.

The Grimm Mfg. Company, Limited,
 58 Wellington Street, MONTREAL

CANADIAN PACIFIC RAILWAY

IMPORTANT CHANGE IN TRAIN SERVICE

Train No. 27, now leaving Toronto 8.45 p.m. daily, arriving Sudbury 8.55 a.m., will be discontinued between Toronto and Sudbury after Saturday, January 3, 1914.
 Train No. 28, now leaving Sudbury 10.45 p.m. daily, arriving Toronto, 8.00 a.m., will be discontinued between Sudbury and Toronto after Sunday, January 4, 1914.
 Toronto-North Bay sleeping car will be discontinued with this service.
 Toronto-Sault Ste. Marie sleeping car will be handled Toronto to Sudbury on train No. 3, leaving Toronto 10.20 p.m. daily, and Sudbury to Sault Ste. Marie on train No. 27, arriving Sault Ste. Marie, Ont., 1.12 p.m. (Eastern Time), and Sault Ste. Marie, Mich., 12.40 p.m. (Central Time). Sault Ste. Marie-Toronto sleeping car will be handled Sault Ste. Marie to Sudbury on train No. 28, leaving Sault Ste. Marie, Mich., 2.30 p.m. daily (Central Time), and Sault Ste. Marie, Ont., 3.50 p.m. (Eastern Time), and from Sudbury to Toronto on train No. 8, arriving Toronto 9.00 a.m. Full particulars from any C.P.R. Agent, or write M. G. Murphy, District Passenger Agent, Toronto.

ONE HOUR A DAY

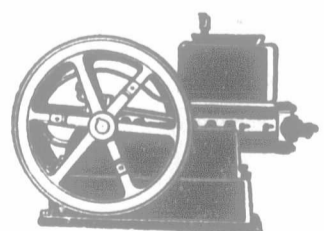
Or even less, given to study will fit you for a better position. Ten years' successful work prove our efficiency. We teach you at home: Commercial Course (Bookkeeping, Arithmetic, Penmanship, Business Correspondence, Commercial Law), Shorthand and Typewriting, Beginners' Course, Journalism, Special English, Elementary Art, Mechanical Drawing, Architectural Drawing, Electrical Course, Engineering (Stationary, Traction, Gasoline, Marine, Locomotive, Automobile) Matriculation, Civil Service, Teachers' Examinations, or any subject. Ask for what you need.

Canadian Correspondence College, Limited
 Dept. E, Toronto Canada.

FARM HELP

Parties of young men now being organized for placing on Ontario farms. First party will sail in January. For full particulars, apply:

BOYS' FARMER LEAGUE
 Drawer 126 WINONA, ONT.



STANDARD GASOLINE ENGINE
 Every one sold on a strong guarantee. Ask for our catalogue of engines. London Concrete Machinery Co., Dept. B, London, Ont.

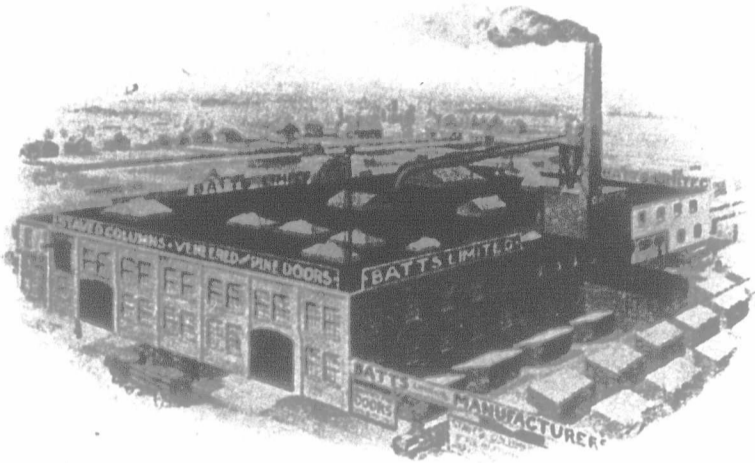
Largest makers of Concrete Machinery in Canada.

5000
Non-Clog Atomic Nozzles
 Greatest nozzle ever invented. Time of labor, money saver. Cannot clog with any solution. Fits any make of sprayer. **BROWN'S AUTO SPRAYS** purchased by our dealer!
 40 styles and sizes. Over 300,000 in use. Write for Spraying Guide—FREE.
 The E. C. Brown Co., 67 Jay St., Rochester, N. Y.

Dr. Maria Montessori

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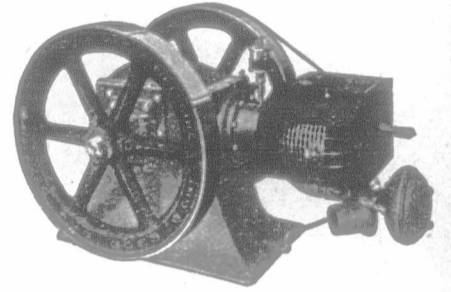
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THE "New-Way"

It is air cooled and cold weather does not affect it.

The best money-saver built. The best engine for long runs. The cheapest and easiest engine to operate. The proper power for cement mixers, water systems, etc. The best all around power for the farm.

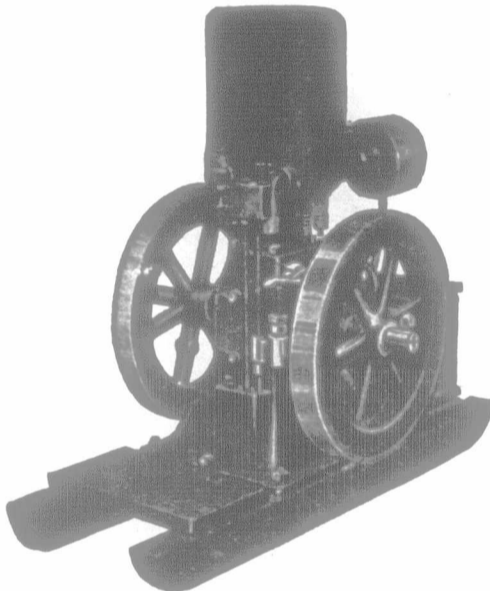
Demand the "New-Way" always.



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The New - Way Motor Company of Canada, Limited, WELLAND, - ONTARIO

SERVICE AT LOW COST



is the explanation in a nutshell. All users of

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say so. Who is a better judge than yourself, at your own work? Let one prove it to you. It is "your right" and "our pleasure."

All the advantages of both water-cooled and air-cooled.

Vertical non-freeze sizes, 1½, 2½, 3½ and 4½ h.-p.

Horizontal single cylinder and double opposed, 10 to 50 h.-p., and all kinds of outfits.

LONDON GAS POWER CO., Limited

London, Canada

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PEERLESS POULTRY FENCE

Does all you could wish of a poultry fence and more. Built close enough to keep chickens in and strong enough to keep cattle out. Even small chicks cannot get between the close mesh of lateral and vertical wires. The heavy, hard steel top and bottom wires, together with intermediate laterals, will take care of a carelessly backed wagon, or an unruly animal and spring back into shape immediately. The wires are securely held together at every intersection by the PEERLESS Lock.

The Fence That Saves Expense

It never needs repairs. It is the cheapest fence to erect because, owing to its exceptionally heavy top and bottom wires, but half the usual amount of lumber and posts are required.

Send for Literature

and address of nearest agent. We also make a complete line of farm and ornamental fencing. Agents nearly everywhere. Agents wanted in unassigned territory.

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Cunard Line

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Farm help supplied. Write early for requisition forms. State if married couples, families or single persons wanted, also if experienced, partly experienced or inexperienced help required. State wages and conditions. Requisitions received before middle February will receive prompt attention. Passages can be prepaid. No charge made for securing help.

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On the left we illustrate Tobacco grown without Fertilizers—on the right Tobacco grown with DAVIES Special Mixed FERTILIZERS. Do you want more profitable crops? Then write for free booklet to-day.

The DAVIES Co. Ltd. WEST TORONTO, ONT.

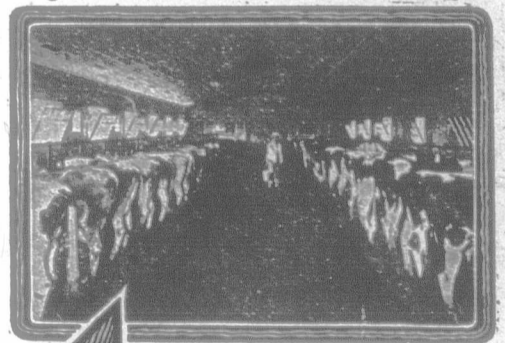
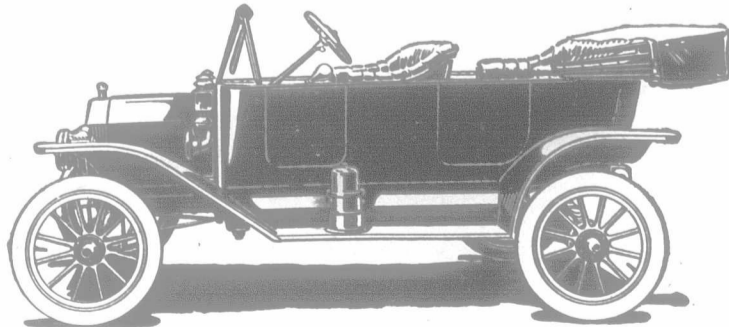
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Model T Touring Car \$650

Get particulars from Ford Motor Company of Canada, Limited, Ford (formerly Walkerville), Ont.



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Let us tell you why and how

When your cows are lined up like this, the manure falls into the gutter and makes barn cleaning easy, keeps cows cleaner, and healthier, and improves quality of milk, increases your profits.

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THERE is no reason why any cow owner who sells cream or makes butter should be without a separator, and there can be no excuse for his not having the BEST separator.

ANY creameryman or experienced dairyman will tell you that a good cream separator will give you a great deal more and a great deal better cream or butter than you can produce with any gravity setting system.

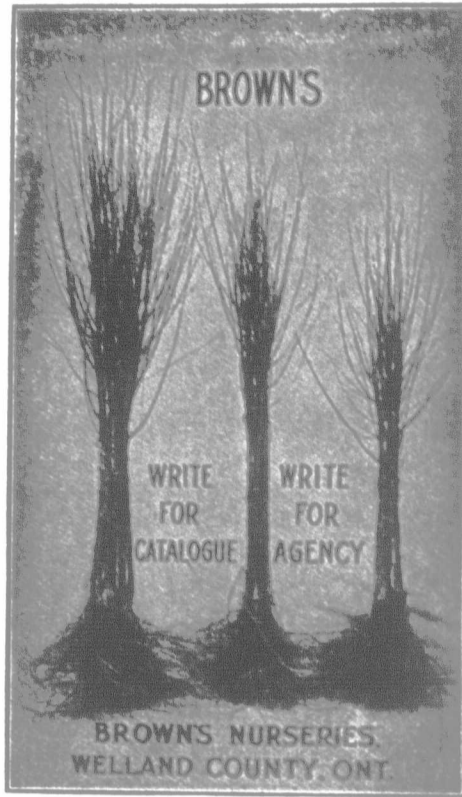


THE DE LAVAL is acknowledged by creamerymen and the best-posted dairy-men the world over to be the "WORLD'S STANDARD" and the one and only separator that always accomplishes the best results possible and always gives satisfaction.

YOU cannot make the excuse that you can't afford to buy a De Laval, because it not only will save its cost over any gravity setting in six months and any other separator in a year, but is sold either for cash or on such liberal terms that it will actually pay for itself.

WHY not start 1914 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.

De Laval Dairy Supply Co., Ltd.
MONTREAL PETERBORO WINNIPEG VANCOUVER



Roots and Branches

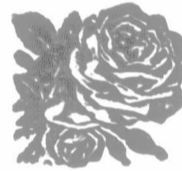
The true value of a tree is based upon its root system and limb growth. Trees grown at

Brown's Nursery
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Are famous because of these two points.

If you have land suitable for fruit or ornamental trees, send in your list for prices.

Peach, Apple, Plum and Cherry Trees are our largest output



Central Nurseries, St. Catharines, Ont.

Have a fine assortment of Trees, Vines, Plants, Ornamentals, etc., for Spring planting. For satisfaction, plant Everbearing St. Regis and Himalaya Berries. Our prices are right and so are the trees. Send for priced catalogue if you have none, also your want list for special prices on apple trees. We can please you.

Customers talk back: Locust Hill, Ont., Nov. 11th, 1913. "Trees opened up O. K., a credit to any nursery, a larger order follows." Look over our Price List. No agents. A. G. HULL & SON, St. Catharines, Ont.



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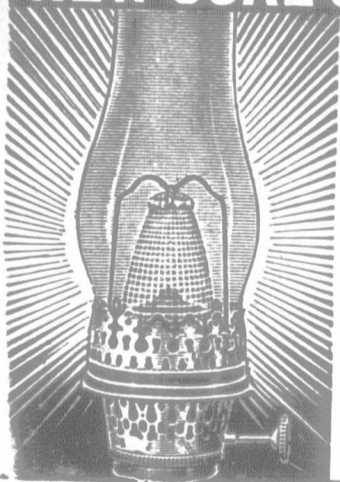
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GOVERNMENT TESTED

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NEW COAL OIL LIGHT BEATS ELECTRIC OR GASOLINE

10 Days FREE—Send No Money



We don't ask you to pay us a cent until you have used this wonderful modern light in your own home for ten days, then you may return it at our expense if not perfectly satisfied. We want you to prove for yourself that it gives five to fifteen times as much light as the ordinary oil lamp; beats electric, gasoline or acetylene. Lights and is put out just like the old oil lamp.

BURNS 70 HOURS ON 1 GALLON OIL
Gives a powerful white light, burns common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Guaranteed.

\$1000.00 Reward

will be given to the person who shows us an oil lamp equal to this Aladdin in every way (details of offer given in our circular). Would we dare make such a challenge to the world if there was the slightest doubt as to the merits of the Aladdin? We want one person in each locality for our 10 Day Absolutely Free Trial. Propose to get ONE FREE.

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to demonstrate in territory where oil lamps are in use. Experience unnecessary. Many agents average five sales a day and make \$50.00 per month. One farmer cleared over \$800.00 in 6 weeks. You can make money evenings and spare time. Write quick for territory and sample. 63



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Only \$1.00 by mail

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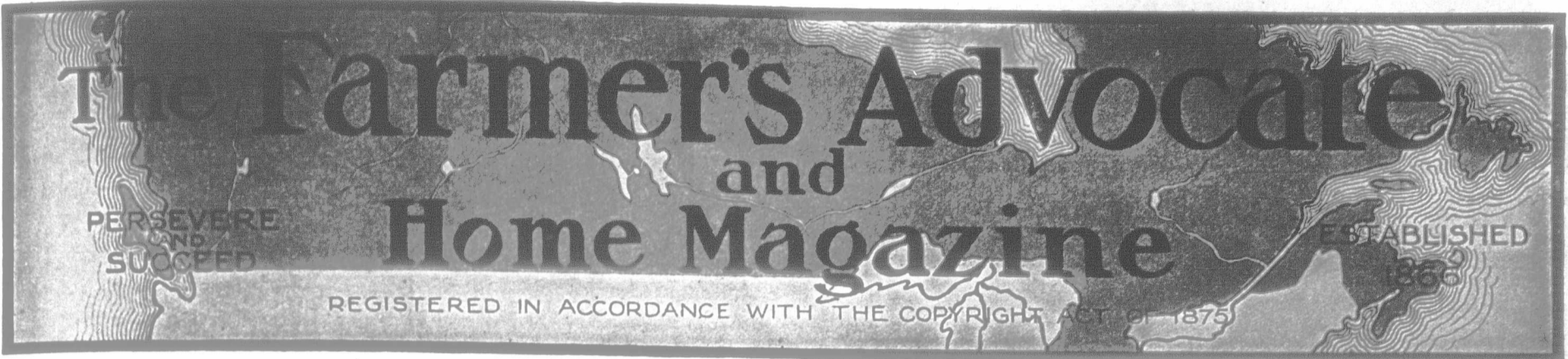
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Vol. XLIX.

LONDON, ONTARIO, JANUARY 22, 1914.

No. 1086

EDITORIAL

Fill the ice-house early.

If you have a good barn send us the plan.

Have you got next summer's wood hauled yet?

Light and ventilation are much neglected in many stables.

Are our tables likely to be supplied by New Zealand butter?

The O. A. C. No. 72 oat now bids fair to be as valuable as O. A. C. No. 21 barley.

Comfort for the cattle does not mean a high temperature maintained by foul air.

Save time and money by doing all the necessary teaming possible during the season of sleighing.

What are milk by-products worth to you Mr. Dairyman? Think twice before disposing of whole milk.

A larger number of dairy farmers should attend the annual meeting of the Dairymen's Associations.

The use of only the best varieties of grain and roots for seed would greatly increase the returns from many Canadian farms.

For the farm boy who likes farming the farm offers an opportunity not to be passed up without consideration. Where can he do better?

This is an opportune season at which to rid the herd of the inferior cows, and it is more than ever advisable to keep the better class of females.

A Western Ontario motorist recently made the statement that steel tires made the dust, and the automobile scattered it. He was right in part.

How fast are your steers gaining? Weighing them, where possible, from time to time may furnish some surprises, and may lead to a change in rations for some of them.

Read the reports in this issue of the Experimental Union meetings, and the annual convention of Western Ontario Dairymen. If you grow grain or milk cows there is something in them for you.

A farmer was recently asked how much he would take per bushel for his wheat, and was called "crazy" when he replied, "\$1.00 per bushel. The man knew what he was saying when he replied, "All right, I'll feed it to the hogs." It pays to feed the grain on the place.

Turn on the Light.

Plenty of light is one of the first essentials in satisfactory stabling. It is necessary to cleanliness and good health on the part of attendant and live stock. Dirt and disease prevail in darkness. To let in the sunlight generously is a long step towards proper sanitary conditions. Without touching the question of germ-destroying, the dirt of litter, manure, fodder, and floating dust accumulating in cobwebs, will certainly escape notice in the corners and crannies of a dark stable. A periodical housecleaning in the cattle or horse stable is no substitute for a daily cleaning, which is most likely to be done when the light is turned on. The second point in favor of good lighting is that it saves labor, a great deal of vexation and, of course, time. With one man trying vainly to do two men's work, as is the case on thousands of Canadian farms, all needless and wasteful steps and efforts must be eliminated. Efficient work cannot be accomplished in dark stables which tend to waste feed and lessen gains in meat as well as in milk production. Therefore, we say, in planning to remodel the old stabling during the coming season, provide something entirely new—make sure that there are plenty of convenient windows. The light will flow in if given a chance. Do not keep it out. It is one of the stockman's best friends.

In this connection, experience is valuable. One reader can help another through the columns of "The Farmer's Advocate." Hand us for publication a short letter describing how your stables are lighted, telling the number of windows and their size and shape in a given length and height of wall and how the sashes are adjusted. Mention the dimensions of the stable also and how you get light to the central portions successfully.

Are Your Stables Ventilated?

Of all the important considerations in planning and building farm out-buildings, perhaps none is so much neglected as proper ventilation. Some still plan their stables to make them as warm as possible, the degree of heat to be maintained by keeping in the foul air given off from the lungs of a large number of animals, and by the natural body heat of the horses, cattle, pigs and sheep enclosed. Everything is made as nearly air tight as possible. Then there is the man who realizes the importance of fresh air but forgets that direct drafts are dangerous. He very often plans his intakes in the form of doors or windows to be opened when necessary, and forgets to construct suitable outlets to carry off foul air. Some are still indifferent to the ventilation question, but the latter classes are gradually growing fewer in numbers. However, there are many who still seem to believe that their cattle should be protected from every vestige of fresh air in cold weather, and consequently the air in the stables is foul, heavy and damp, and the walls and ceiling are dripping wet. This latter condition may sometimes be found where there is ample provision made for ventilation, but the system is not properly operated. There are two main requisites in ventilation, one to get the system properly installed, and the other to have it properly operated after it is installed. It must be effective without great cost, and must be simplicity itself as far as operation is concerned. Nearly all concede that pure air is absolutely essential in the stables, and during the next few weeks, when many of our readers are planning stables to be built during the summer

of 1914, we invite those who have good ventilating systems already installed to describe them for the benefit of others. Few know the best size and number of inlets needed for a given number of cattle, and many do not understand outlets as they should. Give in detail the manner of installation and operation, and help someone else build a better stable or pig pen.

The Farm Boy's Best Choice.

The gradual depopulation of the rural districts has been during recent years one of the most perplexing problems in our country. Even the cry against the high cost of living in the urban centres has not been sufficient to check the flow of the rising generation cityward and year after year the sons and daughters of the farm cut loose from the old surroundings and seek fortune with the greater throngs, and the larger the city the more irresistible its drawing power. Just how far this draining of the life blood of agricultural communities will go it is not possible to conjecture, but this we do know, that economic conditions are developing which should exert a very potent influence tending to keep the farm boy who likes farming on the farm and possibly to attract some of those who have left country paths for the city streets to a more successful life in their proper groove.

The country has natural advantages over the city which the latter can never hope to duplicate. There is a sweet communion with nature to be enjoyed on the farm that is impossible along the walled boulevards of the busy business city. There is freedom, fresh air, good water, health in its fullest measure and eternal joy for the lover of nature in the unlimited outdoor life of a Canadian farm, but all this has existed through the years in which the sons of the soil have been shaking the clay of their father's farms from off their heavy boots and donning the patent leathers of city pavements. Conditions are changing. The mail is now delivered at the farm gate; the ring of the telephone breaks the monotony of the kitchen, and facilities for travel are yearly being improved. The farm is not the isolated wilderness which many believe it to be. But when it comes right down to brass tacks, are any of the previously mentioned advantages or improvements destined to become the real magnet which shall inseparably attach the farm boy to the farm or exert such a drawing force on those already in other walks of life as to attract them back and hold them fast to that which is good? We are afraid not. People cannot live on beautiful scenery, fresh air loaded with the scent of apple blossoms, and water, be it ever so pure. While these, with conveniences now being enjoyed, are factors towards improving conditions, they are not life itself. They may aid in throwing agriculture into a new light, but they are not destined to be the fundamental cause of the changed conditions which are coming. If the majority of our farm boys are to make farming their occupation they must see in it an attractive life, and the greatest incentive to the young man is a fair and sure profit on his operations. The young men of the farm are not afraid of work. They know that farming means work, but so does any other occupation, and as a usual thing according as one works so he succeeds. The farm has no place for him who is afraid of work, but neither has any other calling worth while. But every man justly expects reasonable

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. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

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returns from his work and from his money invested in any undertaking. The farmer is not excepted from this rule.

The boy just budding into manhood paints rosy pictures of his future. All ambitious boys have a desire to "make good" in the world. For such, is the farm at the present day a good choice of occupation? The average lad brought up to know farming is offered no better opportunity than to improve his knowledge of advanced agriculture and plan to make it his life work. The eyes of the world are now directed toward agriculture. The city business man now realizes as never before the bearing the broad acres adjacent to his city have upon his business. The banks and big urban industries get estimates on farm crops and many of them have good years or poor according as crops are good or bad. Even governments are commencing to arouse and stretch a helping hand to agriculture and in many instances they are sufficiently awakened to be really taking the needs of agriculture seriously. Farming is coming into its own. It has not reached the fulness of its possibilities yet; but prospects are brighter than ever before. Labor is scarce and the drawback cannot be met in a year. Economic conditions, the laws of supply and demand make it impossible to delay fairer conditions for the farmer. He will not in the future be discriminated against to such an extent as in the past. The importance of his position in the nation is asserting itself. He must be given due recognition.

With all this has come a rise in prices. Better returns are possible from the old farm. Millionaires are not made at farming, but the advance of science in agriculture, the changing conditions in favor of the farmer, the possibility of increased returns and the general conditions surrounding life on the farm make agriculture the best choice for the average farm boy. The boy who is willing to work, has the ability to plan and manage farm operations and grows up with his business will find that it is really an attractive calling, for it can be made to yield fair finan-

cial returns, the real yard stick by which all occupations are measured. And right here it might be said that parents could do more toward turning the attention of the boys and girls farmward if they looked a little more optimistically upon farm life themselves. Very often they are continually pointing to some young friend who has made a success in the city, forgetting the scores which have only been able to make both ends meet. Multitudes are not doing that—and for every millionaire there are more than a thousand financial wrecks. So often the farmer is heard crying down the old farm as the cause of much hard work with small returns, and frequently the same farmer has made a good success farming and is now considered "well off." Let the passing generation say a good word for the old farm. If the young man is afraid of work, the farm or any other occupation does not need him. For the energetic boy about to choose an occupation we would say, think twice before leaving the farm, as the farmer's day is dawning.

Ditching Machine Repairs Should Be Duty Free.

At the last session of the Dominion Parliament, the Hon. W. T. White put through a piece of good legislation when he removed the duty from ditching machines. Previous to that time the duty on these machines was 27½ per cent., which raised the price some seven or eight hundred dollars, according to the size of the machine purchased. Since its removal, machines to do farm under-drainage and other kinds of ditching have been permitted to enter Canada duty free, but still the cost to the buyer is fairly high. To get a real up-to-date machine it now costs in the neighborhood of \$2,200, which is to the average man a considerable sum and which will give some idea of what it costs to purchase repairs for said machine when any breakages occur. At the time the tariff was removed from the machines themselves the Government did not see fit to allow repair parts to enter this country free of duty. With the machine operating steadily day after day, and especially in somewhat rough or stony ground, there are several breakages and many of the castings come high in price. With the duty remaining on them it means extra expense for the machine owner, who in turn looks to the farmer who is having his acres drained to reimburse him for all outlay. The point is that the man who finally pays the shot is the man who is putting in tile drains, and in his interest and in the interests of the country it would be advisable to remove the duty from the repair parts as well as from the machines.

It is a well-known fact that ditching machines are not manufactured in Canada and are not likely to be. This being true, it becomes necessary for the ditching-machine owner, who may happen with bad breaks in his operations, to send to the United States, where these machines are manufactured, for his repairs. It was a great help to remove the duty from the machines themselves, and it would aid very materially if the Government at the coming session would pass like legislation to apply to repairs.

Under-drainage is one of the most important considerations in the operation of many farms and anything which tends to lessen the cost of putting in tile should be encouraged. The first thing a man contemplating tile drainage asks is the cost. While benefits may far out-weigh the original outlay, the man on the land always considers the latter first. At present the ditching-machine owner figures on a certain amount of breakages and the cost of his repairs and charges for his operations enough to pay him for those and in many cases, even though he estimates as best he can, he does not make very large profits. However, it is not the ditching-machine owner who is in the greatest need of free machines, but the farmers, who depend upon him to do their under-draining. The Government would do well to look at this from the viewpoint of the man on the land when it comes up for consideration at the forthcoming session.

What Wheat and Oats Cost.

According to figures from different competent men in Alberta it costs the prairie farmer 26 cents per bushel to produce oats, and 61 cents per bushel for wheat. In arriving at these figures interest on investment and a living wage for the farmer, his wife and family were considered as they should be, and keeping in mind the fact that some years a large quantity of the wheat is damaged by frost or snow, when the grain grower actually receives less for his crop than these prices, it would not seem that he was too well paid. It costs more than most people believe to produce farm crops, and the man with all his eggs in the grain basket can well afford to consider mixed farming where more chances are open to him.

Nature's Diary.

By A. B. Klugh, M.A.

During the winter much popular interest is taken in the lowest temperature recorded, and in the summer in seeing how high the mercury will rise. In many parts of Canada we have a wide difference between summer and winter temperatures, but Dawson holds the record with 95 degrees in July, 1899, and -68 in January, 1901. The lowest temperature ever recorded anywhere in the world is -90.4 at Varkhoyansk, Siberia, and the highest temperature is 128 degrees at Mammoth Tank, California in June, 1887.

There are two widespread popular fallacies in connection with the weather. One is that rain may be caused by concussion. This idea, that any loud noise, such as cannonading, or even the ringing of bells, would bring rain, was suggested centuries ago. It was fully disproved in 1892 by experiments made by the United States Government. In these tests heavy charges of dynamite were carried aloft, even into the interior of clouds, by kites and balloons and exploded there but no rain resulted.

The other fallacy is that the moon has an influence on the weather. This notion has been proved, by years of careful meteorological observations to be entirely without foundation. The old belief that certain crops should be planted at a certain stage of the moon is so absurd that it is no longer held by any intelligent people.

There are many popular sayings concerning the weather. Some of these are quite unreliable, and only persist because of the popular tendency to count the hits and forget the misses. No credence should be attached to the innumerable sayings regarding the character of certain seasons as determined by the weather on certain dates of the calendar. The same is true of the saying that the early appearance of winter birds denotes a severe winter. On the other hand there are many weather signs which can usually be relied upon. An observant person whose occupation takes him outdoors can very often predict the weather from one day to the next with a good degree of accuracy. Much appears to depend upon knowing one's locality, as a person who is "weather wise" at home is often decidedly off in new regions.

Smoke falls before a storm, because the condensation of vapor on the smoke particles weighs them down. This increase in humidity before a storm also causes an increase in rheumatic pains, and makes the walls of stone houses damp. Dew formed plentifully after a fair day and soon dissolved the next morning indicates a strong range of temperature under the clear sky of an anticyclone, and hence may foretell a day or two of fair weather. It is said that "the north-west wind is a gentleman, and goes to bed," meaning that the nights are usually calm after a north-west wind by day; this naturally follows from the diurnal variation of velocity in the clear weather of such a wind. When the wind shifts to the north with the sun (that is "veers") we usually get clear weather. This is so because it indicates that the cyclone which has brought us the bad weather has passed. If, on the other hand, the wind backs (that is goes in the opposite direction to the sun) another spell of bad weather is coming.

The formation of fog in valleys at night and its dissipation early next morning indicates fair weather for a time, for this implies clear anticyclone air. In the same way when cumulus clouds disappear about sunset it indicates a fine to-morrow. "Mackerel sky and mare's tails make lofty ships carry low sails" is a sailor's saying which is usually true, for these cloud forms are the elevated overflow of an approaching cyclone, and, therefore, mean wind. Halos around the sun or moon usually mean the approach of bad weather.

As storm clouds pass by a break in them showing enough blue sky "to make a Dutchman's breeches" shows the coming of fair weather, for while breaks may frequently occur in one cloud layer or another within the stormy area, it is very seldom that clear blue sky can be seen

Dr. Maria Montessori

through such spaces; but in the rear of a storm, when the lower clouds are gone, and the high cirro-stratus sheet remains projecting backward from the storm centre, but drifting along with it, a break discloses the bright blue sky above.

A clear, fresh blue sky shows the approach or presence of an anticyclonic area, with its consequent fine weather, while a pale sky forebodes an approaching cyclone. A glaring, hazy sky often denotes southerly winds and increasingly hot weather in summer.

A clear stretch of red close along the horizon, surmounted by yellow, at sunset, denotes fair weather next day. But a lurid western sky at sunset, with the colors spread above the horizon on cirrus clouds, indicates a coming storm, and if the sunset is dull and "dirty" with clearer sky in the east, the storm is nearer.

Rainbows in the east and hence in the afternoon, foretell clearing weather, as these are usually formed on the rain of retreating shower, but if seen in the west and, therefore, in the morning, rain is approaching.

In the winter when the air sounds "hollow" it denotes a thaw. When in the winter there is a yellow-green color in the sky over the setting sun, it usually heralds colder weather.

THE HORSE.

Steady Growth for the Colts.

A writer in "The Farmer's Advocate and Home Journal," of Winnipeg, Man., discussing the feeding and care of the colt believes that feeding constitutes one-half, and proper stabling the other half in good care for the colt. This is what he says:

To get the greatest possible growth from each foal is not an easy matter; it is safe to say that not more than one in ten reaches the size and development desirable or even in keeping with what might be expected—considering prenatal influences.

I have found that feeding extremely high does not often result in good size, and would consider that the moderately well-fed colt had the best chance of the two if given until five years of age. High feeding hastens early maturity, but in many cases at the expense of good size. Experience has taught me not to expect beauty or symmetry of form during the first 18 months after weaning, though I try hard to keep the baby flesh on the first winter.

The best feed is good oats and bran equal parts by measure, say about one and a half quarts of each three times daily with a little linseed meal, but never more than a tablespoonful of this at each feed—(linseed can not be fed by the pint or quart). This with well-cured alfalfa hay leaves but little to be desired. I feed two or three carrots twice each week. A little oat hay or any other hay is given for a change. The most thrifty colt I ever raised received a little cow's milk in addition to the above feeds twice daily. Often worms are the cause of unthrifty foals. In this case I give six to eight ounces raw linseed oil with one teaspoonful of spirits of turpentine, but outside of this I never give medicines unless absolutely necessary. In my estimation feeding constitutes one-half, and proper stabling the other half of good care.

Foals will lie down and sleep most of the night if a reasonable place to do so is provided. The lack of this is the reason why many horses are undersized though comparatively well-fed. I have seen registered range foals spoiled in this way. I give cold water—not ice water—four times daily. My foals are halter-broken quite young and handled in every way until they are perfectly quiet, but for the long winter I prefer loose boxes where two or three are left in together, as they like company. In all reasonable weather the roughage is fed outside in sheltered yards. They need the exercise. I have them inside in the stormy and wet weather only. Cold weather does them no harm provided the barn is well-ventilated so they will not get a chill on going out in the morning, which causes colds. This system gives me good size, doubles the profits, and gives me greater satisfaction and pleasure in my work.

Inspection to Aid County Fairs.

Editor "The Farmer's Advocate":
By your issue of December 25th, 1913, you have left your columns open for discussion of the Stallion Licensing and Enrolment Act. I may say that I had my stallion inspected and enrolled in 1913, and he bred 146 mares last season. Of the large number of mare owners I don't think there was one man asked anything about the inspection, so I reckoned that I was \$7.00 out. If I understand the government correctly it is their aim to get nothing but good horses in this country. If this is so they must get at the breeders as well as the stallions, and I think they should proceed by doing away with

the grade stallions entirely, and having the owners of registered stallions pay a license fee of \$5.00 per horse every year to the secretary of the local agricultural society, the money to be used as pointed out by Mr. McVitty in a previous issue of this paper as prizes on foals in each county. I think if anything will start the breeders and the good horse system, that will, and it should prove a great help to the county fairs.

Oxford Co., Ont.

A. FRIED.

Keep the Bars Up.

In this issue appears an article from a horseman in York County, Ontario, in which among other things he advises that all fillies on the first cross, having, of course, a pure-bred sire, be made eligible for registration for a period of three years. He thinks that this would be a very effective means of encouraging the farmers of this country to breed more horses of a high-class character. There is no doubt, if such action were taken by the authorities, but that there would be a vast increase of business in the Record Office, but what would happen the standard of the different breeds of horses? Many good fillies result from the first cross but there are also hundreds of very inferior animals, and we would not care to see such numbered amongst the registered pure-breds of any one of the distinct breeds of horses. It requires several generations to fix the type, and we do not think that matters could be improved by relaxing the regulations now governing registration in the several distinct breeds. Pedigree could do nothing

Some Radical Legislation Advised.

Editor "The Farmer's Advocate":

As you ask for correspondence expressing opinion on the advisability of licensing stallions for the stud in the Province of Ontario, I will venture a few ideas on this very important subject. After reading the many letters which have been published in your journal by numerous breeders and importers, I am afraid it will be a difficult task to enlarge on their ideas, therefore, I will give my own opinion.

First, I believe every stallion standing for mares in the Province of Ontario should be registered and licensed, and free from hereditary diseases. But I still maintain a stallion should not receive a license for breeding purposes until he proved by his progeny that he would be a benefit to the community, by producing colts that would elevate the Canadian standard. I would also suggest, and believe, that it is absolutely necessary that mares should also be inspected, and receive licenses if they proved themselves producing dams. I know it to be a positive fact, that in a great many cases almost ninety per cent of the mares which are bred in Ontario in all classes are responsible for the majority of hereditary defects with which the colt is affected. Now after forty years' experience with stallions of all classes, I could relate many instances where the breeder was at fault for the old and simple reason, the mare which he could not sell for a good figure, because she had the heaves, broken wind, spavins or ring bones, periodic ophthalmia, etc., etc., with numerous other ailments, is kept for breeding purposes. What do you expect, apples off a thorn tree, or cranberries from a gooseberry bush?

I also think there is too much confidence placed in the stallions that win at our exhibitions and shows, first prizes and championships. Such animals are generally syndicated,

for large prices, and do business on their show-yard reputations. Others do business largely on the reputation of their sires, which have sired prize winners in the Old Country. My experience in the showing, over a period of forty years, tells me it is like going to a circus, the same old story, the clown, ring master and the spectators, who pay their money.

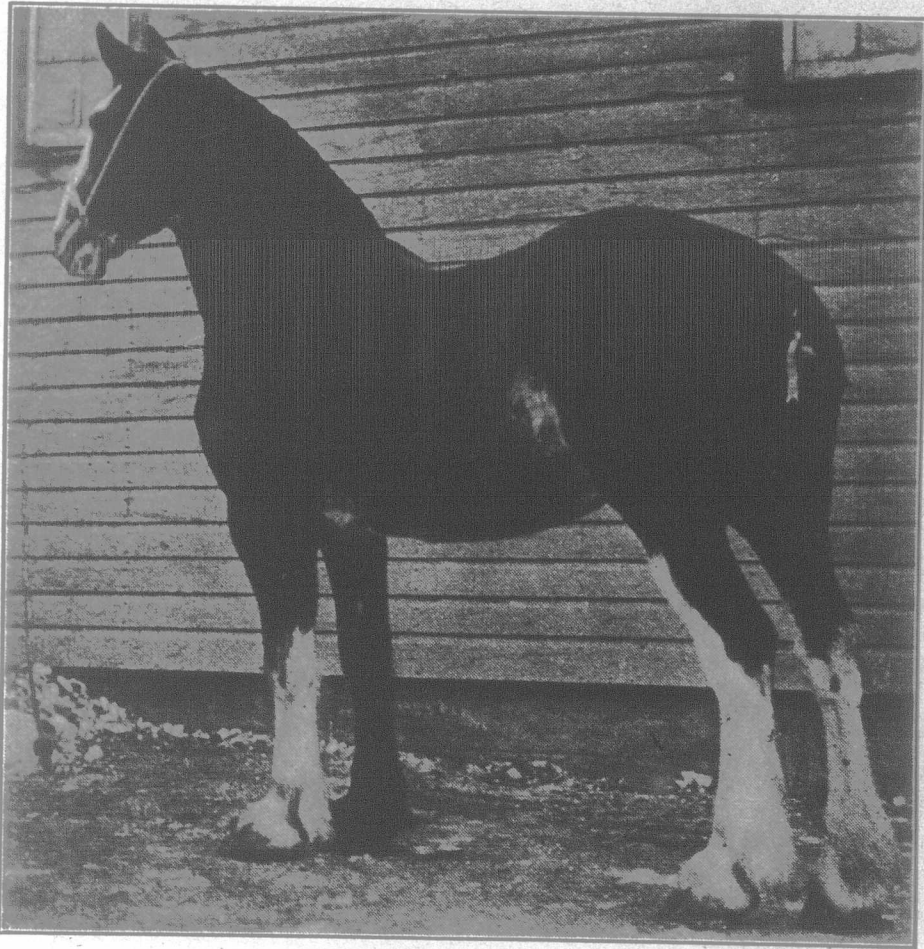
Now, as to the grading of stallions—first, sound stallions, how many could be registered in the Province of Ontario under this head? I do not think it would take much of a mathematician to figure it out, and as to second and third grades, I do not believe this is a good idea. Either first grade or nothing. Otherwise it leaves a gap open for a great deal of deception whether the inspectors appointed by the government are competent to fill this position justly and honorably. I have seen some, not speaking personally, in the show-ring award prizes in the breeding classes to unsound horses and unsound mares. This would satisfy me and should satisfy the majority of farmers that all is not gold that glitters.

What I would like to see, and as an importer, I think I'm fair in asking it, is to break up what I believe is a show-ring combine, superannuate all those old-time judges, put on young men who have a reputation to make, change the judges every year, and if our government wishes to improve our Canadian horses, let them give prizes for Canadian-bred stock, and that could easily be done by donating to the Breeders' Associations the amount which is foolishly spent by a lot of men travelling around the country at a great expense, telling a man whether his horse is fit to stand for service or not.

I firmly believe the show-ring is the best place to encourage the farmer to breed good stock, but the prize-list must be increased and Canadian-bred stock should get the preference.

I also think the registration of colts should be somewhat modified. We have been importing a great many stallions, some very good ones, but to breed those stallions to unregistered mares, no matter how good the progeny may be, it is almost an utter impossibility to have them registered.

In fact I had a yearling filly at our last In-



Nell of Aikton.

Clydesdale filly, champion at the Guelph Winter Fair, 1913. Owned and exhibited by Dr. T. H. Hassard, Markham, Ont.

ing for a scrub animal. True, there are several grade or cross-bred fillies foaled each year which are in many respects superior to some for which a pedigree may be obtained, but would such fillies be any more valuable by the fact that they had a very short pedigree, showing no registered dams? The real value of a pedigree is the showing it makes of the various blood lines which have been famous in bringing the various breeds up to their present high state, and fillies with a pedigree showing dams of no particular breeding would be just as valuable if no attempt were made to get them registered. The stricter our officials are in the matter of the regulations governing live-stock registration the better our standing is going to be, and the higher the standard of each of the breeds in this country. If a grade animal, by the simple fact that a pedigree has been obtained, is placed on the same footing as the pure-bred with a valuable pedigree, then the latter is reduced to the level of the inferior class of animal. It would be a poor and ineffective method of getting rid of the scrub horses to in any way let down the bars which now separate the animals eligible for registration and the grade or cross-bred individuals.

dustrial Exhibition, an in-bred Sharplov, her dam and sire being by Sharplov, her grandam on the sire's side by Old Fireworks, her grandam on the dam's side by Geneva 2.14 standard, and I believe one of the best yearling colts ever seen in the Hackney breed, but she had one out-cross of Standard-bred blood, which is ninety per cent. Hackney. Still, to get this mare registered, I should have to have the grandams and sires and dams registered. I do not blame the farmer for not trying to register his stock in a great many cases, as it means a great deal of expense and time, and very little satisfaction.

Now, I think a committee could be appointed for each breed of horses, composed of men competent to judge each breed. Say we let the bars down for three years, making every filly on the first cross eligible for registration, this would give the farmer some encouragement, and I believe would increase the revenue of the Record Office one hundred fold. We are a young country and should be breeding horses for export instead of importing, and I think there are many horses to-day working as slaves, if they could have been registered would have proven themselves better producers than many horses we import.

York Co., Ont. J. GORDON McPHERSON.

People Do the Inspecting.

Editor "The Farmer's Advocate":

A short time ago you extended to stallion owners and breeders an invitation to give their views on the Stallion Enrolment Act, so I send you mine. Regarding the enrolment of stallions, I cannot say that it did either good or harm in this section, unless it is the loss of the two dollars to the owner, as there is practically no scrub heavy-draft stallion in this part.

As far as I can see, the inspection of stallions has been of just as little value. A horse is not long in any locality before any unsoundness he may possess is known to the public. Many of the stallion owners in this part of the country had their horses inspected, while we did not. To show you how little attention the public paid to inspection, I will say that we keep three imported stallions for service, and during the season of 1913 we bred, with the three, about four hundred and fifty mares, and only once or twice were we asked anything about our horses not being inspected. I am satisfied we never lost a mare on that account. The people did their own inspecting. While I do not think it would amount to much in any case, I believe it would be better made compulsory than the way it is now, as the man with the blemished horse will simply not have his horse inspected, as well as the man who does not care to pay the five dollars. But if the Government wants to make it compulsory, let them pay the fee.

As to the grading of stallions, I think it ridiculous in the extreme. I do not believe for a moment that the Government could get men capable of doing that satisfactorily. Good horsemen often differ in their opinions, and it would be much more serious in the case of grading than in the show-ring. A first-class horse might be a little out of condition at the time of inspection, and would not show himself as such, while a poorer horse in extra bloom might get more than he deserved.

Again, we say that too often positions of this kind are given to men who have been faithful to the party in power, rather than to men whose fitness for this kind of thing has been proven. Better let the breeders do their own grading. It is to their own interest to use the best horse, and we believe that, taking one time with another, they are quite as capable of doing so as any man hired by the Government.

Lambton Co., Ont. JAMES BRANDON.

Enrolment Deceived Some.

Editor "The Farmer's Advocate":

I have been reading with much interest the discussion in "The Farmer's Advocate" re stallion enrolment, and would offer my experience. I have kept stallions continually for the last twenty-six years, and at the present time I have three, all registered. The enrolment, as now constituted, is a curse to the owner of registered stallions, as an enrolled scrub is placed on the same footing as the registered stallion. I know of four cases where men bred their mares to scrub stallions, thinking they were registered because they were enrolled. If the government would stop the scrub stallion from travelling the roads, or the offering for service anything but a registered stallion, and in place of asking the owner for high fees to give a good grant to each registered stallion, I venture to say in two years the scrub stallion would be a thing of the past. Enrolment has certainly been a boon to owners of scrub stallions in Eastern Ontario at least, and until we farmers join hands and elect farm-

ers to represent us in parliament we will never be any better off. Just grin and pay the piper. Prescott Co., Ont. G. A. RYAN.

Give Us Compulsory Inspection.

Editor "The Farmer's Advocate":

As you have opened your columns for criticisms on the Stallion Inspection Act, I beg leave to present my views.

After one year's trial, I consider the Act has been more injurious than beneficial to the interests of horse breeding. Those whose horses were not sound rarely had them inspected, but would wave their enrolment certificates in the eyes of an innocent public, who had not yet become conversant with the Act, and could easily be led to believe that these horses were licensed by the Government and must therefore be all right and just as good as the sound horses, which had cost many times more to purchase, and for which the inspection fee had been paid. Hence, I say, give us compulsory inspection. But what is the use of inspecting the stallions and licensing only the sound ones, when farmers are allowed to breed blemished mares, which invariably produce their hereditary unsoundness in their offspring? Why not impose a fine on every man who breeds a hereditary unsound mare, and also fine the stallioner who accepts her?

What was the use of placing a law on the Statute Books of this Province and provide no means for enforcing the same? I am informed that many stallion owners broke the law in one respect or another, and with impunity. If the law is to be enforced, duly appointed inspectors must be located in every county for that purpose.

As to grading stallions into classes—one, two and three—I think it would be very unwise. I see no argument in favor of that scheme, but many against it. It would, to a great extent, impair the usefulness of our Spring Stallion Shows. Inasmuch as the owner of a horse graded two would not exhibit him, although he might be equally as good in the eyes of some judges as the one graded one.

Would all the inspectors out be competent judges? Even the best judges differ in the placing of the same horses. Would the judgment of the inspectors not be accepted in many cases by farmers whose own judgment would be better? Very often a horse graded two might be far superior to one graded one for crossing with certain mares. It is very important to choose the horse best suited to your mare, even though he may be a little deficient in some point in which the mare excelled. Then why prejudice the breeder against certain horses which might be better suited to his purpose than one graded higher? After a horse has been in a community a couple of years, his stock will show for themselves and a breeder has a much better chance of determining which is the most suitable horse for him to use than has the inspector.

We repeatedly see articles on horse breeding advising that stallions be worked in the team after the breeding season is over. Those who have tried this know how beneficial it is to the horse, and also to his offspring. It is, however, impossible to work a stallion as you would other horses, as is necessary to do considering the scarcity of farm help, and still have him in the same bloom for the show-ring or for the inspectors to classify, as though he was not worked. A horse which would be classed as No. 1 before he was put to work might easily be classed No. 2 after he had worked for six months, and still he would be a better horse to breed from after he had worked than before. Let the inspectors judge the horses as to soundness, but let the breeder choose the horse which he thinks best suited to his mare.

As to prohibiting from doing business all stallions not pure-bred, I might say that many grade sires leave some good stock, but their colts are not as uniform as those from a pure-bred. Many useful horses have been bred from grade sires, and I believe there are communities where a grade sire might still have a place, although I own a pure-bred horse myself. There is a tendency among the owners of grade horses, which cost little more than geldings (many of which would not make good geldings), to cut prices for service, to insure living colts, or to use some other inducement to get patronage. Many inferior mares are bred to grade horses simply on account of the price. In reality this is a good thing for the owners of good horses, yet the colts from such mares seldom pay for raising.

Let the stallioner determine what price he is going to charge for insurance, and put it on his route bills. Then he should be compelled to stand by those terms. If this were done it would soon eradicate the inferior stallions, and the men who had paid high prices for good horses would be encouraged to continue in the business.

Oxford Co., Ont. S. W. JACKSON.

A Discussion Worth Considering.

From the discussion which has been going on during the past few weeks through these columns regarding stallion enrolment and inspection it will be plain to those in authority that this Act as it is at present constituted is not looked upon by horsemen as being of very much value. We have stated on previous occasions that we believed it advisable that something should be done to eliminate the scrub stallion in this country. On the advice of horsemen the Ontario Government saw fit to pass the Stallion Enrolment Act. It is quite evident that this Act is not well understood by the majority of the stallion owners and much less so by the average mare owner, who does not take the trouble to go into such documents very fully. A correspondent in this week's issue points out that many mare owners in his district were fooled the past season, believing that the enrolment of certain stallions passed them by the Government as being pure-breds. There was very little excuse for this, had the owner taken the trouble to look into the Act and to read the published advertisements or bills of the stallion in question.

The main weakness in the Act, as we take it from the letters from our correspondents which have been published recently, is that it does not go far enough. Some complaint has also been made that the system of enrolment giving out certain certificate forms was rather misleading. Most horsemen did not understand fully the meaning of Form 1, Form 2, Form 3, etc. It might be possible, if the Government sees fit to make inspection compulsory, to improve upon this wording and use the word "grade," if grading according to inspection meets the approval of the horsemen. There are those, however, who still believe that it is not the best policy to attempt to legislate good horses into the country, and these, of course, do not favor enrolment, inspection, or grading. We hope that the Government may get some light upon the views of the stallion owners from this series of letters which we have published and that these may in some measure guide them in strengthening the Act at the coming session of the Legislature. It will require some care in amending and no hasty judgment one way or the other until the matter has been carefully threshed out. All cannot be pleased, seeing that there is such a wide diversity of opinion, but one thing seems certain, that none are pleased as matters stand and a change is necessary. A little stronger legislation seems in order and the suggestion of licensing under the local control of the agricultural societies seems worth considering. All breeders are down on the grade stallion and it looks as though he must go for good. No good horseman would be very sorry and he might well take with him many of the scrub class of pure-bred sires. A horse that would not make a good gelding himself cannot be expected to produce many.

Compulsory Inspection Advised.

Editor "The Farmer's Advocate":

I have been reading with interest the different views of the stallion owners, and as I am in the business I thought I would give my views on the matter. It seems to be the general feeling that there should be something done to protect and improve the horse industry of this country. Just how to get at it seems to be the problem. I for one paid \$50.00 for horse inspection and enrolment for 1913, and so far I do not consider it has been of any benefit to me whatever, as grade stallions (and I consider inferior ones) have been enrolled and inspected as grades, and travelled in our district at fees from \$5.00 to \$8.00. The owners could show their certificate with the government seal, keep back the grade part of it, and in this way deceive the ordinary farmer and make him believe he had his horse inspected and approved just the same as the fellow with the pure-bred and registered, because there was no difference whatever in the certificates only one read, "Inspected and approved as a grade stallion," the other one, "Inspected and approved as a pure-bred and registered." I for one am in favor of compulsory inspection and grading 1, 2 and 3, providing the unregistered and scrub stallions are not allowed to travel at all. The owners of those stallions may feel that this is an injustice to them, but I think not. It would allow them to keep their horses on the farm and work them, and if they want to raise inferior horses, breed their own mares, and also make them charge a fee of \$10.00 to insure, then if the breeders in that section think their horse good enough to breed to they will have the privilege of doing so. Have the fee not less than \$15.00 or more than \$20.00 for the pure-bred and registered horses that are allowed to travel for public service, in this way the odd ones that would be graded No. 1 might be able to travel at a fee, say \$20.00, those graded No. 2 and 3 would have to be satisfied with about the \$15.00 fee. If the inspection was compulsory and the service fees fixed at a certain

Dr. Maria Montessori

price, then I think the intelligent farmer and horse breeder of this country would commence to look where he was going to get the most value for his money, and the horse owner who put up the price and bought the stallion that would grade No. 1 could certainly get a little more fees than the fellow who would buy No. 3 grade.

In my mind compulsory inspection and grading would do good in another way. The importers would have to have their horses inspected and graded before selling them; if this were done there would be a good many grade No. 3, and the breeders in the Old Land would have to keep their registered scrubs at home, as it is pretty generally known that the importers have to buy too many inferior horses to get a few of the good ones.

From this discussion I believe the government will arrive at some conclusion which will be for the betterment of the horse industry of this great Dominion.
Grey Co., Ont.

J. H. MYLES.

LIVE STOCK.

A Live Stock Matter to be Adjusted.

It will be remembered by those who follow closely the doings of the various live-stock associations in Canada that at the last annual meeting of the Holstein-Friesian Association a report was made by two of the members of that association, who had been appointed to look into the affairs of the National Live Stock Records with a view to joining the latter and that this report was unfavorable to the National Live Stock Records, the committee believing that it would be more economical for the Holstein Breeders' Association to continue doing business separate from the National Records at Ottawa than to join forces with them. This report caused considerable comment at the time. For some time past the different breed associations now affiliated with the National Live Stock Records and to the number of twenty-two have been urging the Holstein men to come in with them. At the last annual meeting of the National Record Board, which was held in Toronto last May, one of the chief subjects for discussion was this important question. It was pointed out in that discussion by Robt. Miller, the well-known Shorthorn breeder, of Stouffville, Ont., and a member of the Board, that as the great majority, in fact every one of the associations interested in pure-bred animals, have joined the Record System with this one exception, and there is yet to be heard the first complaint that the affairs of each and every one of these associations are not well and satisfactorily conducted in the Canadian National Records office, there can be little fault to be found with the operation of the Records office. The National Records stand open for fair criticism, but the Record Board does not believe that the investigation made by the committee representing the Holstein breeders was thorough enough. It was pointed out in discussion at the Record Board meeting that there is a vast difference in the amount of clerical work required in recording the Holstein and in recording a Shorthorn or animal of another breed. These other breeds get a full pedigree for each animal on the certificates issued from the Records office. Mr. Miller pointed out that there was very little work in connection with the certificate as made out for an animal of the Holstein breed, the certificate being, as he stated, only an index.

The Accountant of the National Live Stock Records made the assertion in a statement read at the Board meeting that there is easily six times as much clerical work in registering a Shorthorn as there is in recording a Holstein and that the Shorthorn Association was charged \$1,866 in 1912 for business much larger than that of the Holstein Association. It was his opinion that if the Holstein Records were located at Ottawa, and the stationery and forms, office equipment, etc., supplied the same as for other records and no part of salaries paid out of the grant from the Government, that the expenses would still be less than to the Holstein Association, notwithstanding the report of the committee. This committee, according to the Accountant, asked when at Ottawa for information about the Ayrshire Association and were informed that for registration, transfers, membership, etc., the cost in 1912 was about fifteen cents each. Taking the detailed statement of the Holstein-Friesian Association for that year as a basis for figuring, including registrations, duplicate certificates, new certificates, transfers, new members, annual dues, and allowing \$1,500 for office work, \$50 for audit, \$583 for postage, \$371 for office supplies and an estimate for stationery and forms of \$1,000, would make a total of \$3,504. This is calculating on the 15-cent basis for registrations, transfers, members, etc., on the actual number of these made by the Holstein Association in 1912.

If the work had been done at Ottawa, the Accountant estimates that one man at \$1,000 a year, also a girl at \$500, and another girl at

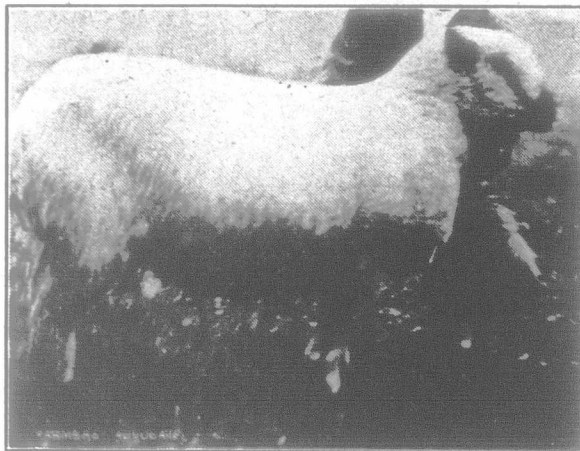
\$400 to start, would do the work, and he valued the Accountant's work at \$700. This would make a total of \$2,600, and the 50 per cent. of this, which the Holstein-Friesian Association would have to pay, were they in the National Record System, would be only \$1,300. He further stated that: "We know, for the sake of making a comparison, that they have one man who gets a good salary, and they also have one or two girls working in the office all the time, so that we see it must be, and is, absolutely impossible for them to do the work as cheaply as we are doing the work for the other associations that came in under the National Record System."



Thelma 2nd.

A Shorthorn heifer which won many prizes in the West last season, and headed the two-year-olds at the Canadian National.

Seeing that there is a difference of opinion between the committee appointed by the Holstein Breeders' Association and the National Record management upon the cost of operating the association's affairs, no doubt the matter will come up at the forthcoming meetings of the live-stock associations to be held in Toronto early in February. The reports, as stated at last year's meeting of the Holstein Association and of the Record Board are conflicting and a thorough investigation would be welcomed by the Record Board. If the cost is greater for the various associations affiliated with the National Live Stock Records to operate their business under the Record System it seems strange that none of these associations have registered a complaint. In view of the figures given it would seem that further investigation was necessary on the part of the Holstein breeders. The officials of the National Live Stock Records firmly believe that they could operate the Holstein Association at much less cost than is now incurred by that association and the Holstein men seem firmly convinced that they cannot do it. If the investigation made by the Holstein committee was not thorough enough to satisfy the National Record officials why not make a further investigation and have the matter cleared up once and for all?



Shropshire Ewe.

Champion at last fall's Canadian National. Owned by C. W. Gurney, Paris, Ont.

Twenty-two perfectly satisfied associations should be ample proof that the National Record System is beyond reproach, but twenty-three associations, taking in the Holstein breeders, who at present stand aloof, would be a more united live-stock department and should strengthen the position of the live-stock men in this country. We hope that the matter may be cleared up to the satisfaction of all concerned. We believe that the National Live Stock Record System is in the very best interests of our stockmen and seeing that all those connected

with its management are willing to have the affairs of the National Records thoroughly investigated the matter should not longer stand in controversy.

Confine the Bull.

Editor "The Farmer's Advocate":

Having been a continuous reader and subscriber of your paper for about twenty years, I have noticed that a great deal of our best legislation has been brought about, I believe, by the discussions opened up in your valuable paper. In your last issue I notice considerable in regard to stallion licensing and enrolment; already the government has taken action to encourage the breeding of better horses, and it is a very rare case to see a scrub stallion running loose in a field, so if a person desires to breed and raise pure-bred horses of any breed he can allow his mares to be at pasture at any time when they are not in use, which is very essential with breeding stock, without any danger of being served by a stallion of any other breed. Now, what about the man who invests his money in pure-bred cattle and desires to keep them so? We see numerous bulls loose in fields next to highways and also on highways, some of them two and three years old with horns on. No man can fence a farm against such animals. Of course,

the owner of such a bull is liable if he gets on your land and does you damage if you can prove it, but that is not so easy, as the owner of the bull is more likely to miss him and take him out before he is seen by the owner of the cows. Again, where they are allowed on the road or in a field next to the highway where strangers are passing or children going to and from school they are certainly dangerous; it is not uncommon to read of a person being killed or injured by a bull. Money will not replace the losses. When the mother starts her children to school, and they have to pass where the bulls are running loose, she is never at ease till they return in the evening. I claim that all bulls over six months of age should be securely tied or enclosed in a box stall or paddock that is well fenced to secure the animal it contains, and the fence surrounding such paddock should not be a portion of a line fence or next to a highway. And it should be made an offence to let them run loose and punishable by a fine, then the breeder, child or traveller would have some protection, and that if the owner did not confine them he could be summoned to the court before the damage was done. I also believe this would have a tendency to improve the quality of our cattle, as there would be fewer scrub bulls in the country. It would cost just as much to keep the grade bull shut up as it does the pure-bred, and the owner of the grade bull would raise his service fee from fifty cents up so as to make it pay for his keep, the result would be his patrons then would demand a better class of bull if they had to pay the extra price of service, and I believe that the quality of our cattle would be more improved in the next five years than it has in the last twenty.

Elgin Co., Ont.

D. C.

Exceedingly Well Pleased.

Editor "The Farmer's Advocate":

I am exceedingly well pleased with "The Farmer's Advocate and Home Magazine," especially because of its independent stand on the public questions of the day. I take nine other newspapers and publications and am sorry to have to say that nearly all of them are more or less biased, according to the class, race, religion, or political party to which they belong, and some of them stretch the truth exceedingly. No wonder the people of Canada, and especially the agricultural class, who are fed on such pabulum resolve themselves into warring factions; and no wonder if the inimitable Peter McArthur's heart at times would almost sink within his breast like a cold lump of lead when he feels that his desires for the things that should be are oftentimes shattered by the things that are. But don't be discouraged; keep pounding away; you are doing a good work, and you are gaining in influence every day. Remember there are always enough good people left to make the nation over, and they appreciate your work. From a

farmer's point of view we approve of the stand which you take on the various questions that arise from time to time; your editorials are calm, judicious, sane and sensible and therefore very effective. What a contrast from some of those that we read in other publications. We always say a good word for "The Advocate" whenever occasion arises; we frequently hear some of the urban population debating on the high cost of living, and blaming the farmer for it. We advise such to subscribe for and read "The Farmer's Advocate," for they would then become better informed and might be deterred from making, absurd, ridiculous statements.

Ontario Co., Ont. JOSEPH FOX.

THE FARM.

Another Barn Plan.

Editor "The Farmer's Advocate":

In looking through your magazine I came across the article, "Descriptive Articles of Stable Construction Wanted," so I thought I would see what I could do. I live on a 90-acre farm. We built a barn last summer 40 feet by 75 feet, hip roof, plank frame on an 8-inch cement basement, mixed 1 to 8, and 8 feet high, under the whole of it. It has a 14-foot drive, 13 feet high in the middle crosswise and a 10-foot drive 8 feet high lengthwise on the east side and both are level drives. The siding and roofing are of galvanized steel. There is accommodation for six head of horses in stalls besides three box stalls. The stalls are 4 feet high and are of cement, as are the mangers, feed boxes, etc. On top of the cement stalls running up are 1-inch rods 4 inches apart and these go into the overlap above. There is no boarding in front of the horses or cows, thus affording no obstruction to light. Windows are put in wherever there is room and this makes it much lighter than some barns I have been in. In front of the horses and cows are feed alleys 6 feet wide. They are made this wide so as to give plenty of room when feeding time is on. In each feed alley roller door is a window 2 feet square, which can be shoved back and forth to open or cut off ventilation. Ventilators 8 inches by 8 inches, made sloping down to keep out the rain, are placed behind the cows and horses and in the box stalls and a foot above the floor. Slides made of galvanized tin are put over the ventilators on the inside and can be opened or closed according to the weather. Thus the fresh air comes in below, drives out the foul air through the windows in the feed alley doors up the centre drive and out the five ventilators at the top. There are two grain bins in front of the horses and four in front of the cows. The mangers in the box stalls are put on hinges and can be swung back and out of the way for a mare foaling. Windows are placed half way in the partitions in the grain bins. In front of the cows is a cement water trough two feet high, a foot wide and six inches deep. The floor the cows stand on is five feet wide at one end and four feet six inches at the other end. The long cows stand at the long end and the shorter ones on farther down. There is no trench in the cow stable. From the shoulder of the floor the cows stand on there is a drop of eight inches and the floor is sloped down to it. The shoulder and the floor at the wall are on a level. We find this the most convenient way. The drives, horse stalls, feed alleys, grain bins, etc., have cement floors. The drives are creased so as to give the horses a toe-hold when pulling a load over them. We keep our manure spreader behind the cows and load up the manure and haul it out as it is made. In our barn are two steel tracks the whole length of the barn, and these in the middle of each half of the barn. I consider that these two will pay for the extra one in one season. We use slings and they are certainly a big help. I forgot to mention that we have a complete waterworks system in our barn—water for both cows and horses—and that the barn is on 14-foot posts.

Essex Co., Ont. JOHN W. SCRATCH.

A Good Yield.

W. B. Roberts, an Elgin Co., Ont., correspondent writes reporting the yield of various crops on his farm in 1913 as follows: Twenty-three acres of winter wheat yielded 606 bushels; 20 acres of barley and oats, 987 bushels; 26 acres of oats, 1,269 bushels; 1 acre barley, 22 bushels, and 15 acres of beans, 296 bushels, a total of 3,180 bushels. Seventy acres of hay cut 140 tons, 10 acres of ensilage corn filled a silo 14 feet by 40 feet, 11 acres of husking corn yielded 1,450 bushels of ears, 1½ acres of mangels 950 bushels and 1½ acres of potatoes 300 bushels. Besides this nine acres of corn was harvested by pigs with an estimated yield of 900 bushels. Mr. Roberts uses a gasoline engine for threshing and filling silos.

Artificial Fertilizers; Their Nature and Use—VIII.

By B. Leslie Emslie, C.D.A., P.A.S.I., F.C.S.
SOIL BACTERIOLOGY.

Bacteriology is one of the latest sciences to receive attention, and progress in the knowledge of bacterial functions has been very rapid in recent years. The decay of organic matter in the soil is brought about by these small organisms. There are numerous varieties, each performing its own special function. The favorable bacteria require a liberal supply of air and moisture, as well as a suitable temperature for their work. They utilize the free oxygen of the air and are thus known as aerobic bacteria. One of these breaks down organic matter in the soil into its component parts and produces ammonia from the nitrogenous compounds. Another variety of aerobic bacteria then steps in and continues the process, until the ammonia is oxidized to form nitrates, in which form nitrogen is available to plants. This variety is known as nitrifying bacteria. The process of nitrification proceeds most rapidly in light, well-aerated soils, which accounts for the rapid decay of organic matter in such. When a soil is so wet as to prevent the free circulation of air the aerobic bacteria cannot thrive, and another kind, known as anaerobic, from the fact that it does not depend on the free oxygen of the air, but derives this element from the breaking down of oxygen compounds in the soil, becomes active. This kind is known as denitrifying bacteria, since they attack the nitrates in the soil, liberating the nitrogen, which usually results in serious loss. Besides these, there are the nitrogen-fixing bacteria, which have already been mentioned in connection with the legumes.

Bacterial Cultures for Legumes.—Each species of legume has its own particular nitrogen-fixing bacillus or germ, without which it cannot prop-

DIRECT APPLICATION OF NITROGEN-FIXING BACTERIA TO THE SOIL.

After the discovery by Hellriegel and Wilfarth, in the year 1886, it was thought that the application of cultures of the nitrogen-fixing bacteria would solve the problem of the nitrogen supply in the soil and several of these cultures, under various attractive names, were produced. While in some instances favorable results from the inoculation were indicated, expectations were not fulfilled. Prof. Bottomley, of London, who took a prominent part in these experiments, now claims to have discovered in peat a suitable medium for the propagation of nitro-fixing bacteria. The peat is first treated with certain aerobic soil bacteria, which break down and neutralize the acid peat. These bacteria, having finished their work, are killed off by sterilization and the neutral mass is inoculated with nitrogen-fixing bacteria. After incubation for several days the material is ready for use. It is yet too early to predict the value of this discovery, but experiments conducted by several reliable authorities have shown very favorable results.

Apart from the bewilderment produced upon the mind of the average person by the unmentionable names of these mysterious bacilli or bacteria, one wonders at the variety of names used in speaking of them collectively, which recalls the explanation of an humorist that "these 'bugs' are called 'microbes' in Ireland, 'germs' in Germany, and 'parasites' in France."

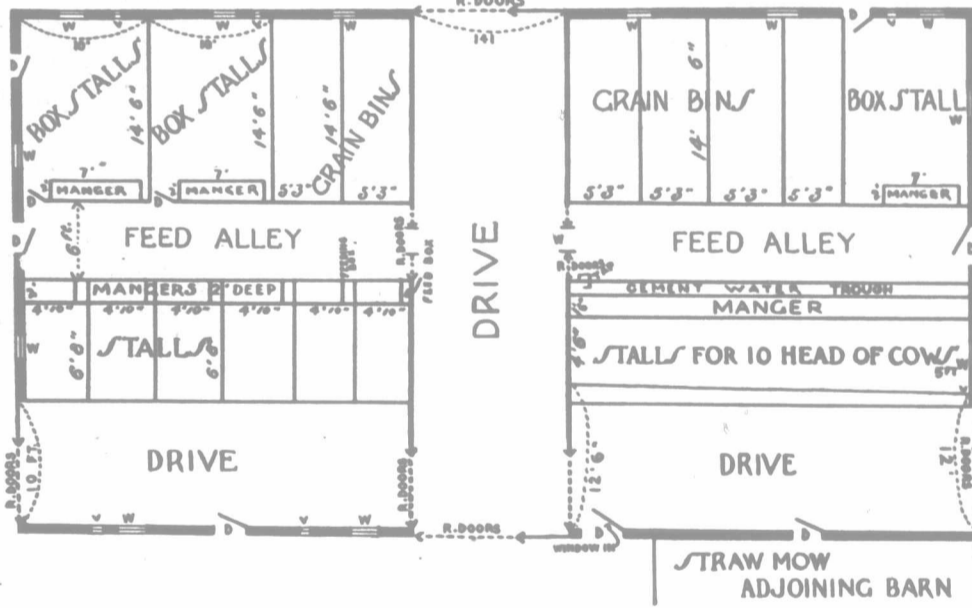
Lime in Relation to Soil Bacteria.—Besides suitable condition of moisture, air and temperature, soil bacteria require phosphoric acid, potash and lime for their favorable development. The undesirable anaerobic organisms thrive in wet, undrained, sour soils, while the desirable anaerobic bacteria thrive only in well-aerated soils, free of acid. The action of lime in correcting acidity by combining with the vegetable acids explains its beneficial effects and its special importance for leguminous crops.

Physical and Chemical Effects of Liming.—

Lime is important in improving the texture of clay soils. It removes their stickiness by destroying their cohesiveness, thus increasing their porosity and permitting the free circulation of air and water. Lime also, as already noted, enters into chemical combination with other soil substances displacing and liberating some plant food from the compounds which it breaks up. It must be remembered, however, that the plant food thus set free represents only that which is in easily available form, so that the continued use of lime and neglect to supply plant food in some suitable form would ultimately result in soil impoverishment.

Instances of the Harmful Effect of Lime.—In some parts of the Maritime Provinces there exist extensive deposits of sulphate of lime, otherwise known as gypsum, or land plaster, and years ago many farmers in those Provinces, having observed its effect in promoting large yields, commenced to use it indiscriminately, believing that they had found a most valuable "fertilizer." For a year or two they were gratified with increased crops, but subsequently awoke to the fact that their crops were steadily diminishing, until, on the lighter soils, many farms were ultimately abandoned. Such indiscriminate use of land plaster gave rise to the idea, still entertained by some, that fertilizers act as a scourge or "whip" on the soil.

Forms in Which Lime May Be Applied.—Limestone, chalk, marl and shells are all useful in supplying carbonate of lime to the soil. Limestone is a carbonate of lime and when this is heated in a kiln, the carbonic acid gas is driven off and pure lime, also known as quick lime or burned lime, remains. When water is poured on quick lime the heap heats and swells and hydrated lime or slaked lime is produced, which finally becomes reduced to a fine powder. Burned lime and slaked lime are termed "caustic" on account of their burning properties, while limestone is termed "mild lime." Caustic lime when exposed to the action of air gradually absorbs carbonic acid gas and returns to its original form of mild lime. In the caustic state lime exercises a more immediate and beneficial action on stiff clay and humus-rich soils, such as peat, but for light soils ordinary ground limestone should be preferred. On soils of the latter type lime, if required,



A Barn Plan for a Ninety-Acre Farm.

Dr. Maria Montessori

should be used sparingly, owing to its effect in promoting rapid decomposition of humus or vegetable matter. On heavy soils, where lime is deficient, the initial application of lime might be made at the rate of 1,000 to 1,500 pounds per acre, further applications of about 500 pounds per acre being given every third year. As lime has a tendency to sink in the soil, it ought to be harrowed—not ploughed—in.

It may be mentioned here that land plaster (sulphate of lime) does not correct acidity in soils and should never be used with this object.

CONSERVATION OF SOIL MOISTURE.

Water tends to rise in soils by what is termed "capillary attraction" and the more closely the soil is compacted the more rapidly will this proceed through the numerous narrow pores of the soil. If permitted to reach the surface the moisture, particularly in summer, rapidly evaporates and leaves the soil parched and hard. It will readily be understood that heavy clay soils are most liable to lose water in this way. To prevent this loss on bare soils mulching with straw or manure, where conditions allow, is sometimes resorted to, but this method is not generally adaptable. An effective mechanical mulch is produced by frequently harrowing or lightly cultivating the surface soil. The effect may be illustrated by taking a lump of crystal sugar and placing on the top a layer of powdered sugar. Place the lower part of the lump in water and it quickly becomes saturated, but the rise of the water is arrested by the powdered sugar on top. This is exactly what takes place when the surface soil is pulverized. During a rainfall the soil again tends to become packed, hence the necessity of cultivating as soon as possible after every heavy precipitation.

Summer fallowing is a necessity in the semi-arid districts of the West, where moisture is often the limiting factor in crop production, and is conserved for the next crop by the frequent stirring of the surface soil during summer. Under Western conditions, however, the bare fallow can seldom be recommended, since the nitrification of organic matter, which proceeds rapidly in warm weather, and leaching of nitrogen as nitrates often results in considerable loss.

DRAINAGE.

When natural drainage is deficient, tile drainage ought to be resorted to, for no land will produce satisfactorily if it is waterlogged during a great part of the year. Such land will remain cold, seed germination therein will be slow and bacterial life (i.e., aerobic bac.) impossible. The sun's rays will be utilized in evaporating the moisture instead of being absorbed by the soil. On one occasion the writer suggested to a farmer the advisability of draining a certain field, which, in spring, was partially covered with water. The farmer, however, intimated that the water, in his opinion, could only be beneficial, since the particular spot was always the driest part of the farm in summer. He thought the field was dry despite the water—not because of it! Who is not familiar with the mid-summer of land, which has been a temporary pond during winter and spring? It is all honeycombed and baked, in which condition it is quite incapable of drawing water from the subsoil for the growth of plants. Drainage removes only the excess of moisture from soils; it does not deplete them of water, since a sufficient supply of moisture adheres to the soil particles. Drainage actually conserves moisture by maintaining the land in the proper porous condition to permit the free circulation of water when most required.

It is only when other soil conditions have been corrected that the full benefits of fertilizing may be expected.

In the next article advice will be given on the valuation and purchase of fertilizers and suitable mixtures for various crops will be discussed.

(To be continued.)

Coming into His Own.

Editor "The Farmer's Advocate":

It is amusing to read the different reasons given by so many different writers, as to the high cost of living at present, and to find that so many blame the farmer. Of course it has been a habit in the past of a great many men in other occupations to state how they would run a farm and make it pay. The writer has heard men, when he was a boy, stand behind their counters and tell what they would do and how they would do it, when they did not know a Shorthorn from a Holstein or could not plough a ridge to save their lives, but very few of them ever went farming, unless for a hobby after they had made plenty of money in other business. And although they did then and now say that farming is the best business on earth, you do not see them buying farms for their sons and daughters or educating them to take up farming. And here, I think, the high cost of living (or as one writer puts it the cost of high living) can

partly be explained. In the past it was said that farmers constituted seven-tenths of the population; that would mean that there were seven farmers working hard and crowding produce on the market to feed the other three that were engaged in other business. No wonder living was cheap; no wonder that every farmer's son and daughter as soon as he or she got an education left the farm and made one less producer and one more consumer, until, I suppose, to-day the situation is pretty well reversed, and instead of seven feeding three, it is three feeding seven, and our farms, through lack of help and proper working, are only producing a little over one-half of what they are capable of. And yet we farmers are far better off to-day by not having much to sell than if we were crowding the market.

There is also another reason and that is, trusts and combinations. They will buy up different lines of produce, corner the market, and make the consumer pay a heavy price, and there are people living in towns and cities who think it is "just awful" that farmers should get such prices, when the fact is the farmer is not getting it, but the middleman is. However, farming is a good business now, and though we used to be looked down on, we are beginning to come into our own. While we have waited long for it, we are none the less thankful, and to the consumer I would say, the hundreds of young men and women that get an education and leave the farm each year for the towns and cities means hundreds more to consume and hundreds less to produce and must give the few that are left high prices.

There is one thing quite certain, that as boys and girls in the past have been educated away from the farm, it is going to take years to educate them to stay on the farm. Commissions may be appointed to inquire into the high cost of living; they will give no relief, unless the producer and consumer can be brought together, but it seems to me the middleman is a necessity, and I do not think we could very well get along without him. However, farming is as good a business to-day as any other, and if the young man, or old man either, has twenty-five or fifty acres of good Ontario land, he can make a good living, and not kill himself by overwork either. Lambton Co., Ont. FARMER.

Banking and Other Things.

By Peter McArthur.

Friends in both the United States and Canada have sent me articles and newspaper clippings about the new Currency Bill that has been passed by the American Congress and signed by President Wilson. Most of the articles praise the measure as a great reform, while others quote eminent bankers as saying in part: ".....!!!!!!" and then some more. This leads me to believe that in the United States they have taken decided steps towards putting the banking business in its proper place, but I do not propose to make any study of the matter just now. The banking situation has been settled in Canada for the next ten years. I shall file away these articles and clippings for a few years until the pot begins to boil again. I cannot resist noting, however, that the new Currency Bill is meant to break up the Money Trust, and put an end to interlocking directorates by which the business of the country has been controlled by a few men. This is interesting in view of the fact that our Bankers' Association has, in an open and legalized way, all the power that the American Money Trust was striving to get secretly, and that interlocking directorates have reached a point of perfection in Canada never dreamed of in the United States. It was shown during the debate on the Bank Act that twenty-three men control all the important transportation, financial and industrial enterprises of Canada, but nobody seems to be objecting. They couldn't stand such a state of affairs in the States but we can—which shows that we are superior to the Yankees—in endurance. Our representatives in Parliament were practically unanimous in giving their blessing and extended privileges to our real rulers, so why shouldn't our millionaires keep right on piling up their millions? After they get all the millions that can be squeezed out of the country we'll get busy and it will be worth while watching us. Yes, indeed! We'll put a couple of padlocks and a burglar alarm and an armed guard on our stable door—after the horse has been stolen. Just you watch us!

One day last week the Globe had a nice, kindly editorial giving plenary absolution to the banks regarding their past dealings in mergers, combines and corner lots for bank buildings, and insinuating that, as they are now in a state of grace, they should do all in their power to promote the prosperity of the country. In fact the editor went so far as to say, "They must help the producing and distributing interests of the country to go to work." I imagine I hear

Sir Jingo McBore answering in the words of Shylock: "On what compulsion must I? Tell me that!" The Lords of finance are just as free to skim the cream off the business of the country during a period of stagnation as they were during the recent period of excited prosperity. Does anyone suppose they will neglect to use the money of the people which they have on deposit to support the Big Interests in a time of stress? If they do, "Then Pistol lay thy head in Furies' lap." I have not heard that any of the mergers or trusts are in financial difficulties. The only complaint I have heard is that they are concerned over the fact that the ordinary people have not so much money as they had to buy the products that the trusts handle at inflated prices. It looks as if they would have to come down with their prices on some things, and if they do and have to pay smaller dividends on watered stocks we will hear a roar that will be worth listening to. Everything will be going to the dogs, and it will be the fault of the farmers, because they do not produce more.

There is considerable criticism of the city authorities in Toronto because they have not insisted that contractors engaged on public works put their employees on half time, so that by putting on two sets of men working at half time they can give work to more of the unemployed. No doubt this would help to equalize the poverty of the city, but I cannot convince myself that it is right. It means depriving one set of poor men of half their opportunity to earn wages so that another lot of poor men may have an opportunity to earn half wages. This confines all the struggle and suffering to the poorer classes. If all of these people were to blame for their poverty there might be some justice in such a course, but this is not the case. There are doubtless many cases where poverty is due to shiftlessness and folly, but where whole classes of men become suddenly poverty stricken the blame rests with the government. Poverty is always someone's fault, but not necessarily the fault of those who suffer. When large industries, thriving in the sunshine of special privilege, find themselves checked by a general depression of business they throw thousands of men out of work. The men who are thus reduced to poverty are not to blame. They cannot get work elsewhere. Moreover, they would not have been engaged in work such as they lost if their employers had not been enabled by special privileges to withdraw men from other employment, during their period of artificial prosperity. The blame for nine-tenths of the poverty in the world rests with governments that grant special privileges to certain classes, and some day they will be forced to realize this. It is nonsense to say that any man who really wants work can get it. Many of the men who are hopelessly walking the streets are just as deserving as those who are fortunate enough to have regular employment.

The presence of large numbers of unemployed men in the cities has given new life to the argument that farmers should employ men all the year round. It is quite true that it would be better for all concerned if this could be done, but it is not so easy to do as city people seem to suppose. In order to be able to give constant employment to hired help, most farmers would have to invest more money in their business, and in many cases they haven't got the money. They would need to build a house costing at least a thousand dollars for the hired man and his family, and would have to increase their stock so as to have work for him to do in the winter time. At the present time it is practically impossible to buy extra stock at reasonable prices, and with the rate of interest going up a man would hardly be justified in going in debt to do it. When hard times threaten, people are more likely to shorten sail than to try to push ahead. At the present time, if the majority of farmers took on men for the whole year, they would have to fit up the barn as a gymnasium so that the hired man could get exercise in the winter time. It will take years, and years in which farmers have real encouragement to expend their power of production, before many of them will be in a position to employ men all the year round. They are not of the privileged class who have matters so arranged that they can make money no matter how the rest of the country may be prospering.

Co-operation seems to be in the air. Every day there are items in the papers telling that new co-operative associations are being formed in various industries. This is excellent. Some day soon we shall be ready for such widespread co-operation as they have in some of the old countries. Then besides having associations for the production and marketing of fruit, vegetables, grain and such products we shall have associations for manufacturing, and buying and selling of all kinds. We shall also have co-operative banks that will handle the money that now makes possible the high-handed kind of

banking we now have. When that happens I expect that Sir Jingo McBore, like Volunna "Will speak a little." I hope I shall have a chance to interview him for you when he begins to pour forth his perturbed spirit. In the meantime, let the good work go on. Every co-operative society that is formed and successfully managed does more for the movement than a thousand lectures or articles. The way to co-operate is to co-operate.

Plan a Vacation.

Editor "The Farmer's Advocate":

The farmer who would make the most of his farm and of himself must be on the alert to take an occasional trip. In the summer months and during the fall the Agricultural College and the various fairs should be visited in order that the latest and the best that is being thought and done in farming may be seen, and, if practicable, adopted. Every trip of this character gives high returns for the time and money expended. But a farmer is more than an agriculturist. Liberalizing as his occupation is, he cannot afford to make his horses and his plow, his main or his sole companions. He has a life to live, and a spiritual nature to nourish as well as fields to cultivate and to improve. He is a man and nothing pertaining to human life can be alien to him. True, his farm life demands that he be neighborly. Marketing his produce brings him into contact with the business world. The fact remains, however, that the farmer's social life is likely to be limited, and his range of interests narrow. Broadening as his daily work may be made, the farmer, as experience has proven over and over again, as he follows the plow or performs the routine work of his byre, is liable to find himself becoming broody and moody. From this state of mind it is but a step to dissatisfaction with his lot.

What the farmer needs, in addition to intercourse with his fellow-toilers, is an occasional trip that will take him away from his work and usual range of interests. He requires the resuscitation that can be had only by occasionally mingling freely with men who are getting things done in spheres of life, and activity quite other than his own.

Many a farmer recognizes the importance of doing this who makes the mistake of deferring his time of rest or change. It is easy to see why this error should be fallen into. The duties of immediate importance are so engrossing and seem to be so difficult to transfer to another that even a brief vacation seems an impossibility. Accordingly the proposed trip is postponed till the day when the farm with all its work shall be left behind forever. Nearly every farmer refreshes his imagination with visions of what he will do when he retires. Yet when the day of retirement does come, it frequently turns out that the farmer cannot enjoy the vacation that he looked forward to for so many years. Sometimes he is crippled by disease. Sometimes the duties of affection bind him at home as closely as ever. More often still, he has lost interest in the things that once appealed to him, and his main wish is to stay by his fireside. The fact is the world is so constituted that men must enjoy it as they go along, or to be prepared to meet the day when they will find themselves hemmed in by circumstances over which they at one time had control, but which now have acquired control over them.

Making use of this sort of holiday will react beneficially upon the farmer's own occupation. For while concentration has its place in farming as in other occupations, experience proves that no one can confine himself very closely, let alone exclusively, to any employment and yet long maintain in it a maximum of efficiency. The banking and professional and merchant classes have learned this from hard experience, and provide for holidays as a matter of sheer necessity. These and other classes of men who are as anxious to win out financially as the farmer, take their recreation not from choice, and not because their business is not pressing, but because they realize that they cannot afford to do otherwise. Every year the farmer's life is becoming more strenuous. Problems of the field and byre and orchard and market are emerging with a rapidity and variety that the farmer of a generation ago never dreamed of. Never was the necessity for increasing vigilance on the farmer's part quite so imperative as it is at the present day. Hence the importance of the farmer providing for a period of the year in which he may withdraw entirely from the heavy burdens that his work imposes upon him. By making this provision he will gain a new and better grip on his employment. By becoming a bigger man he becomes a better farmer.

Such a change, should it be but a few days, will clear the mind and his life of many an obstacle that impedes his progress and gnaws at his happiness. A vacation will broaden his out-

look, widen his range of sympathy, and give to him a zest for work and a delight in living. When he comes to appreciate the worth of the work that others are doing, when he realizes that others are working as hard as he with less return, it may be he is likely to be more contented with his own lot, and to turn to his own task with a deepened sense of its worthiness and a quickened desire to win in it. Farmers who have made an annual trip, an event for which they make provision, have found that this plan has made the farm and life itself a new thing for them.

York Co., Ont.

O. C.

How Do You Save Labor?

Farming, as never before, suffers from the handicap of too few men to do the necessary work which has the effect of lessening production and very often profits. This is keenly realized in mixed farming and especially in dairying, where a great deal of live stock is to be fed and cared for. How to make one pair of hands do the work of two at about the same expenditure of energy is a good point to aim at in the layout and equipment of barn and stabling. For the benefit of those who are now working on plans to be put to use during the season we invite readers to describe in a concise letter what they consider the best and most profitable labor-saving feature they have in actual use, whether in the relation of fodder and gain to feeding, watering, stable cleaning, milking, or other operations.



Prince Abbekerk Mercena.

This great Holstein bull, champion at the large exhibitions last fall, is included in the big Holstein sale of A. E. Hulet, Norwich, Ont.

THE DAIRY.

Dairy By-products.

Editor "The Farmer's Advocate":

Do our dairy farmers place sufficient value upon the by-products of the dairy—skim milk, outermilk and whey? Some would answer, that they place too much value on them, as was probably the case of a farmer who said to the writer last June, that he had received only 83 cents per hundred pounds milk at the cheese factory for the previous month. "But," said he, "I got my whey back and I made more money out of the whey feeding it to hogs than I did out of the milk supplied for cheesemaking." This was probably an exaggerated statement of relative values of milk and whey, but indicates what some farmers consider to be the profits made from hog feeding. The only element of doubt in the hog-profits question, at present prices, is that of whether or not prices will be maintained at present levels. Experience proves that as soon as high prices have stimulated hog production above a certain point, down went the price, and farmers found that they could make more profit by feeding a limited number of hogs and selling them at good prices. Under those conditions there was less capital invested, less risk, less labor and more profit. More and more farming is being regarded as a business. As our farmers apply better business principles on their farms, the returns will be greater. Every investment on the farm should be regarded in the same light as a manufacturer or a merchant looks upon money spent on his business. With depleted soil fertility, and higher prices for live stock, we may expect dairy farmers to give more and more attention to the value of dairy by-products. The chief reason why many farmers do not keep these on the farm, instead of selling them as whole milk to the condenser and to the city milk supply, is that these latter offer higher

"spot" cash prices and quicker returns as compared with feeding live stock. In the case of hogs, it is at least six to eight months before there are returns from the sale of hogs. In the case of cattle, except those vealed, it is two to three years before the farmer can realize on his investment. In the meantime, he and his family must live. Expenses must be met—notes have to be paid, interest on mortgages must be kept up or the holder of the mortgage may foreclose. It is the depressing debt question that is choking farmers and farming operations. If he goes to the bank or a loan company at the present time to borrow a few hundred dollars to tide him over a few months, the money corporations "soak him" to the extent of seven or eight per cent. interest, and his credit has to be good in order to obtain money loans at any price, just at present. It is because of this largely that farmers sell their milk direct in order to have cash on hand to meet present emergencies, and, in consequence, our old lines of dairying are suffering. If the men who control the financial situation in Canada are really in earnest about reducing the high cost of living, and really desire farmers to raise more live stock, they should make the necessary financial arrangements in order that farmers might more easily rear more stock and carry them to maturity. It is up to you, gentlemen of the currency in Canada, to save the situation! It is useless, if not hypocritical, for bankers to say, "Farmers can have all the money they need for legitimate purposes," then "stick" them for a rate of interest which neither they nor their fathers are able to bear.

Coming back to the question of values for dairy by-products, experiments made jointly by the Animal Husbandry and Dairy Departments of the O. A. College, Guelph, indicate a feeding value for whey equal to from ten to twelve pounds of mixed meal per one hundred pounds whey, while skimmed milk and buttermilk are worth thirty to sixty per cent. more than whey. In other words, if meal for pigs be worth one dollar per one hundred pounds, or one cent a pound, then whey is probably worth ten to twelve cents per one hundred pounds and skim milk and buttermilk from thirteen to twenty cents per one hundred pounds. Practical feeders

will understand that there is considerable difference in the returns from different lots of pigs, depending upon many conditions, some of which are under the control of the feeder and some which are not. Readers will also note that as meal advances in price there will be a corresponding advance, theoretically, in the value of the dairy by-product fed. As our dairy farmers become encouraged by good prices paid for live stock, and as they become less "pinched" financially, we believe they will be less ready to sell their whole milk for the gold that glitters in the hand every month, because most farmers really like to have good live stock about them. What a lonesome farm, especially in winter, is that one which has little or no live stock about the place! For these reasons, we ought to retain as many as possible of our creameries and cheeseries, or farm dairies, for they are the bone and sinew of the live-stock business. How difficult it is to raise stock without milk.

As we have previously stated, we believe it is largely a question of finance. The Ontario farmer especially is inclined to keep live stock as soon as he can do so and feel safe financially. If he cannot have this assurance he is inclined to allow consumers to get real hungry for meat, and even see "tongues sticking out a mile long" before he heeds the cry of city dwellers.

H. H. DEAN.

An Inspiration.

I am sending you to-day three years' subscription, from 1912 to 1914 inclusive, for "The Farmer's Advocate." I would not do without it for anything. I know of no other journal in either English or German with so much practical common sense in it. Your Christmas Number is an inspiration to me, and ought to be to anybody that has a spark of love for the farm, the country and home.

Northumberland Co., N. B.

F. HABERMANN.

Dr. Maria Montessori

HORTICULTURE.

Prepare to Prune.

It is a well-known fact among fruitmen that the season at which pruning is done has some influence on the fruit-bearing tendency of the tree. Winter pruning tends to promote wood growth, while summer pruning checks this and has a tendency to throw the trees into bearing.

Pruning may be done at almost any season of the year, and the busy man engaged in mixed farming, with an orchard to be looked after also, very often chooses the winter months in which to prune his apple orchard. In very cold sections there is some danger of injury from pruning in severe weather. It is believed that winter-made wounds deprive the tree of much of its moisture and that trees winter better with a continuous cover of bark than where wounds of various sizes have been caused by the removal of wood. It is thought advisable then in sections where frost and cold are severe to delay winter pruning until spring approaches, some time in March being a very good season. Very often the winter commences to break up at the end of February, and it is important that where pruning should be done everything is in readiness to go ahead. A double-edged pruning saw with a coarse and fine edge, kept well filed, is essential to effective work. A short-handled pair of pruning shears can also be used to good advantage in trimming small branches and young wood, and a pair of ordinary grape-pruning shears may be used to advantage in the small twigs toward the end of the branches. These should be got ready at this season, so that when the severe weather is past the pruner is ready to go to work.

Some precaution should also be taken, especially where large limbs are removed, to cover the injury to keep out moisture and prevent an excessive loss of sap. Paint all these wounds over with a heavy lead paint. This material also protects the wound from spores, which cause decay, and aids in healing the cut over and without serious injury to the tree. It is a little early yet to commence the winter pruning, but it is a good time to make preparation for it.

POULTRY.

What a Hen will Eat.

Judging from the number of questions which come to this office relating to the feeding of poultry, very few people have any idea about the actual amount of various feeds consumed by a hen in a year and, consequently, do not know how much a hen should have at a feed. From work carried on at the Ontario Agricultural College, it was found that an average hen of one of the general-purpose breeds would consume in one year, if well fed, about 24 pounds of wheat and the same amount of corn, also 24 pounds of rolled oats and about 90 pounds of buttermilk. In addition to this, it was estimated that in the neighborhood of 36 pounds of green food was consumed annually. With 1.75 pounds of grit and 2.5 pounds of oyster shell this would seem quite liberal feeding. If green feed and buttermilk were not used in such quantities it would require more grain, but the best results possible would not be obtained. The grain ration for a hen per day, according to these figures, would be about one-fifth of a pound and the buttermilk about one-fourth of a pound. Of course, sour milk would do just as well as the buttermilk. About one-tenth of a pound of green food is necessary per day, according to these figures, and, of course, the grit and oyster shell should be placed in such quantities in troughs in the pen that the hen may partake of these at liberty.

Many hens are not fed as well as this and a good many flocks are not kept as economically, because of the fact that the range of foods is much narrower and a very little besides whole grain is given. Poultrykeepers would find it profitable to feed their hens a mixture of whole grain. Feed rolled oats as dry mash and give plenty of sour milk to drink. Of course, green food is essential and may be easily supplied on the average farm, where clover, mangels, cabbage and like materials are plentiful. These figures should help some of our readers in computing the daily ration for their hens.

FARM BULLETIN.

Prices High in South Ontario.

Editor "The Farmer's Advocate":

The festive season being over, the farmers are turning their attention to the regular farm work. The year just past, taking everything into consideration, has been one of the best in the history of the good old county. The spring, although not as favorable for growth as some years, turned out all right for those who had their land in good heart. The grain crop, while light in straw, produced a splendid all round yield of good quality, harvest being completed about the middle of August. Alsike clover was not up to the average, red clover was better than for years, and both command the good price of \$9 per bushel for No. 1 seed. Potatoes, roots and apples were all heavy yielders and command paying prices. The corn crop, which is becoming the most important, was a good average, there being some very good yields on well-prepared sod land. The biggest problem the farmer had this year was the purchasing of feeding cattle; the early buyers made a handsome profit by turning them over to be finished. The finishing of beef cattle is gradually being taken over by the larger and wealthier farmers, who, with plenty of good feed, will no doubt put a good article on the market. The drovers are getting busy now, and 8 1/2 cents is being bid for good stuff, for immediate shipment. To those outside it might look as though the farmer would soon become a millionaire, but when 6 1/2 cents live weight was paid, and reckoning the feed consumed and the herdsmen's wages, the margin is not too large. Farm sales are the best in the history of the county, hogs and cattle selling

clearly work for our Railway Commission, namely, the investigation of methods pursued in making out shipping bills. A. F. Essex Co., Ont.

Chore-time or Overtime?

Editor "The Farmer's Advocate":

A short time ago we had a meeting of the Farmers' Institute devoted to discussing pig raising, as practiced here. Several spoke, giving their views and advice upon the subject. When the writer was asked for the results of his work along this line, he summed it up like this: Three pigs were bought from a neighbor, fed on a certain ration, in the fall killed and sold. They netted 14 cents and it had cost 10 cents to raise them.

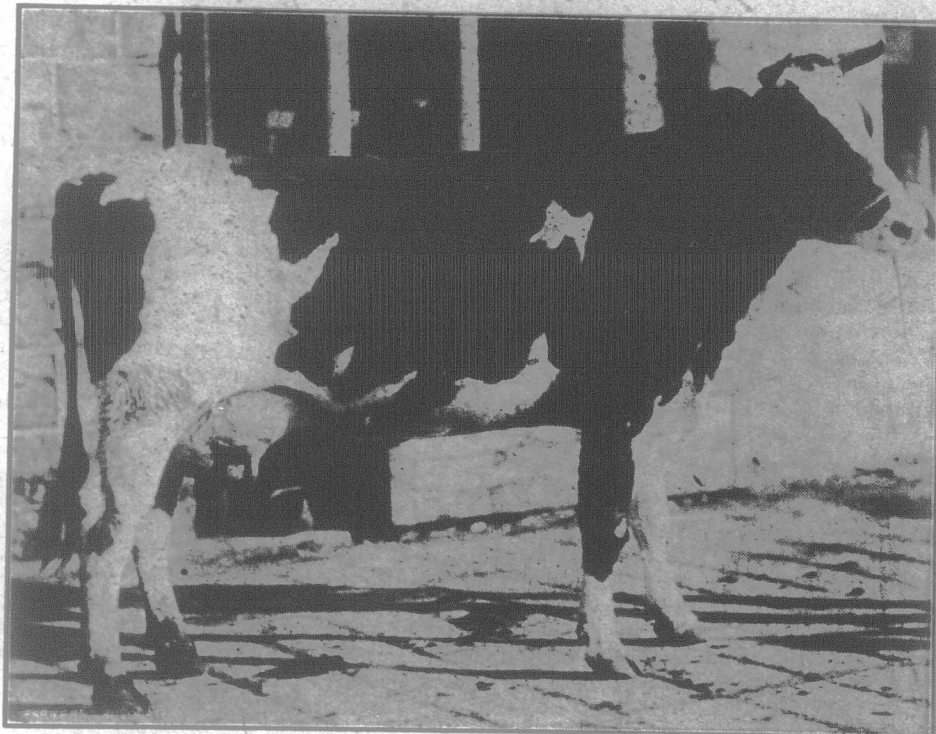
It was the discussion of this ten-cent part that prompted this article. It represented the price paid for the young pigs, their feed and time spent caring for them. In this district, the hired man comes on the place at 7 a.m., brings his lunch pail and leaves at 6 p.m., getting 25 cents or 30 cents an hour for his time. On three or four occasions we timed the mixing of the feed and giving it to the pigs, also cleaning of the pen, and on this basis charged this time in with the cost at 25 cents per hour, also at the same rate the time spent in dressing them for market.

When this statement was made one man got up and said that all recognized this work of feeding as "chores" about the place and that on all farms this work was done in chore-time. Chore-time on the farm is generally after supper. Now, in the business houses of most localities, if a workman comes back after his evening meal, he charges his employer for this as "overtime" (and

makes him pay for it, generally). If in manufacturing products of a factory all time, whether overtime or regular time is reckoned as part of the cost, and by accountants it is considered as right, why should not the rule hold good in a farm factory, where we deal with producing stock? And further, why should we not charge this up at least to the value of labor? Surely our business should pay us wages, and if it will not, let us change the business. The tin has now come when farms must be treated as places of business and must be run on a business basis. It is poor business to work for less than a laborer's wage. If we can't make wages out of any particular branch, drop it and put the time on the lines that do pay. This means bookkeeping, but there is room for a lot more bookkeeping on the farm than is now generally practiced. It is not such a hard task as one would think and it certainly pays wages for the time it takes, in fact it pays overtime wages.

B. C.

WALTER M. WRIGHT.



Pontiac Jessie.

Winner of the three-year-old Holstein milk test at the Guelph Winter Fair, December, 1913. Exhibited by Martin McDowell, Woodstock, Ont.

very high. With the ploughing done in good condition, and ample time for hauling manure, working up the summer's wood, and double cleaning of seed grain, there is no reason why the farmer should not start off this year with brighter prospects than ever. G. H. W. Ontario Co., Ont.

More Honest Treatment Required.

Editor "The Farmer's Advocate":

Through the columns of your widely-read periodical I desire to call attention to certain treatment afforded shippers of goods by railway companies. The case herein mentioned is by no means an isolated one, but is of such enormity as to demand attention.

A farmer near Teeswater, anxious to secure feed for his fattening stock, purchased a quantity of corn on the cob and had the same carefully weighed and placed on board a car at Blytheswood, Essex Co., Ont. The shipping bill gave the weight as 45,500 lbs.; rate per cwt., 14 cents. On reaching its destination he was surprised to find that during transit the weight of contents had increased to 57,900 lbs., or a difference of 12,400 lbs. On objecting to such treatment, the company agreed to reduce the rate by 2 cents per cwt., but still retained increased weight. Such procedure is nothing short of robbery and ought to be dealt with. Some protection from wholesale pilfering should be guaranteed those whom necessity places at the unscrupulous mercy of railroad officials. Here is

We would urge our readers to read carefully. This is the season of the year when our questions and answers columns are taxed to find room for all the queries asked, and that repetitions may not occur too frequently, we would suggest that readers who ask questions would look carefully through recent issues to see if their particular question has not been covered recently. Also we must again state that full name and address must accompany each letter. Many are assigned weekly to the waste basket because the full name and address of the sender does not accompany them.

A Canadian located at Mt. Pleasant, Michigan, on a New Year's visit to Ontario, states that the great industry where he now resides is a milk condensing factory which has some 400 patrons. During the four winter months they receive, he states, \$1.85 per hundred pounds of milk, and the average for the entire season about \$1.55 per hundred.

One item in your paper is worth the price of subscription. Elgin Co., Ont. H. GORDON SMITH.

What the Experimental Union is Doing.

Few people realize the importance and real significance of the Ontario Agricultural and Experimental Union. During their annual convention at the Ontario Agricultural College, Guelph, on January 12, 13 and 14, 1914, it was proved beyond a doubt that the exploitations of the Experimental Union have done much to mould the agriculture of the Province of Ontario. Not only this, the influence of their results has spread from ocean to ocean. The varieties of crops grown and the methods of field operations that have been conceived in the plots at the College farm and have been proven good by actual farm tests have been disseminated through the medium of the Experimental Union until the whole country is growing grain and roots, cultivating the fields and harvesting crops as the results warranted without the farmers themselves feeling indebted to the efforts of another or realizing that some organization was responsible for their success. Ninety-four per cent. of the barley grown in Ontario is either Mandscheuri or O. A. C. No. 21, both of which owe their introduction to the College and their dissemination to the Experimental Union. This is only one example of the good work of this association of farmers. In 1879 there were twelve experimenters in the Union, but so phenomenal was the growth that the season of 1913 closed with the results of 72,495 distinct experiments being recorded in the last twenty-eight years. This is of untold value, but it is not only a source of gain in dollars and cents to the farmers, it is a great educational feature, which has had a very wholesome influence, not only on the agriculture of the Province, but on the men who have, themselves, been active in the work.

THE RESULTS OF FIELD WORK FOR 1913.

"One of the greatest weaknesses in the agriculture of Ontario at the present time is the great number of varieties of certain classes of farm crops which are used." Prof. C. A. Zavitz, of the Ontario Agricultural College, particularly emphasized this remark in presenting his report to the Union, applying it chiefly to oats and potatoes. In consequence of this condition, buyers have been bringing in potatoes from the Maritime Provinces and oats from the West, where uniform products can be obtained in carload lots with very little difficulty. The same cannot be said of the barley crop, for the major part is either Mandscheuri or O. A. C. No. 21. What these varieties have done to establish a uniform type of barley, the O. A. C. No. 72 and the O. A. C. No. 3 promise to do for the product of the oat field. The former is a late and the latter an early variety of oat, which are strong candidates for premier popularity with the farmer and promise to establish themselves in the grain fields and replace the multitudinous varieties that now make the oat product nondescript in nature.

With reference to oats alone, there is yet much to be done in an experimental way. If the percentage of hull could be decreased five per cent. in Ontario's crop it would mean an increase in food material amounting to \$2,000,000. During 1913 the Banner and Siberian were the leading varieties grown, but the results of farm test conducted through the Experimental Union have convinced the executive that the O. A. C. No. 72 will soon be the most sought after for seed. During 1913 four varieties were tried and the results are given below. The yield of grain is given in pounds that it may be more easily compared with that of other grains, but simply dividing the number of pounds by the standard weight per measured bushel will convert each one into the number of bushels per acre.

Variety	Yield per Acre	
	Straw (tons)	Grain (lbs.)
O. A. C. No. 72	1.44	1,773
O. A. C. No. 3	1.09	1,474
Alaska	.98	1,472
Daubeny	.91	1,400

It is believed that there is a great future for the O. A. C. No. 72 variety of oats. The plants stand up well, the straw is abundant and of good quality, the head is spreading in its habit of growth and both the straw and grain are of pinkish white appearance. This variety of oat has about 27 per cent. of hull, being less than the Banner by three per cent. and less than the Tartar King by seven or eight per cent. In the farm tests of 1911 it surpassed the Siberian, the Regenerated Abundance and the Lincoln, producing an average of five bushels per acre more than the last named variety.

It will be noticed in the foregoing table that the O. A. C. No. 3 has won out over the Alaska and Daubeny. They are three varieties of early oats and, as a rule, never produce as abundantly as the later kinds. They are valuable, however, in that they ripen with barley and may be used successfully in a mixed crop. There was very little difference in the yield of No. 3 and Alaska,

but the former is slightly thinner in the hull and it is interesting to know that of all the varieties of oats which have been tested at the Agricultural College, of which there have been about three hundred, the O. A. C. variety has produced the thinnest hull. It will be seen that the Daubeny variety has taken the lowest place in the four-variety competition in 1913. This has been one of the best early oats in Ontario, but its place will likely be occupied to a great extent by the O. A. C. No. 3, which is a better all round early oat and one exceptionally suitable for mixing with barley for growing in combination, as the O. A. C. No. 3 oats and the O. A. C. No. 21 barley ripen at practically the same time.

The greatest amount of interest in spring wheat is taken in Eastern and Northern Ontario and in these sections of the Province the amount of rainfall was exceptionally light in 1913. The yields, therefore, are lower than are sometimes obtained, but the following table will give the comparative productions of two different varieties:

Variety	Yield per Acre	
	Straw (tons)	Grain (lbs.)
Marquis	1.15	1,247
Wild Goose	1.30	1,218

The Marquis was originated by Dr. Wm. Saunders, of the Experimental Farm, Ottawa, and it seems especially adapted to the conditions of the Prairie Provinces, yet it surpassed the Wild Goose, a standard variety in the East, by one-half bushel per acre.

Over the major part of Ontario some fall wheat is generally sown, as it supplies straw and works in conveniently with farm operations. During 1913 five varieties were tested and the Tasmania won both in yield of grain and straw.

Variety	Yield per Acre	
	Straw (tons)	Grain (lbs.)
Tasmania Red	1.43	1,450
Imperial Amber	1.41	1,449
American Wonder	1.35	1,394
Banatka	1.31	1,363
Crimean Red	1.30	1,316

The Tasmania, which leads this list, has acquitted itself better during 1913 than it has done in the past in field test or in the College plots. It is, however, a good yielding variety and a good all round wheat. The American Wonder usually occupies a higher place in comparative production than is shown here. In quality, type and appearance it resembles the Dawson's Golden Chaff and ranks high with winter wheats. The Banatka and Crimean Red produce flour of superior quality.

Field peas have been distributed for eight consecutive years and during the first four years the Early Britain made a high record. In each of the last four years, however, it has been surpassed by the Canadian Beauty and in 1913 to the extent of 87 pounds per acre. The Canadian Beauty is a white and the Early Britain a brown pea, but its color is no detriment to it on the market, for the manufactured product of split peas has a beautiful, rich yellowish color.

Of the varieties of field beans the Pearce's Improved Tree Bean has made a high record in the experimental plots at Guelph and during the last year in co-operative experiments it has upheld its reputation, defeating the Common Pea Bean by 3 1-3 bushels per acre. It is white in color, medium in size and of good quality.

Variety	Yield per Acre	
	Straw (tons)	Grain (lbs.)
Pearce's Improved Tree Bean	1.14	1,288
Marrowfat	.99	1,222
Common Pea Bean	.88	1,089

In some districts root crops occupy a prominent place in the crop rotation, and where corn is not grown for silage purposes one cannot do without roots if a ration of a succulent nature is to be fed. In some districts mangels are resorted to, and on the whole there are four distinct varieties, viz., the Long, the Intermediate, the Tankard and the Globe. Formerly, the Long Red was grown more extensively than any other class, but at the present time the Intermediates are increasing and becoming more popular with the farmers. The following table shows the results for 1913:

Variety	Yield per acre	
	(tons)	
Yellow Leviathan	32.50	
Sutton's Long Red	30.10	
Ideal	28.04	

In 1912 Ontario grown seed of the Ideal mangel was distributed and the results of seven successfully conducted experiments showed that the Ideal came first, the Yellow Leviathan second and the Sutton's Mammoth Long Red third. In 1913, however, imported seed was used, and it will be seen that the Ideal occupies lowest place.

The Yellow Leviathan belongs to the Intermediate class of mangels, and while it has been distributed it has out-yielded the Long Red variety in nine out of the eleven years.

Sugar beets are used for two distinct purposes—one for the sugar which they contain and the other for use in the feeding lot. The former has been selected in Germany for sugar content and now averages about 15 per cent. sugar, while the latter only has about 10 per cent. For co-operative work in Ontario two varieties of sugar mangels have been selected from the large number of different kinds which have been under experiment at Guelph, and these two were distributed in the spring of the present year. The Bruce's Giant White Feeding surpassed the Rennie's Tankard Cream by one and one-half tons per acre in the average of the experiments. In 1912 the two varieties used were the Rennie's Tankard Cream and the Steele-Briggs' Royal Giant, the former surpassing the latter by about two tons of roots per acre.

Potatoes occupied about 160,000 acres in Ontario in 1913 and upon inquiry as to which variety was most extensively grown in different sections it was learned that fifty-seven varieties have that distinction. Among those mentioned the greatest number of times are: Rural New Yorker No. 2, Carman, Delaware, Irish Cobbler, Green Mountain, Empire State, American Wonder, Early Rose, Dooley's, Early Ohio, Gold Coin, White Elephant, Beauty of Hebron and Extra Early Eureka. Taking into consideration enquiries which were made in the past seven years we find that the Rural New Yorker No. 2 has been grown more extensively than any other variety and this variety has been followed by the Empire State as the second most extensively grown.

The following table gives the average results of the co-operative experiments with two varieties of potatoes successfully tested on 310 farms in Ontario in 1913:

Variety	Per Cent. of Bus. of Whole	
	Small Tubers	Crop per Acre
Davies' Warrior	16	134.11
Extra Early Eureka	14	125.76

Owing to peculiar weather conditions in 1913 and the fact that the Davies' Warrior is a late variety, it did not mature as large a yield or make as good a showing as it usually does, but past experiments have shown it to be the best of the late varieties and one that will give a satisfactory yield. The Early Eureka was also one of the freest from rot in 1912 when the rot was so prevalent in Ontario and when so many of the other varieties became badly diseased. Taking all the results of the past eight years, the Davies' Warrior of the late potatoes and the Extra Early Eureka of the early varieties have made exceptionally fine records.

It should be borne in mind that the value of these co-operative experiments is enhanced through the fact that only those varieties that have proven themselves worthy of a test by years of experimental work at the College are distributed. Prof. Zavitz and his efficient staff spend many years in proving the quality of each variety before it is distributed to the farmers, and when their expectations are confirmed and findings corroborated by actual farm tests in all parts of Ontario then, and not till then, are they recommended for general use in the Province.

CO-OPERATION IN EUROPE AND ONTARIO.

Co-operation was the theme of an address by C. F. Bailey, Assistant Deputy Minister of Agriculture for the Province of Ontario. Mr. Bailey was the Ontario delegate to visit Europe during the past summer with an American Commission to study co-operation and rural credit in the various countries where these systems are in vogue. The impressions conveyed to the Commission are expressed in Mr. Bailey's words: "Apart from the mercenary aspect of co-operation in all its forms, we cannot evade the point that co-operation has been a great factor in building up the social and moral standard of rural Europe."

By way of preface, Mr. Bailey referred to the extent of the organization which exists in the older countries and to the causes leading up to the adoption of co-operative societies. In Germany, the "Seven Years War" left the noble with large areas of land, but no money to cultivate them. The confusion which followed necessitated a departure from the usual system of lending and borrowing, but it ultimately developed into the great Landschaft system. From that time, one and one-half centuries ago, agricultural co-operation has thrived and German agriculture has become the best example of the possibilities of the soil. As an evidence of this fact, we find that Germany, a country with comparatively poor soil, has doubled her yield per acre during the past 20 years, and with a population of 65,-

000,000, increasing at the rate of 1,000,000 per year, is able to produce 95 per cent. of her own foodstuffs. While banking has played an important part in the development of co-operation in Germany, there are many other organizations working in the interests of the farmers. Co-operative stores, elevators, creameries, supply societies, breeding societies and insurance.

Denmark undoubtedly is the most highly organized country in Europe for co-operative production and distribution. Thirty years ago she was practically bankrupt, a land of sand dunes, yet to-day her wealth, per capita, is higher than any other European country. It is estimated that there are not more than 2,000,000 farmers in Denmark and yet there are 8,000,000 members of co-operative associations. In other words, the average farmer is a member of from five to ten co-operative associations. In fact the country is so thoroughly organized and controlled by the farmers that it is practically the only medium through which farmers can do business. The following is a list showing the variety of co-operative associations: Dairies, bacon-curing societies or abattoirs, societies for purchase of requirements, cattle export, egg export, horse breeding, cattle breeding, pig breeding, sheep breeding, control societies, wholesale societies and co-operative stores.

Ireland presents a more recent development of the co-operative movement. The farmers found themselves in competition with organized shippers, who were not only supplanting them in the English market, but who were coming even to their own doors. The masses in the city required food shipped regularly in bulk and of uniform quality and the whole aspect of economic conditions demanded some organization. The first attempt to organize dairies was on the ordinary joint-stock plan; these companies all broke down because the system is not suitable to a farmers' industry. However, under less favorable conditions, creameries were organized on the co-operative system, upon the ruins of the joint-stock companies and at the present time are producing \$10,000,000 worth of butter yearly and these give entire control of the profits to the farmers themselves. To-day there are approximately 100,000 farmers in Ireland members of co-operative associations, representing 500,000 of the population. Many societies, such as co-operative stores, wholesale or retail, machine societies and credit societies, are all doing a flourishing business. The total business transaction of the co-operative movement in Ireland for 1913 would aggregate, roughly, \$15,000,000.

The co-operative credit systems come under two heads—long-time and short-time credit associations. Of the long-time, Mr. Bailey particularly referred to the Landschaft system in Germany, which contains in its constitution the amortization plan, meaning simply the payment of a small portion of the principal each year for a long term of years and at the end of the period the borrower has discharged the mortgage. For example, if a mortgage were to run for 54½ years, bearing 4 per cent. interest, and the borrower paid one-half per cent. each year on the principal in addition to the interest, at the end of 54½ years the debt would be discharged and the farmer would hardly have felt the payment. He would have to pay 4 per cent. and the additional ½ per cent. is scarcely felt. The period of amortization would not need to be so long in this country—25 to 30 years would be more popular. The farmer is allowed to pay his loan at any time.

Short-time associations have been introduced in every State in Germany and, in fact, in practically every country in Europe. In the year 1848, Germany experienced very hard times, and Wm. Raiffeisen, being moved to pity for the poor, organized a co-operative society for the distribution of bread and potatoes. This step culminated in the system known as the Raiffeisen Banks, which have carried aid to millions of farmers and whose boast is that no man ever lost a dollar. In 1862, a system of banks, known as the Schulze-Delitzsch, was organized to assist the urban people as the Raiffeisen did the rural. These two organizations in Europe have done much to lift the people out of poverty and free them from the grasp of the shark and the extortioner.

It would appear, as Mr. Bailey pointed out, that many people do not appreciate the difference between a joint-stock company and a purely co-operative association. The first and main difference between these two organizations is that every share of stock in a joint-stock company commands a vote, whereas the truly co-operative association insists upon one man, one vote. In all co-operative associations too much stress cannot be laid upon efficient management; the manager must be imbued with the true co-operative spirit, and above all things have a thorough business training and be well fitted for the work in hand.

Although co-operation is yet young in Ontario, the speaker referred to several live associations

that are doing much to raise the price of the article to the producer and the quality to the consumer. There are to-day 52 fruit-growers' associations in Ontario that are doing much to put the industry on a satisfactory basis. There are some districts, however, that are fairly well organized, and of these the Rainy River District might be cited as an organization attempting the sale of all the farm produce. This society is made up of six local societies and employs a manager to work on a five per cent. commission basis.

"In addition to this we have the co-operative egg circles, which have raised and standardized the quality of the product where they operate. The farmers' clubs have done some buying and selling and there are other societies which have such work in mind. I look for a development," said Mr. Bailey, "that may be slow at the beginning, but built upon a foundation of sound business principles, will gradually result in better farming, better business and better living."

PRINCIPLES OF CROP ROTATION.

H. A. Morgan, Director of the State Agricultural Experimental Station of Tennessee, showed how nature suggested what methods should be followed on the land to maintain fertility, prevent wash and control weeds, insects and diseases. In the first place nature has clothed the earth with deep and shallow-rooted plants, and if either one is persistently grown it will tend to deplete those layers of soil of its fertility. However, deep-rooted plants will bring fertility to the surface that may be used later by shallow-rooted plants which do their feeding near the surface. There is yet another difference in crops grown upon the farm. Some gather free nitrogen from the air, and others take it directly from the soil. The former are soil builders, the latter are soil robbers.

The speaker said the farmers in Tennessee could do with soil containing three-tenths of one per cent. of nitrogen, one-quarter of one per cent. phosphoric acid and one-quarter of one per cent. potash. Nitrogen is the hardest element to retain and the most expensive to procure. "The farmers," said Mr. Morgan, "cannot afford to buy nitrogen on the markets of the world." They must obtain it from the air through the instrumentality of the leguminous crops, and there need be no fear regarding the supply of nitrogen for future generations. The phosphoric acid content of the soil is of more vital importance and much harder to maintain.

Another feature of the farming operations in the State of Tennessee is that ten to fifteen per cent. of the growing season occurs after the crops have been harvested in the autumn. During this time considerable wash occurs, and it is the object of the farmers of that State to grow such crops as will cover the land during that season, and use up the soluble plant food and prevent the great movement of soil through wash. These are the main objects of crop rotation in this State, but insects, weeds and diseases exact a considerable toll if they are not figured with in the operations on the farm, consequently, such crops are grown as will curtail their ravages to the greatest possible extent.

The rotation, as advised by Mr. Morgan, is not one adapted to the general conditions in the Province of Ontario, yet the crops grown and the reason for which they are grown are interesting to readers. Starting with a hoed crop, corn is used. This is followed by soy beans, a nitrogen gathering crop. This is followed by barley, and in that particular State winter barley is grown. One crop of barley is followed by clover, which is sown in the fall of the year. As there is a disease attacking clover in that State, and if it were sown in the spring the young plants would come on just in time to be attacked and destroyed by the ravages of what is commonly known as Small Pox. When sown in the fall the young seedlings obtain some growth, and the next spring the crop is harvested before the disease becomes rampant in the fields.

Mr. Morgan asserted that a rotation should be developed in the direction of the particular activity of the farm. It should be conducted on principles that have been derived from a study of nature. They should be in accordance with natural conditions in order to keep the ground covered after the crops have been taken off and to curtail, as far as possible, the ravages of weeds, insects and diseases.

INOCULATION OF LEGUMES BENEFICIAL.

The Bacteriological Department, under Prof. S. F. Edwards, has been preparing nitro-culture each season and distributing it for nine consecutive years. Enough culture is sent to treat one bushel of seed, but the experimenter leaves a portion of the field to be sown with untreated seed in order to compare results. Referring particularly to the season just past Prof. Edwards said there was a decreased demand for the culture, due, no doubt, to the difficulty encountered in procuring alfalfa seed. The distribution of alfalfa cultures by provinces is as follows: Ontario, 1,696; Alberta, 131; British Columbia,

240; Saskatchewan, 168; other provinces and foreign countries, 211. It is of interest to note in this connection that several cultures were sent to South Africa, Egypt, and to Formosa.

In reply the users of the culture upheld it to the extent of 111, while 57 could see no beneficial results from its use. This makes a percentage of 68.5 in favor of using nitro-culture on leguminous plants, such as clover, alfalfa and the like. There are those who do not report back, and in this number the percentage of non-beneficial results is probably quite high, yet the results of nitro-culture cannot always be seen the first year. By the remarks following Prof. Edwards' report it is apparent that severe winters, periods of drought and adverse conditions are met more successfully by alfalfa, the seed of which has been treated with the culture.

STIMULATIVE FEEDING AND PREVENTION OF NATURAL SWARMING.

Considerable experimental work has been conducted by the Apicultural Division of the Experimental Union, and Morley Pettit, Provincial Apiarist, had some results to present to the Union, that are of considerable value to bee keepers.

The work of Spring Stimulative Feeding perhaps brought out the most pronounced results. It is well known to bee keepers that between the fruit and clover there is a considerable drouth in the work of gathering honey, yet during this time the bees are not prone to uncap their store of honey to feed the young brood that is coming on to do the work later in the season. It has been found profitable, indeed, during that season to feed syrup to the colonies. This is made of equal parts of sugar and water, and from it the bees maintain themselves and young ones in a vigorous condition, and the results justify this operation. For the average of the season in the experimental work, for those that were so cared for, the colonies averaged 80.71 pounds. For those which did not receive this treatment the average was 65 pounds per colony, showing a difference of 15.71 pounds of honey per colony. The methods in this work are simply uncapping some honey in the hive, or by daily giving each hive a pound of syrup. This should be given every evening without a miss until they begin gathering nectar from the flowers again, then this should be discontinued.

The only objection to this operation is that the syrup is administered by putting it into the cells of an empty comb and placing it next to the brood in the brood chamber. This requires opening the hive when heat may be lost or robbers may enter.

There are feeders, however, prepared especially for this work, such as the Perforated Top Feeder, the Boardman Feeder, the Alexander Feeder and the Division Board Feeder. They all have their advantages and disadvantages, and where stimulative feeding is carried on without the necessity of extra appliances the method of adding it in the empty comb is followed.

During the past season four experiments have been conducted along the line of prevention of natural swarming. One, however, has been more popular with experimenters than the other three, and on the list of circulars sent out it is known as "Experiment No. 3."

In this work of the past season 228 bee keepers have received instructions. This is the main part of the experimental work from which good may be derived, as it is difficult to distribute to bee keepers material such as is distributed to experimenters in other lines of work. In some cases though, queen bees have been sent out in order to rebuild the old colonies with improved stock. A total of 55 returned their reports to the department, but a peculiar coincidence makes it difficult to obtain real comparative results. When a bee keeper divides his colony into equal parts he finds that the colonies treated according to the directions sent out by the Provincial Apiarist are doing work so much superior to the colonies treated in the usual manner that he adopts the system in both divisions, and consequently cannot return comparative results to the department. In this experiment natural swarming is prevented by the manipulation of the hives, and, in order to make increase, the combs of the old brood chamber are divided into two or three nuclei, giving to each not less than two good combs of worker brood, one or more combs of honey, and some empty worker combs or frames of wire foundation. Each nucleus must be given a capped queen cell or a queen.

AGRICULTURE IN THE SCHOOLS.

In reporting the work of the Schools' Division of the Experimental Union, Prof. S. B. McCready, Director of Elementary Agricultural Education, reviewed the efforts on the part of the educational departments to teach agriculture in the rural schools. As far back as 1847 Dr. Egerton Ryerson placed agriculture on the curriculum of public schools, and published a book which in many ways, even in 1913, is up to date. Teachers did not succeed in imparting knowledge from this book, and it was withdrawn. Later

Dr. Maria Montessori

a book written by Dr. Mills and Prof. Shaw was given a chance, but it was superseded by another work by Dr. C. C. James. These three valuable books have all had their trial in the school, and now teachers have gone back to Nature's Book, the soil and its plants, to teach not only agriculture but as a foundation upon which to build the structure of a general education.

It is an established principle in pedagogy that to teach something to the child it must be associated with something already known. Here is where the study of animals, plants and soils which is really nature study, may be used in the school without detracting in the least from the ordinary routine of work.

The Schools' Division of the Experimental Union was organized in 1909, and from the commencement the educational side of the work has been emphasized. The chief aim is not to grow grains, vegetables or flowers for the sake of getting crops of grains, vegetables or flowers, so much as to create in children wholesome, educative, natural interests and activities through which they may be educated into happy and useful citizenship.

"The Schools' Division," said Prof. McCready, "claims place too as an agency in meeting the so-called rural problem," which is, "To keep in the country a fair proportion of the population composed of contented, prosperous, intelligent, progressive, land-owning husbandmen," and the speaker remarked that one-tenth the energy directed to the grown-ups, through the medium of associations, etc., expended on the children would present a ray of hope of a satisfactory solution of the problem.

The aim of the Union is to bring the Agricultural College to every boy and girl attending the rural schools. All the work is done in co-operation with the Department of education. During 1913 material was sent to about 400 schools; 356 of these received free material for experiments, demonstrations and school ground improvement. The others purchased bulbs, vines, and other material for which a charge was made, and instruction sheets were sent with the material for the guidance of pupils and teachers. Many School Progress Clubs were supplied with material, and in all it is estimated that over 10,000 pupils in the rural schools came into practical touch last year with the work of the Agricultural College, and more than this Prof. McCready would like to see the school garden be to the community or section what the Experimental plots at the College are to the Province of Ontario. More than this the school itself should be a nucleus or center of education, society and recreation. It will not be agriculture in the school as much as "School in Agriculture." It will seek to serve and not stand off apart from its best opportunities. It will not interpret agriculture as a narrow thing. It will mean play and music and books and social mingling as much as soils and crops and cattle, for life is more than meat as the body is more than raiment. The school will be for everybody; not limited to the use of children, but bringing everybody to school, if not for instruction, then for no less necessary recreation. Through the new kind of school that lies dormant in our rural school of to-day will be developed other and better schools for country people.

WEED ERADICATION.

For two seasons co-operative experiments in the eradication of noxious weeds have been conducted under the direction of Prof. J. E. Howitt and his report for the past season contains some valuable information. There are six distinct experiments, which may be enumerated as follows: 1. The use of rape in the destruction of perennial sow thistle; 2. A system of extensive cropping for eradication of perennial sow thistle; 3. The use of rape in the destruction of twitch grass; 4. A method of cultivation and cropping for the extermination of twitch grass; 5. A method for the eradication of bladder campion; 6. Spraying with iron sulphate to destroy mustard in cereal crops.

Four men tried experiment No. 1, the operation of which is to cultivate the field until about the middle of June, running over it frequently with the cultivator so as to keep the tops down and thus weaken the "roots." Then apply manure at the rate of about twenty tons per acre (twelve good loads). Cultivate the manure in thoroughly, and with a double mould board plow, slightly ridge up the land, making the ridges about twenty-six inches apart. On the ridges sow pasture rape at the rate of one and one-half pounds per acre. This should be cultivated every week or ten days until cultivation becomes impossible and if, when the crop is cut or pastured, some thistles remain, it should be ridged up in the fall and put into a hoed crop the following year. Three report the method entirely successful, one only partially successful, but in looking over the report of this man, it was found that he had not followed the directions given. All, therefore, who followed the directions given found this method a success.

Five men tried experiment No. 3, "The use of rape in the destruction of twitch grass." Four

report complete success, one only partial success.

Three men tried experiment No. 4, and two reported back successful and one that it was of little use. Two men tried experiment No. 5 and both reported it a successful method.

Twelve good reports were received of the results of experiment No. 6, "Spraying with iron sulphate to destroy mustard in cereal crops." The solution is composed of 80 pounds of iron sulphate and 40 gallons of water. It should be applied on a calm, clear day, just as soon as the first few plants in the field show flowers. It is very important to spray early. If the plants are left too long the treatment is not nearly so effective. If a heavy rain comes within 24 hours after the solution is applied, it will be necessary to spray again. All reported success with this method. The results of these co-operative experiments on spraying with iron sulphate to destroy mustard, show that mustard may be destroyed in oats, wheat and barley by spraying with iron sulphate without any serious injury to the standing crop. It should be also added that fresh seedlings of clover were not injured to any extent by the iron sulphate. The points brought out by this experiment were: 1, The necessity of spraying early, just when the plants are coming into bloom. If the spraying is left too late the older plants will not be destroyed by the solution, and will form seed, and hence the experiment will not be entirely successful. 2, To spray thoroughly, and with a good pressure.

In regard to the cost of spraying with iron sulphate, it was found that the cost of material per acre varied from \$1.00 to \$2.40. If the iron sulphate is bought wholesale, it can be purchased at \$1.00 per cwt., so that \$1.50 to \$2.00 per acre should cover the entire cost of spraying. The question is often asked, however,



The Late W. G. Pettit.

"Does it pay to spray to destroy mustard? Does the destruction of the mustard increase the yield of the crop?" One experiment answers this very well. A field of over nine acres was selected and a part containing 3.8 acres was sprayed and the remainder left unsprayed. The sprayed portion yielded 39.4 bushels per acre and the unsprayed 30 bushels per acre, showing an increased yield of over nine bushels per acre due to spraying.

ILLUSTRATION FARMS.

The work of the Ontario Committee on Conservation was communicated by F. C. Nunnick, Agriculturist for the Commission, and reference was made to the systematic survey conducted by the Commission. The conditions and wants of the farmers are being ascertained in this way that the organization may put schemes into execution that will lead to increased profits and better living in the rural communities.

Illustration farms are a means whereby the Commission are reaching a great many districts and they are exemplifying by actual demonstration the wisdom embodied in their advice. Among the various lines of work followed on the illustration farms are: The introduction of best known varieties of grain; the sowing of an adequate amount of clover seed per acre on a part of the farm for comparison with the part sown with the lesser amount generally sown by the farmer; the practicing of after-harvest cultivation to kill weeds and to conserve moisture; the production and application of farmyard manure in the most economical and approved manner; the introduction of summer pasture mixtures; making use of labor-saving devices and machinery, and the planning of a rotation of crops which will suit the district and which will best utilize the available labor on the farm.

After-Harvest Cultivation.—The system of after-harvest cultivation was put to the test, and the experimenter communicates the following results: "We cut and threshed separately, two

plots of oats of four acres each, the one plot having been ploughed in August and cultivated occasionally during the autumn, and then ploughed at the same time as the next plot, which had been left in sod and ploughed late in the fall. We weighed the grain from the two plots and found that the cultivated plot gave a yield of 180 bushels and the uncultivated plot a yield of 120 bushels. A difference of 60 bushels at 50c. a bushel shows a gain of \$30.00. Counting the cost of cultivating at \$4.00 an acre, it would mean a total cost of \$16.00 for the plot, and that deducted from the \$30.00 shows a gain of \$14.00. I believe that the difference in the profit from the two plots next year, working them alike, will be almost as much, as the soil on the plot that was cultivated is in a much finer condition and almost free from weeds."

Experiments were conducted with roots and corn and apart from any mercenary value accruing from the tests to the experimenter they will be of decided benefit to the whole community and country at large. Besides the illustration farms, Mr. Nunnick intimated that illustrated lectures would be delivered in those communities where the farms are located.

REFORESTRATION AND REPAIR OF WOOD-LOTS.

Southern Ontario has only nine per cent. of woodland, said E. J. Zavitz, Provincial Forester, which is less than that of England, France and other European countries. In the last few years there has been very little change in the extent, but the quality of our wood-lots is depreciating. The best is taken out, and without any thought of the future no good trees are planted to take their place.

At the Provincial Nursery, in Norfolk County, over which Mr. Zavitz has charge, there are one million small trees, of which 500,000 will be for distribution next spring. The fields for planting in the past have been on sandy soils, waste hillsides and on blow sand. Where this latter character of soil has been a detriment to roads, pines and larches have been found instrumental in keep the soil from drifting. Some trees planted four years ago, only a few inches high, are now from four to six feet high and when some development occurs and people see the growth, they will make in a few short years, it is predicted that a greater demand will exist for these young trees to reforest waste places and improve the quality of the wood lot.

The co-operative experiments with fertilizers were communicated by Prof. R. Harcourt, who said he would prize one experiment on his own farm, more than a thousand on others. It is a question of individual farms being tested to ascertain their requirements and then the application of the principles of rotation and fertilization in accordance with the outcome of the test.

In all, 187 experiments were conducted and the most profitable returns were shown to be from mangels, turnips and potatoes, but not so good from oats and barley. Prof. Harcourt, placed emphasis on the relations of lime and the different soils, stating that on some it was a necessity and on others it would be of no avail.

Turnips were used as an experimental crop with fertilizers and the results expose the fact that a mixed fertilizer, containing phosphoric acid is beneficial, but in some cases the potash might be omitted. Where phosphoric acid was dispensed with, the yield was 19 tons and 1900 lbs., but when the phosphoric acid was retained and potash omitted, the yield was 24 tons and 1540 lbs.

Milking Shorthorns were discussed by Prof. G. E. Day, who did not recommend them over any other breed but said a demand exists in Ontario for the dual purpose cow. Prof. Day treated this subject very thoroughly at the Guelph Winter Fair, and a complete report is given under that heading in a previous number.

T. H. Mason, of Ottawa, Ont., was elected President for the coming year, and H. Groh, Vice-President. The directors will consist of Dr. G. C. Creelman, O.A.C., Guelph; H. B. Webster, St. Mary's, Ont.; F. C. Hart, Toronto; H. Sirett, Brighton; A. Cory, O.A.C., Guelph.

Death of W. G. Pettit.

The death is announced of William Greene Pettit, at his home, Burlington, Ont., on Wednesday, January 14th, 1914, in his 69th year. Mr. Pettit was well and widely known as one of the most notable and successful breeders of Shorthorn cattle and Clydesdale horses in the Dominion. He was also President, and up to the date of his death held the office of Secretary of the Dominion Shorthorn Breeders' Association. Mr. Pettit was a genial and honorable gentleman, highly respected by all who knew him, as are also his sons, who for many years have been associated with him in the importation and breeding of high-class, pure-bred stock at their well-managed farm at Freeman, Ont. The Shorthorn and the Clydesdale have lost one of their most ardent admirers, and Mr. Pettit's face will be missed by the various live-stock gatherings and expositions.

Dr. Maria Montessori

Western Ontario Dairymen Meet at Stratford.

The Dairymen's Association of Western Ontario held their annual convention on January 14th and 15th, 1914. The city of Stratford was made the seat of this reunion of the dairy interests, and with the meetings and the interest centering around the exhibit of cheese and butter, urban and rural people alike were impressed with the significance of the dairy industry. The exhibit was of high and uniform quality, there being 197 cheese and approximately one and a half tons of butter that would suit the most fastidious as to flavor, texture, quality and appearance.

A special feature was the exhibit from New Zealand, Denmark, United States and Alberta. This was not in the competitive class, but many comparisons were drawn between it and the Ontario make by connoisseurs of the product. The Secretary of the Association thought it advisable to have a sample of these much-lauded products before our people, but it is gratifying to know that our own makers had on exhibition butter that even scored higher than the sample butter from outside sources. We have the conditions suitable for the best quality of butter, all that is necessary is a practical application of the principles of dairying so well known to the producers and makers.

In communicating his report and that of the Directors President S. E. Facey drew attention to the changing condition in the dairy industry and the reduction of live stock, which will probably increase the demand on the factories and reduce the likelihood of any material export trade in milk and cream during the coming season. The outlook as reported is that present indications point to a strong future demand for all the dairy products that can be produced in Canada, and we believe the milk producers will in the next few years reap large profits in dairying.

THE FACTORIES AND THEIR WORK.

The report of the Chief Dairy Instructor and Sanitary Inspector, Frank Hems, revealed the actual conditions existing in the factories and creameries. With particular reference to the cheese industry it is interesting to know that the factories were patronized during 1913 by 10,931 dairymen, not including patrons of condensed and powdered milk factories, and the average per cent. fat in the milk delivered was 3.43. Twenty-five factories paid the patrons on the fat basis, and 70 per cent. pasteurized the whey before it was fed or returned to the patrons.

During the making season of 1912 the factories produced 27,734,876 lbs. of cheese, and during the winter months 1,028,463 lbs. of butter. This is an increase over the make of cheese of 1911 of 133,894 lbs., but the amounts of 1913, for which the figures will not be obtained till June next, will be considerably less. The average number of pounds to make a pound of cheese in 1912 was 11.05, and the average price the patron received was 13.11 cents per pound of cheese.

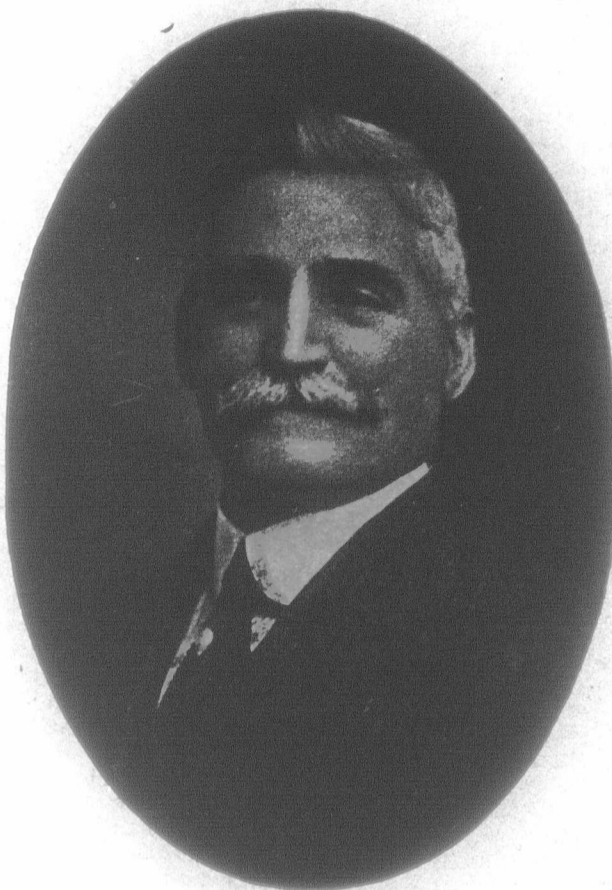
Outside a few factories the quality of the cheese was very good. The period of warm weather was comparatively short, and the patrons, Mr. Hems affirmed, are certainly improving in the method of caring for the milk. For a number of years an agitation has been on foot to establish the system of paying for the milk on the basis of a butter-fat test, but, as yet, the patrons and managers of the factories have not come to an understanding that promises to adopt the method in the immediate future.

The product of the creameries has been large, and during 1912, 12,811,267 lbs. of butter were manufactured. In addition to this the cheese factories made 1,028,463 lbs., during the winter months making a total of 13,839,730 lbs. of butter. This amount is double the total of 1907, showing a gratifying growth in the industry in the last five years. The creameries were supplied by 29,081 patrons, and the cream delivered averaged 27 per cent. butter-fat. A great number of tests brought out the fact that the average per cent. of moisture in the season's make was 14.16, and the average per cent. of salt was 3.35.

Forty-nine creameries now use the scales in making the fat test, whereas only four use the oil test. Seventeen creameries pasteurize the cream but some of them only part of the time, twelve creameries are using a pure culture, and 49 creameries are using coolers for cooling the cream. The average temperature of the creamery storages in the western district was 46.8 degrees.

Several creameries put in new septic tanks to dispose of the creamery waste water. Where these were properly installed they are giving good satisfaction, but it is well to remember that the filter bed in connection with the tank is usually necessary to get proper results. In sandy or gravelly land sufficient number of tile may be laid to handle all the water which comes from the tank, but where clay ground is encountered a filter bed must be constructed.

During the warm weather, when cream arrives



J. B. Muir.
President Western Ontario Dairymen's Association.

at the creamery around 70 degrees and sometimes higher in temperature, the importance of having proper facilities for quickly cooling the cream cannot be too strongly emphasized. The cream is in some cases over ripe and although the ripening process may continue up to the time of churning, immediate chilling tends to check the development of acid, which means butter of better keeping quality. In some cases it takes so long to cool the cream that it does not reach churning temperature before it is put in the churn the following morning. If the fat has not had time to solidify, the result is weak-bodied butter and a heavy loss of fat in the buttermilk. Under our cream collecting system the cream often arrives at the creamery late in the afternoon, and the buttermaker can hardly be expected to remain in the creamery half the night stirring cream in order to get it properly cooled. In view of these facts some system of quick cooling to check the acid would be an advantage. If the cream is pasteurized a cooling equipment is a necessity. If the cream is left at too high a temperature during the night, (especially if the flavor is not very good) and has not had long enough time at low temperature before churning, the butter, although it may appear good when churned yet as a result of the excess fermentation in the cream and churning at too high a temperature, may be expected to have poor keeping qualities. In order to obtain some information regarding the cost of cooling cream, the Chief Instructor supervised a number of experiments, a summary of which is here given:

Cooling with brine (circular cooler).—In four experiments 6,490 lbs. of cream were used, or an average of 1,622 lbs. of cream for each experiment. Cream cooled on an average from 77 to 49 degrees, in 33 minutes, at the rate of 3,125 lbs. per hour, using 387 lbs. of ice and 55 lbs. of salt. Cost of ice 45 cents, cost of salt 22 cents. Total cost of ice and salt 67 cents. Degrees of temperature cooled 28. Cost of cooling 100 lbs. of cream one degree .0015 cents.

Cooling with water and ice (circular cooler).—In three experiments 5,050 lbs. of cream were used, or an average of 1,683 lbs. for each experiment. Cream cooled on an average from 71 to 51 degrees, in 42 minutes, at the rate of 2,477 lbs. per hour, using 316 lbs. of ice. Cost of ice 38 cents. Degrees of temperature cooled 21. Cost of cooling 100 lbs. of cream one degree .00104 cents.

Cooled with water (circular cooler).—In one experiment 1,600 lbs. of cream, cooled from 80 to 60 degrees, in 36 minutes, at the rate of 2,624 lbs. per hour. Degrees cooled 20, temperature of water 50.

Cooled with water and ice around vats.—In one experiment 1,700 lbs. of cream were cooled from 72 to 55 degrees in two hours and 35 minutes, using 390 lbs. of ice. Cost of ice 47 cents, degrees cream cooled 17, temperature of water 52 degrees. Cost of cooling 100 lbs. of cream one degree .0015 cents.

It cost equally as much to cool with water and ice around the vats as it did with the brine system, and more than with ice and water (using a circular cooler), and it required two hours and 35 minutes continuous stirring to cool the cream,

compared with very quick cooling with either of the other systems. Practically no time was lost in stirring the cream, when the brine system or water and ice system was used.

THE GRADING OF CREAM AND BUTTER.

Grading Cream at Cream Gathering Creameries was discussed and advocated by Geo. H. Barr, Chief of the Dairy Division, Ottawa. It seems the time has come when the work of educationalists must be supplemented by a system of paying at the creamery which will reward the individual for individual effort. The indifferent patron will be remunerated according to the quality of his product, and responsibility will not be shifted hither and thither, but it will fall directly upon each patron by grading the cream and paying a premium for first grade cream. As a reason for this move the speaker said, "We must make a finer quality of creamery butter if we are going to successfully compete with New Zealand butter, or satisfy the demands of the best markets in our Western Provinces. The day is past when we can send inferior butter to the western markets and get good returns."

Upon inquiry in the West Mr. Barr got the following replies:

"We get very good results from buying Eastern Townships butter. We don't want to buy any more Ontario butter. Ontario butter is seldom clean in flavor and some of it goes very stale. Carload lots are not uniform in quality and it is practically impossible to keep customers satisfied, as there is so much variation in the quality of the different brands. We like New Zealand butter. When you see one box of New Zealand butter in a shipment, you see the quality of the whole lot. The butter handled by the Alberta Government is the kind we want."

This is a hard pill for Ontario dairymen to swallow, but no doubt it will effect a cure quicker than some soothing syrup lotion. The following short statement will show the result of cream grading in an Alberta creamery during the month of August, 1913. This is not the grades of cream, but the grades of butter resulting from the grading system.

make of week ending.	Per Cent. Specials	Make in Grade.	
		First	Second
Aug. 2	91.0	4.5	4.5
Aug. 9	64.0	35.9	...
Aug. 16	95.4	1.1	3.5
Aug. 23	78.0	22.0

The buttermaker at this creamery states that he did not receive more than one or two cans of second grade cream from any one individual after grading was commenced, and did not lose one patron. It is stated that grading cream and paying for it on a quality basis has done more to improve the quality of the butter in Alberta in three years than educational work alone did in ten years, and it was dealt out in fairly liberal supplies. Furthermore it is expected that in 1914 the creameries grading cream will represent 75 per cent. of the butter output of the province.

In Saskatchewan 75 per cent. of the creameries were grading the cream in 1913, and this year the government is making arrangements to grade and sell all the butter according to grade.

As a result of grading the cream in these two provinces, the butter from creameries grading the cream is commanding prices in the British Columbia and Yukon markets that are unsurpassed in Canada. It is doing more. It is creating a demand for graded butter, and, at a meeting of the Wholesale Fruit and Produce Association, of Vancouver, a resolution was adopted stating that all creamery butter is to be bought only on a grade certificate to be issued by the Department of Agriculture for the province in which the creamery offering the goods for sale is situated.

It is not necessary, however, to grade the butter to make the grading of cream a success. Grading the cream and paying a premium for first grade is simply a business arrangement between the creamery management and the patrons in regard to the method of dividing the money due the patrons, and need not interfere with the selling of butter.

As to the standards by which the cream should be judged Mr. Barr suggested the following grading as equitable and fair:

First Grade Cream.—Preferably sweet, from which first-class butter can be made by a competent buttermaker. The flavor to be clean and fresh, and consistency smooth and even.

Second Grade Cream.—Sour or sweet, which is slightly stale, old or bitter in flavor, but of a smooth, even consistency.

Cream which is not clean, which is lumpy, which is very stale, old, bitter or musty in flavor should not be accepted.

Concluding Mr. Barr explained a simple method of paying the patrons on the grading

plan, and recommended the system to the dairymen of Western Ontario.

"Defects in Our Cheese When it Goes Into Storage and When it Comes Out" were exposed by Robt. Johnston, and here it may be said that the condition of cheese boxes when they arrive at the storage is a matter of much complaint on the part of the buyers and dealers, and the tenor of Mr. Johnston's complaints were along this particular line. He suggested, however, that the factory owners should be made responsible for the loading of the cheese. The patrons who bring the cheese to the cars are not interested in it as much as the maker, and when the load is unloaded from the wagon he does not know whether he is the last or there are others to follow. Another condition which seems to be universal is the non-uniformity of the boxes, due to the manufacture from green material. Mr. Johnston pointed out that in some cases the boxes were two inches too high, and in other cases as much too low. In former times, if they were too high they were cut down until the cheese exactly fitted the boxes, and Mr. Johnston declared that in the future he would be obliged to refuse the receipt of boxes for which the cheese was too large. Furthermore the boxes are sometimes made from green material. The sides are often broken and the ends split.

Mice and rats destroy the appearance of packages and cause considerable waste, as they have to be sorted out and sold to local dealers at their own price. It might contribute some improvement if they were kept longer on the shelves, and the speaker suggested that they be kept at least eleven or twelve days on the curing shelves before being sent out.

In the discussion following the address it was made apparent that a significant change has evolved in the industry. Formerly there was a large export trade, where the loading of the boxes was supervised by an expert, but as local demand is growing and the shipments become small to supply this demand, they receive less attention and land in less favorable conditions. The local trade demands even a better box than that for export. The New Zealand crate was shown and commented on, and the outcome will probably be in the near future the adoption of a new package in which to ship cheese. So long as the round elm box is obtainable and composed of dry material it will be used, but the scarcity of the supply and their frail condition will suggest a change to both maker and dealer that will probably result in another box.

DEFECTS IN OUR BUTTER.

Another phase of the industry was discussed by I. W. Stienhoff, who dealt chiefly with the defects in our butter when it goes into storage and when it comes out. Mr. Stienhoff regretted the fact that although conditions were ostensibly favorable for the production of butter in Western Ontario, yet at the fairs and exhibitions in Ottawa and Toronto, where he had been one of the judges, he had seen it surpassed in quality by butter from Alberta and other parts of Ontario.

Some of the unfavorable conditions existing in butter when it goes into storage is a flavor which is strong, or fishy and rancid. The fishy flavor is most common and usually comes from poor salt or bacteria in water, in which it is worked or in which the utensils may be cleaned. Butter from certain sections of eastern as well as western Ontario is usually defective in this way. For three consecutive years the speaker said he had noticed this flavor in butter from certain creameries, but at present could not locate the cause of the trouble. The foundation for considerable trouble was laid when the system of gathering cream from the farm only two or three times a week was started. The cream must be gathered frequently and put into the

cooling vats at the creameries in order to keep the flavor what it should be.

Poor boxes and poor finish is another defect in the western Ontario butter, and the speaker suggested that they copy from New Zealand the finish and box, for which they are noted. One thing in particular might be remedied, and that is the great variation in the weights of the packages. The New Zealand boxes are very uniform in weight. For a 56-pound box the weight is seldom under 56½ pounds and very rarely goes above 57 pounds, yet this uniformity cannot be found in Ontario butter, for the speaker pointed out that he had seen the weights vary from 54 to 59 pounds. The market to-day in Canada is purely local, but as production increases the product may find its way into New York and Boston, so the speaker appealed to his hearers to keep the product good that it might establish a reputation for the Canadian make. However, there are a few better markets than Toronto, and in order to compete with the eastern townships and eastern Ontario butter he pointed out that it was necessary for western Ontario to have a mild-flavored product.

Discussion at the close of Mr. Stienhoff's remarks established the fact that Halifax too is a good market, and like British Columbia in the West their tastes have become accustomed to the mildly salted butter of New Zealand. Halifax desires a butter about two per cent. salted, and the same might apply to British Columbia. Three per cent. salt appears to be the maximum amount that should exist in Ontario if the makers want to cater to the very best trade. If the cheese are not held long enough in the factories the same cannot be said of the butter. The mistake is in the other direction in this case, for the butter is usually held too long in the creameries before being shipped, and in order that the very best quality and flavor exist in the butter it should reach the consumer six days from the time it is made.

HAS SOFT CHEESE A PLACE IN THE INDUSTRY?

The manufacture and use of soft cheese was upheld by Miss Bella Millar, of the Ontario Agricultural College, Guelph, who, in addition, referred to the changing condition in the dairy business in Canada. Instead of all the milk going into the channels for butter and cheese now, over two and one-half million dollars worth are used in the manufacture of ice cream and other materials of this kind.

It was pointed out that a great number of varieties of cheese exist, but to the layman there are only two varieties, the Canadian Cheddar cheese and the soft varieties. The greatest demand exists for the standard Canadian cheese, but the desire for the soft cheese is increasing rapidly as people come to understand and know the use of this article of food. It has some advantages which the Canadian Cheddar cheese has not, for it can be spread easily on wafers or bread with no waste, and when considering it along with other food products it requires no cooking and there is no time lost in preparing it for the table.

In proof of the remark that a demand exists in Canada for soft cheese it might be stated that this kind of cheese is constantly coming into Canada from the State of New York, and British Columbia also imports it from states to the south. There have been successful shipments made to the West from Ontario, and Miss Millar strongly recommends that machinery should be installed for the manufacture of soft cheese. The skim milk and buttermilk products of the creamery, might be used for this purpose, and it is quite evident that in the future these by-products will be turned into avenues which will result in the manufacture of considerable foodstuffs. Waterloo County, in Ontario, has done something

in this direction, but there is yet a large demand for Dutch or Cottage cheese. This cheese will keep for two or three weeks when kept cool and dry, but refrigeration increases its keeping qualities to a large extent.

There are, said Miss Millar, 100,000 people willing and ready to use this cheese to-day, and if skim milk and buttermilk, products of the creamery, were converted into soft cheese it might do something toward reducing the high cost of living.

STABLE CONSTRUCTION.

Barn and stable construction were discussed and illustrated by Prof. J. H. Grisdale, Director of Dominion Experimental Farms. The slides illustrating this address were prepared from photos of the most up-to-date barns in Canada and the United States, and were run for the first time in Canada in conjunction with Prof. Grisdale's remarks.

Since the consumers demand milk, as near as possible, free from contamination of all kinds, it is necessary to have the stables constructed in such a way that they will be comfortable, sanitary, well lighted and ventilated. The fewer projections and fixtures in the stable the less harbor there will be for dust and filth, and the smoothed-sheathed ceiling is preferable on account of the absence of collected dust. In many cases stables have been built with no storage room above, but this usually culminates in a damp, unventilated stable, as the draft of air upwards is impaired on account of the low-down position of the outlets. Where a narrow second story is added or a continuous ventilator on top of a pitch roof is constructed, this difficulty is overcome. However, on the Experimental Farms they have been able to produce certified milk in stables which have grain and hay stored in the loft, but the feed mixing room should be shut off from the stable proper. Prof. Grisdale recommended the solid cement manger, and with reference to the cattle standing with their heads facing in or each row facing the wall, said he could ascertain little difference, but it was more convenient to have them face in, using only one feed alley.

The Rutherford system of ventilation is applied with considerable success on the Experimental Farms, but in order to have a stable free of moisture particular care should be exercised in the construction of the stable wall. Cement and stone will collect dampness, and do not give as good satisfaction as one constituted in the following manner: The inner side should be of smooth or dressed lumber, followed by one thickness of linofelt paper. Then will come the studding and air space followed by two thicknesses of building paper overlaid with matched lumber and battings.

TUBERCULOSIS IN LIVE STOCK.

That much dreaded disease Tuberculosis in live stock was discussed by Prof. S. F. Edwards, of the Ontario Agricultural College. The disease was treated under several different heads, and it was shown how the disease is spread from animal to animal, and how the disease may be detected and eradicated. In brief, it was pointed out that the disease spread from bovine to bovine in the same herd by respiration in infected stables, by ingestion from contaminated mangers, feeding-boxes, watering utensils, etc., and to calves by feeding infected milk. The disease commonly spreads from one herd to another herd by the transfer of infected animals, exportations and dispersal sales, and to calves by feeding unpasteurized skim milk or whey from creameries or cheese factories.

A large percentage of hogs in cheese factory districts are affected with tuberculosis. This results from feeding infected milk direct from tubercular cows, from feeding unpasteurized factory by-products, such as skim milk or whey, "following" of cattle by hogs and feeding offal from abattoirs.

There are three cases by which the disease may be detected, but the most accurate is through the use of the tuberculin test. The injection of tuberculin contains no living germs of tuberculosis, hence cannot cause a case of the disease. Data from 400,000 tests show it was successful in 98.8 per cent. of the cases.

In order to eradicate the disease, the infested animals must first be detected and separated from the healthy stock. The calves should be fed milk from healthy cows or only milk pasteurized at 145 to 150 degrees Fahrenheit for twenty minutes. Cows at advanced stages are best slaughtered, but valuable animals which react to the test may be kept for breeding purposes. Others may be slaughtered and sold for meat if slaughtered under competent inspection.

CHEESE NOTES.

The present standing of the cheese industry was analysed by Prof. H. H. Dean, who treated the subjects from four different aspects, viz., production, manufacture, selling and consumption.

The production end of the dairy industry requires little said concerning it. All that is



Western Ontario Dairymen.

A small group of the convention at Stratford, on January 14th and 15th, 1914.

Dr. Maria Montessori

necessary now is a practical application of the principles so well known to the farmers but Prof. Dean, laid particular emphasis on the up-building of the herds that are to produce the milk for the future supply and recommended the importance of using pure bred dairy sires, for the production of heifers. Conditions in rural districts might be augmented by associations, Farmer's Institutes and Farmer's Clubs, maintaining a sire of this kind for use in the community.

Another point relative to the production of milk is the comparatively large expense of small farms and few cows. In the mind of the speaker we will some day be enlarging our plants, as is done in all other lines of industrial pursuits, and resort to the milking machine to reduce the cost of production. This will eliminate the excessive cost of gathering small quantities of milk and present conditions indicate that larger herds must be established, milking machinery must be installed and the product must be hauled by the producer to the factory in large vehicles propelled by gasoline or electric power.

From the manufacturing end, Prof. Dean, likened the small, poorly equipped and worse managed factory to the one-man industries which catered to people's wants in the past. They have given way to the concentration of capital, machinery and men, until the small manufacturers in our community are now extinct. Under changed conditions the manufacturer must study and put into practice how to reduce leaks in the business and how to turn out goods of finest quality at the lowest cost.

Much of the accrued profits depend upon the marketing efficiency of the salesman, but the selling price is fairly well established by the law of supply and demand, but any increase to the patron must come through the markets. This led the speaker to affirm "that it costs too much to buy and sell cheese under present conditions." There is a spread of 8c between the price to the factory and that paid by the consumer. This is too wide and in the opinion of Prof. Dean, it ought not to cost more than 10 per cent. of the ultimate selling price for marketing cost.

Unfavorable conditions might be remedied to a certain extent by a plan to concentrate the cheese at centres, equipped with cold storage facilities and under the charge of an expert salesman, who if he deems it not advisable to sell, may hold the cheese for a more favorable market.

The fourth and last note relates to cheese consumption. Canadians are not large consumers of cheese. The probable cause for this lies in one or both of two things, the lack of knowledge regarding the value of cheese as a food and the difficulty of getting good cheese in Canada.

Hon. James Duff, Minister of Agriculture, for Ontario, reviewed the condition of the dairy industry, referring to the enormous amounts of milk that flow into the avenues of ice cream manufacture and production of articles other than cheese and butter. Some interesting statistics were presented, showing the development of the home market for our butter, and the consequent decrease in the export trade.

Reference was made to the early history of the dairy industry in Western Ontario by the Hon. Nelson Monteith, of Stratford. The early cities saw the birth of this industry, which has now grown to such magnitude that over twenty-seven million pounds of cheese and over thirteen million pounds of butter are manufactured annually in the creameries and cheese factories alone. Yet with this great growth there has been a migration to the town and city, because the farmer has deposited his earnings in the chartered bank of the country, which would not loan it in return to other farmers at a moderate rate of interest. The farmer should have put his money in a clay bank instead, said Mr. Monteith, and improved his farm and community. Economic conditions will correct this estranged condition in time, but it will become more difficult in consequence of the advancing price of land. The amount required to finance a beginning will be larger than that of previous years, and the would-be farmer will find himself fettered to his city occupation. These social conditions will tend to raise the price of dairy products, and the speaker predicts that cheese will reach even a higher level than it now holds.

Geo. E. Putnam, Director of Dairying, Toronto, referred to the different lines of instruction that were being carried out, yet he concurred with the remarks of Mr. Barr, relative to the grading of cream in connection with improvement in the industry. In the opinion of the speaker cheese will rise from seventeen and eighteen cents per pound to twenty-five cents when people realize its value as food, and it will still be cheaper than many other articles now used on the table.

"Is Cow Testing Worth While" and "Common

Sense Cow Feeding" were subjects of addresses delivered by C. F. Whitley and Prof. J. H. Grisdale. Their remarks were similar to those contained in a report of the Eastern Dairymen's Association at Cornwall in our issue of Jan 15th. In the same number will be found a resume of "Some Figures From the Census of 1911," presented by J. A. Ruddick, Dairy and Cold Storage Commissioner, Ottawa.

Officers for 1914: President, J. B. Muir, Ingersoll; 1st Vice-President, R. Myrick, Springfield; 2nd Vice-President, James Bristow, St. Thomas; 3rd Vice President, R. W. Stratton, Guelph. Directors, J. N. Paget, Canboro; T. Ballantyne, Stratford; J. H. Scott, Exeter; Wm. Bothwell, Hickson; J. Donaldson, Atwood; J. McHoover, Burgessville. Auditors, J. A. Nelles, London; J. B. Hegler, Ingersoll; Sec.-Treas., Frank Hens, London.

A bulletin issued to-day by the Census and Statistics Office, under date of January 14, 1914 gives final estimates of the area, yield and value of the principal field crops of Canada in 1913 as compared with 1912. Last year's season was very favorable for grain-growing in the North-West Provinces, where during the ripening, harvesting and threshing periods, conditions generally speaking were ideal. In Ontario, Quebec and parts of the Maritime Provinces, on the other hand, the yield of grain was adversely affected by prolonged drouth. For the whole of Canada, the principal field crops occupied a total estimated area of 35,375,000 acres as compared with 35,575,000 acres in 1912, and their value, computed at average local market prices, was 552,771,500 as compared with \$557,344,100 in 1912. Wheat upon 11,015,000 acres produced 231,717,000 bushels of the value of \$156,462,000, the corresponding figures in 1912 being 10,996,700 acres, 224,159,000 bushels and \$139,090,000. Of the total wheat area 970,000 acres were devoted to fall wheat, the production being 22,592,000 bushels, and the value \$18,185,000 as compared with 971,000 acres, 20,387,000 bushels and 17,157,000 in 1912. Oats yielded a total of 404,669,000 bushels from 10,434,000 acres and the value reached \$128,893,000, the corresponding figures of 1912 being 9,966,000 acres, 391,629,000 bushels and \$126,304,000. Both the wheat and oat crops of 1913 are the highest on record in Canada, wheat as regards area, yield and value, and oats as regards area and yield.

Markets.

Toronto.

Receipts at the Union Stock - yards, West Toronto, on Monday, January 19, were 166 cars, comprising 2,869 cattle, 2,515 hogs, 697 sheep, and 65 calves; quality of cattle medium to good; trade active; prices firm. Butchers' steers and heifers, \$6.50 to \$9; cows, \$4 to \$7.50; bulls, \$5 to \$7.50; feeders, \$6.50 to \$7; stockers, \$5.50 to \$6.25; milkers, \$5.50 to \$9.5; calves, \$5.60 to \$11.50. Sheep, \$5.75 for rams; ewes, \$6.50 to \$6.75; lambs, \$9.50 to \$9.75. Hogs, \$9 to \$9.15 fed and watered.

REVIEW OF LAST WEEK'S MARKETS

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

	City.	Union.	Total.
Cars	9	334	343
Cattle	220	4,839	4,559
Hogs	27	7,717	7,744
Sheep	246	1,919	2,165
Calves	86	229	265
Horses	12	98	110

The total receipts of live stock at the two yards for the corresponding week of 1913 were:

	City.	Union.	Total.
Cars	26	393	419
Cattle	297	5,760	6,057
Hogs	195	7,880	8,025
Sheep	538	2,411	2,949
Calves	18	286	304
Horses	—	9	9

The combined receipts of live stock at the two yards for the past week show a decrease of 76 carloads, 1,498 cattle, 281 hogs, 784 sheep and lambs, and 39 calves, but an increase of 101 horses, compared with the corresponding week of 1913.

The receipts of live stock at the two markets for the past week were very light. Amongst the lot were a few loads of choice and also a few loads of good butcher's steers and heifers, but the bulk of the offerings were common and

medium steers and heifers, and a large percentage of cows and bulls. Trade was brisk from the opening of the market on Monday until the close at the end of the week, as the receipts in no one class of live stock were equal to the demand. Prices for all classes of cattle were exceedingly firm, and for sheep, lambs and calves, as well as hogs, the quotations were higher, and materially so, especially for sheep, lambs, and hogs.

Butchers'—Choice butcher's steers sold at \$8.50 to \$9.10; choice heifers, \$8.25 to \$8.50; good, \$8 to \$8.25; medium, \$7.50 to \$7.75; common, \$6.25 to \$6.75; choice cows, \$7 to \$7.75; good cows, \$6.50 to \$6.75; medium cows, \$6 to \$6.25; common cows, \$5 to \$6; canners, \$4 to \$4.40; choice bulls, \$7 to \$7.50; good, \$6.50 to \$7.

Stockers and Feeders.—The demand for feeders and stockers was much greater than the supply wach market day. We saw some little stocker steers that weighed 600 lbs. each, for which a farmer paid \$6.20 per cwt. Steers, 800 to 900 lbs., sold at \$6.50 to \$7; and some 700 to 800, sold at \$6.25 to \$6.50.

Milkers and Springers.—The demand for milkers and choice quality forward springers, was very strong, and prices ranged from \$65 to \$100, the bulk selling from \$70 to \$85 each.

Veal Calves.—Receipts of veal calves were light, scarcely enough to make a market, and not nearly enough to supply the demand. Choice calves sold at \$11 to \$12 per cwt.; good calves, \$10 to \$11; medium calves, \$8.50 to \$9.50; common calves, \$7 to \$8; rough, Eastern calves, \$5 to \$6.50.

Sheep and Lambs.—Sheep and lambs were scarce, and very dear all week. Sheep, ewes sold at \$6.25 to \$6.75; rams, \$5 to \$5.50; culls, \$2.50 to \$4; lambs, \$9 to \$9.50.

Hogs.—Prices grew firmer as the week advanced, and ranged from \$9.50 to \$9.60 fed and watered; \$9.25 to \$9.30 f. o. b. cars, and \$9.85 weighed off cars.

Horses.—Although it is the middle of January, there is still very little doing on the horse market. About 100 horses were reported at the Union Horse Exchange, but the bulk of these were merely going through, being fed in transit. There was one load of horses bought and

shipped to Northern Ontario, and several local deals were put through during the week. Drafters sold at \$225 to \$250; general-purpose horses, \$175 to \$210; express and wagon horses, \$170 to \$200; drivers, \$100 to \$150; serviceably sound, \$30 to \$75. The annual sale of registered Clydesdales and Percherons will be held on Feb. 9th and 10th.

BREADSTUFFS.

Wheat.—Ontario, new, red, white or mixed, No. 2, 84c. to 85c.; outside, 89c.; track, Toronto. Manitoba, No. 1 northern, 92c.; No. 2 northern, 93c. to 94c.

Oats.—New, No. 2 white, 33c. to 34c.; outside, 35c. to 36c.; track, Toronto. Manitoba oats, No. 2, 41c.; No. 3, 39c., lake ports.

Rye.—No. 2, 63c. to 64c., outside.

Peas.—No. 2, \$1 to \$1.05, outside.

Buckwheat.—No. 2, 66c. to 68c., outside.

Corn.—American, No. 3 yellow, 70c., all rail, track, Toronto.

Barley.—For malting, 54c. to 55c.; for feed, 43c. to 45c., outside.

Flour.—Ontario ninety-per-cent. winter-wheat flour, new, \$3.50 to \$3.55, bulk seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.30; second patents, \$5; in cotton, 10c. more; strong bakers', \$4.60 in jute.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$14 to \$15; No. 2, \$13 to \$13.50 per ton.

Straw.—Baled, car lots, track, Toronto, \$9 to \$9.50.

Bran.—Manitoba, \$22.50 to \$23.50, in bags, track, Toronto; shorts, \$23 to \$25; Ontario bran, \$22.50, in bags; shorts, \$24; middlings, \$25.

COUNTRY PRODUCE.

Butter.—Market steady. Creamery pound rolls, 32c. to 34c.; creamery solids, 28c. to 30c.; separator dairy, 27c. to 28c.; store lots 24c. to 25c.

Eggs.—New-laid, 43c. to 45c.; cold-storage, 34c.; selected cold-storage, 37c.

Cheese.—Old, large, 15c.; twins, 15c.; new, 14c. for large; 14c. for twins.

Honey.—Extracted, 10c. per lb.; combs, per dozen sections, \$2.50 to \$3.

Potatoes.—Car lots of Ontario, track,

Toronto, 80c.; New Brunswick Delawares, 90c. per bag, track, Toronto.

Poultry.—Receipts were fairly liberal, and prices about steady. Turkeys dressed, 21c. to 23c.; geese, 17c. to 18c.; ducks, 16c. to 18c.; chickens, 16c. to 17c.; hens, 12c. to 14c.

TORONTO SEED MARKET.

Alsike, No. 1, per bushel, \$8.50 to \$9; alsike, No. 2, per bushel, \$7 to \$7.50; alsike, No. 3, per bushel, \$6 to \$7; timothy, No. 1, per bushel, \$2.75 to \$3.25; timothy, No. 2, per bushel, \$2 to \$2.50; red clover, per bushel, \$8 to \$8.75.

HIDES AND SKINS.

No. 1 inspected steers and cows, 13c.; No. 2 inspected steers and cows, 12c.; No. 3 inspected steers, cows and bulls, 11c.; city hides, flat 13c.; country hides, cured, 13c.; calf skins, per lb., each; horse hides, No. 1, \$3.50 to \$4; 16c.; lamb skins and pelts, 75c. to \$1.25 tallow, No. 1, per lb., 5c. to 7c.; horse hair, per lb., 38c. to 40c.

FRUITS AND VEGETABLES.

Apples, No. 1 Spies, \$4.50 to \$5; No. 2 Spies, \$4 to \$4.50; Greenings and Baldwins, \$3 to \$3.75; Canadian onions, per bag of 75 lbs., \$1.90 to \$2; cabbages, \$1.25 to \$1.50 per case; turnips, 50c. per bag; beets, 90c. per bag; carrots, 80c. to 90c. per bag; parsnips, 80c. to 90c. per bag; celery, 75c. to \$1 per dozen.

Montreal.

Live Stock.—The very severe weather of last week worked somewhat against trade in the live-stock market. Prices, however, continued fairly high. Good butcher steers sold at 7c. to 7c., while fair stock ranged from 6c. to 7c. The poorer grades sold down as low as 4c. per lb. Butcher cows were 6c. to 7c. for good stock, while medium ranged down to 6c., and common around 4c. Sheep sold at 5c. per lb., and lambs at about 8c., while calves ranged all the way from \$3 to \$15 each. Hogs were 9c. for selects, while sows were 7c., and stags were 5c. per lb., weighed off cars.

Horses.—The demand for horses was

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fair, and the tone of prices steady. Heavy draft, weighing from 1,500 to 1,700 lbs., sold at \$275 to \$325 each. Light draft, 1,400 to 1,500 lbs., \$225 to \$250 each; broken-down, old animals, \$75 to \$125, and choicest saddle and carriage animals, \$350 to \$500 each.

Poultry.—The market was practically unchanged, as follows: Turkeys, 20c. to 22c. per lb.; ducks and chickens, 16c. to 18c.; fowl, 12c. to 14c.; geese, 14c. to 16c. Live turkeys changed hands at 18c. to 19c.; live chickens, 12c. to 15c.; live fowl, 11c. to 13c., and live geese, 14c. to 15c.

Dressed Hogs.—Dressed hogs were steady last week. Abattoir-dressed, fresh-killed stock sold at 13½c. to 14c. per lb., while country-dressed sold at 13c. to 13½c. per lb. for light weights, and 12c. to 12½c. for heavy weights.

Potatoes.—The market for potatoes was on the easy side. Green Mountains were quoted at 75c. to 80c. per bag, ex track, in car lots, while Quebec varieties were 70c. per bag, ex track. In a jobbing way, prices were 15c. to 16c. higher, ex store. Bags weigh 90 lbs.

Honey and Syrup.—White-clover comb was 15c. to 16c. per lb.; extracted, 10½c. to 11½c.; dark comb, 13c. to 14c., and strained, 7½c. to 8½c. per lb. Tins of maple syrup sold at 9c. to 10c. per lb., while syrup in wood was 7c. to 8c., and maple sugar, 9c. to 10c. per lb.

Eggs.—Owing to increased supplies of fresh-laid eggs, prices were rather easier. Strictly fresh stock was 45c. per dozen, selected eggs being still 37c. to 38c., No. 1 candled at 33c. to 34c., and No. 2 candled at 26c. to 27c.

Butter.—Butter was in active demand. Choice makes were 28½c. to 29c. per lb., wholesale; fine butter was 27½c. to 28c., while second grades were 26½c. to 27c. Dairy butter was firm, at 23c. to 24c. for Ontarios, and 22c. to 22½c. for Manitobas.

Grain.—No. 2 Western Canada oats were quoted at a slight advance, being 42c. to 43½c. per bushel, ex store, in car lots; No. 3, 41c. to 41½c.; No. 3 yellow corn, 73c. ex track.

Flour.—Manitoba first-patent flour was quoted at \$5.40 per barrel, in bags; seconds being \$4.90, and strong bakers, \$4.70. Ontario winter-wheat flour was unchanged, at \$4.75 to \$5 for patents, and \$4.50 to \$4.60 per barrel, in wood, for straight rollers.

Millfeed.—Bran sold at \$21 per ton, and shorts at \$23 in bags, while middlings were \$26 including bags. Mouille was \$29 to \$31 per ton for pure, and \$27 to \$28 for mixed.

Hay.—Prices were reported lower. No. 1 pressed hay, car lots, Montreal, on track, was \$15 to \$15.50 per ton, while No. 2 extra good was \$13.50 to \$14, and No. 2 was \$13 to \$13.50 per ton, ex track.

Seed.—Timothy seed was steady. Dealers bid 5½c. to 6½c. per lb., country points. Alsike was about the same as a year ago, being \$8 to \$10 per bushel of 60 lbs. Red clover was lower, at \$8 to \$9.50 per bushel.

Hides.—Beef hides were 12c., 13c. and 14c. for Nos. 3, 2 and 1, respectively; calf skins, 15c. and 17c. for Nos. 2 and 1, and lamb skins were \$1.10 each, with horse hides ranging from \$1.75 for No. 2, to \$2.50 each for No. 1. Tallow sold at 1½c. to 3c. for rough, and 5c. to 6½c. for rendered.

Buffalo.

Cattle prices held up pretty well at Buffalo the past week. Runs were only moderate, and there was a good, strong outlet for all kinds of shipping steers, New York and Boston taking quite a few loads, in addition to several of the nearby killers of best steers needing quite a few. The result was that good steers sold strong, as compared with the week before, best shipping steers reaching \$8.85 to \$8.90, a few fancy head of yearling stuff bringing up to \$9. At the close, a good clearance was had on all shipping steers, although towards the windup some shipping steers sold weak to possibly a shade easier. Market on butchering cattle generally was steady, but the demand was ample to take everything on offer. Best handy-weight steers reached \$8.40 to \$8.60, with best, tidy, butchering heifers, running from \$7.50 to \$7.90. Medium heifer stuff appeared to sell well, as did all kinds of cows, canners being taken at unchanged figures. Stocker and feeder supply was light, and not many were wanted. Only the better quality and better weight feeders are selling to anything like satisfactory advantage during midwinter. Demand has been pretty well filled for all kinds of stockers and feeders. Bulls continue to sell very high, in comparison to other cattle, the demand being unusually strong for sausage grades, which are bringing fat-bull prices. Extreme top for bulls was \$7 to \$7.25. Only the better kinds of milkers and springers are showing good demand, medium, and especially common ones, finding very bad outlet, backward springers and some very common milkers bringing more money when sold for beef. Receipts this week show 5,150 head, as against 4,575 head for the previous week, and 4,425 head for the corresponding period last year. Not exceeding half a dozen loads of Canadians for week.

Quotations.—Choice to prime, heavy steers, \$8.75 to \$9; fair to good, weighty steers, \$8.40 to \$8.60; best shipping steers, \$8.40 to \$8.75; fair to good shipping steers, \$7.85 to \$8.25; plain, weighty steers, \$7.35 to \$7.65; choice to fancy yearlings, \$8.50 to \$9; good yearlings, \$7.75 to \$8.25, best, handy-weight butcher steers, \$7.75 to \$8.25; fair to good, handy-weight butcher steers, \$7.25 to \$7.50; common to fair butcher steers, \$6.75 to \$7; choice, dehorned feeders, 900 to 1,000 lbs., \$7 to \$7.25; selected feeders, 800 to 850 lbs., \$6.50 to \$6.75; fair to good feeders, \$6.25 to \$6.50; yearling stockers \$6.35 to \$6.75; good to best \$7.60 to \$7.75; stags, \$6 to \$7.

Hogs.—Liberal run of hogs at Buffalo the past week, there being 48,000 head; week before, 44,000, and a year ago, 43,200. Trade in good shape the past week, considering the heavy receipts, packers taking their kinds from \$8.45 to \$8.55, light kinds, weighing from 160 to 180 lbs., being in strong demand from the East, and top prices were secured for these kinds, ranging up to \$8.65 to \$8.70; pigs, \$8.40 to \$8.60; roughs, \$7.60 to \$7.75; stags, \$6 to \$7.

Sheep and Lambs.—Trade the past week was slow on all undesirable kinds, anything choice and handy ruling active. Lambs averaging around 75 to 82 lbs. outsold heavy ones, kinds weighing around 100 lbs., by a dollar per hundred pounds. Range on top lambs for the first four days of the week was from \$8.25 to \$8.40, and Friday and the closing of the week showed lambs at \$8.50, culls ranging from \$7.75 down, with heavy ones quotable around \$7.50. Sheep held steady all week, wethers selling from \$6 to \$6.25; ewes, \$5.25 to \$5.75, and cull sheep \$4.50 down. Best yearling wethers, \$7 to \$7.25. Receipts for week, 35,200; week before, 40,800; year ago, 40,400.

Calves.—Mostly a \$12 per hundred market for top veals first part of week, and on Friday prices jumped a dollar per cwt., bulk selling at \$13, Eastern demand being very strong. Culls, \$10.50 down, and feds, \$5 to \$5.60. There were no Canadians.

Butter.—Creamery, prints, 36c.; creamery, fair to good, 26c. to 27c.; creamery, fancy, tubs, 33c. to 35c.; creamery, choice, 30c. to 32c.; dairy, choice to fancy, 31c. to 32c.

Cheese.—Fancy, new, 17½c. to 18c.; good to choice, 16c. to 17½c.; poor to common, 14c. to 15c.

Eggs.—White, fancy, 40c.; fancy, mixed, 38c. to 39c.; Western, candled, 36c. to 37c.; storage, candled, 31c. to 33c.

Dressed Poultry.—Turkeys, per lb., 24c. to 25c.; fowls, fancy, 17c. to 18c.

Chicago.

Cattle.—Beeves, \$6.75 to \$9.50; Texas steers, \$6.90 to \$8.10; stockers and feeders, \$5.10 to \$7.80; cows and heifers, \$3.50 to \$8.50; calves, \$7.50 to \$11.50.

Hogs.—Light, \$8.10 to \$8.87½; mixed, \$8.20 to \$8.47½; heavy, \$8.10 to \$8.47½; rough, \$8.10 to \$8.20; pigs, \$6.75 to \$8.15; bulk of sales, \$8.30 to \$8.45.

Sheep and Lambs.—Native, \$4.80 to \$6; Western, \$4.90 to \$6; yearlings, \$6 to \$7.10; lambs, native, \$6.80 to \$8.10.

British Cattle Markets.

Good quality Irish steers and heifers are now making 14c. to 14½c. per pound.

Gossip.

The Accountant of the National Livestock Records informs us that at a recent meeting of the Record Committee the following resolution was passed: "That whereas animals, bred, owned or imported by certain foreign breeders or importers, are denied registration in the Canadian National Records, Canadian importers before purchasing animals abroad, should ascertain by communication with the Canadian National Record office, whether such animals are entitled to registration in Canada, and thereby entitled to entry into Canada free of duty."

HASSARD'S BIG HORSE SALE.

It is quite unnecessary to say anything of the superior breed characteristics of the Clydesdale and Percheron stallions to be sold at the big sale of Dr. T. H. Hassard, at the Repository in Toronto, on Wednesday, February 4th. There are not many men at all interested in the draft horse in this Dominion that do not know of the strictly high-class character of Dr. Hassard's annual and semi-annual importations. In this sale of forty head of stallions and mares of the above breeds will be the cream of his 1912 and 1913 importations; prizewinners in Scotland, and prizewinners in Canada. A postcard will bring you a catalogue giving full particulars. A word or two regarding the female end of the sale will give some idea of the merit of the whole consignment. In Clydesdales, there is the noted show mare, Mary of Silver Springs (imp.) 31342, a bay, five years old, by Baron of Boquhan, dam by Prince Robert. This is one of the great mares of the many great ones in the sale. Up to a big size, she has the quality that stamps the champions. At the Dominion Show in Brandon last year, she was first and champion, and at the Toronto National she was again first. Lily of Muirton 28925 is also a bay, four years old, the team mate of the above champion, sired by the great Everlasting, dam by Prince of Brunstane. She, with her mate, won first at Brandon; at Toronto she was third; at the late Guelph Show she again came to her own by winning first in a very strong class, and was reserve champion. Nell of Aikton (imp.) is a brown, rising three, by Baron of Buchlyvie, dam by Douglas Chief. This filly has had few duplicates in Canada, big, with superb quality and action, she was first at Toronto in 1912; second in 1913; first at Guelph, champion and grand champion. Other Clyde fillies have the same royal breeding and the same high-class quality. Among the Percheron mares and fillies is the Brandon and London first prize, Kocarde (imp.) 3780, a gray, rising four. Up to near a ton in weight, she has quality seldom seen. Lahouiniere (imp.) 3778 is a gray, rising three, a big, stylish, quality filly that won second at Brandon and first at Toronto and London. Juvenile (imp.) 3773 is a black, four years old, that won second place at the big Guelph Show. It is only a repetition to mention more of this splendid lot, as quality, character, and faultless action are in evidence throughout the entire lot. Suffice it to say, that never before in this country was so high-class a lot sold by auction, but Dr. Hassard has quit the show end of his business for good, and his prizewinners will surely go to the highest bidder. Remember the date.

Gossip.

A correspondent writing D. B. Tracy, of Cobourg, Ont., who advertises Holsteins in these columns, gave his name as Alex. M. Armour, R. R. No. 7, but neglected to mention his post office. Mr. Tracy would like to hear from him again.

ANOTHER GOOD JERSEY.

The Jersey heifer, Lady Edith, owned by H. H. Gee, Hagersville, has been running in the Record of Performance test for a year, finished on December 18th. She gave 11,094 lbs. of milk, average test 5.07; lbs. fat, 563, which is equal to 662 lbs. butter, estimated on the basis of 85 per cent. fat. This is the highest record made by any two-year-old Jersey in the British Empire, as far as the latest obtainable records show. Lady Edith is a granddaughter of Sadie Mac. She won the same honors in the mature class two years ago.

SALE DATES CLAIMED.

January 23rd.—Allison Bros., Chester-ville, Ont.; Clydesdales and Hackneys.

January 27th.—At Lindsay, Ont., annual sale of Shorthorns of the Victoria Pure-bred Stock Association.

January 29th.—Estate of late W. C. Kidd, Listowel, Ont.; Standard-breds, Percherons, Clydes, and Belgians.

February 4th.—T. H. Hassard, Markham, Ont.; imported Clydesdales and Percherons.

February 4th.—At Union Stock-yards, Toronto. Annual sale of Shorthorns, Manager, Robert Miller, Stouffville, Ont.

February 9th and 10th.—Annual Combination Sale of pedigreed Clydesdales and Percherons, at Union Stock-yards, Toronto.

February 11th.—A. E. Hulet, Norwich, Ont.; Holsteins; dispersion.

February 10th.—Southern Ontario Consignment Sale Co., Tillsonburg, Ont.; Holsteins.

March 5th.—R. Nichol & Son, Hagersville, Ont.; Shorthorns and Clydesdales.

March 4th.—Annual Provincial sale of pure-bred cattle, at Guelph.

March 11th.—G. H. McKenzie, Thornhill, Ont.; Holsteins.

March 11th.—Norfolk Holstein-Friesian Breeders' Club, at Simcoe, Ont.; Holsteins.

March 12th.—H. R. Patterson, Paris, Ont.; Holsteins.

March 24th.—Bales Bros., Lansing, Ont.; Holsteins.

LIVE-STOCK MEETINGS IN TORONTO.

Monday, February 2nd.—Dominion Cattle Breeders' Association. Directors meeting 2 p.m.; annual meeting 3 p.m., at the Grand Union Hotel.

Dominion Swine Breeders' Association.—Directors meeting, 8.30 p. m., Grand Union Hotel.

Thoroughbred Horse Association.—Annual meeting, 8.30 p. m.

Tuesday, February 3rd.—Ontario Berkshire Breeders' Association, 9 a. m., at Grand Union Hotel.

Ontario Yorkshire Breeders' Association, 11 a. m., at Grand Union Hotel.

Dominion Swine Breeders' Association, 2 p. m., at Grand Union Hotel.

Dominion Shorthorn Breeders' Association, 2 p. m., at Temple Building.

Standard-bred Horse Association.—Annual meeting, 8.30 p. m., Prince George Hotel.

Wednesday, February 4th.—Ontario Horse Breeders' Association, 9.30 a. m., at the Grand Union Hotel.

Jersey Cattle Club, 1 p. m., Prince George Hotel.

Hereford Breeders' Association, 2.30 p. m.

Hackney Society, annual meeting 6 p. m.

Thursday, February 5th.—Shire Horse Association, annual meeting Prince George Hotel, 10 a. m.

Clydesdale Horse Association of Canada, annual meeting at Grand Union Hotel, 11 a. m.

Holstein-Friesian Association, annual meeting, Room 1, Temple Building, 10 a. m.

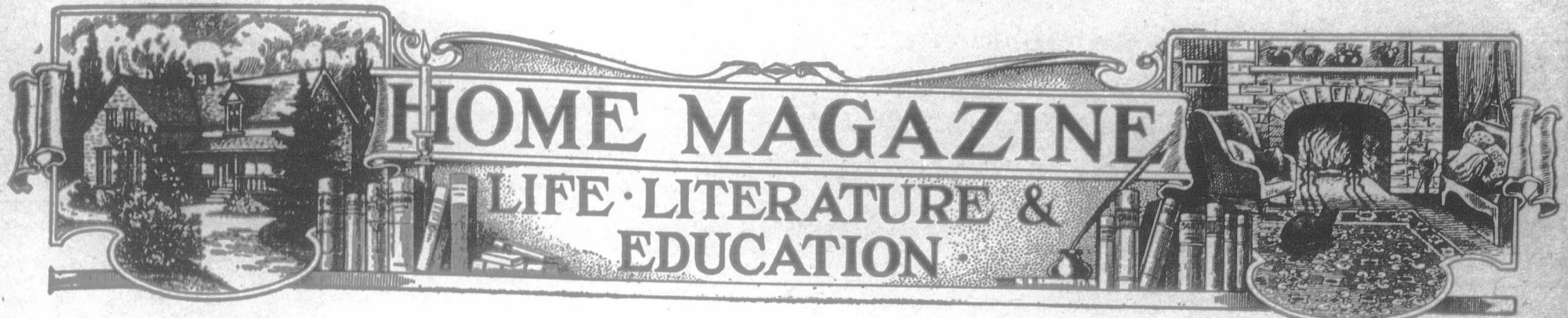
Ayrshire Breeders' Association, annual meeting, 10 a. m.

Ontario Sheep Breeders' annual meeting, 8 p. m., Grand Union Hotel.

Canadian Pony Society, annual meeting Prince George Hotel, 8 p. m.

Friday, February 6th.—Dominion Sheep Breeders', annual meeting 9 a. m., Grand Union Hotel.

Dr. Maria Montessori



Travel Notes.

(FROM HELEN'S DIARY.)

Munich, Dec. 16, 1913.

Not a glimmer of sun for eight days; nothing but drab sky, drizzle and rain; Aunt Julia rheumatic and peppery; Uncle Ned fussy and nervous. There ARE times when an aunt is anything but a comfort, and an uncle is an absolute trial. And this is one of the times. Being young (that is, comparatively speaking, although I am in sight of pier 30), I am expected to provide light amusement for the family and make dull days a joy. But being a sunbeam for eight successive days of weeping skies and chill winds is a most wearing occupation, and has developed in me a frantic desire to retire permanently from the merry sunshine business. I feel as gloomy as a comedian.

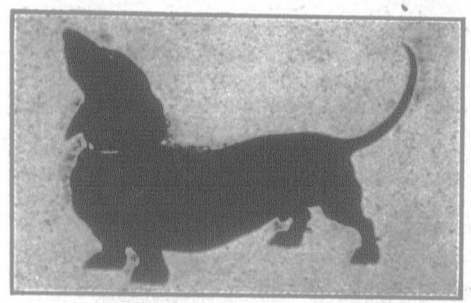
My chief diversion during this lengthy spell of schlechtes Muenchner wetter has been daily visits to the American Church Library. Most of the German and Italian cities have English libraries, for the benefit of tourists, but the one in Munich is the largest, most comfortable, best lighted and most attractive of any that I have been in. It really takes the place of an American Club here, and is a social center for all English-speaking residents. It is located on a queer little lane tucked in between busy thoroughfares. It is a hard place to find at first, because there is such a network of small streets in that vicinity, but the Americans, with characteristic enterprise, have made the hunt easy by placing conspicuous signs on the streets and corners near by with arrows pointing in the right direction. One can't mistake the place, for a large-sized Stars and Stripes waves proudly over the entrance door of the American Church, which occupies the lower floor of a large building. The interior is one immense room, subdivided into a chapel, library, and several smaller rooms, including a kitchen, the latter a very important part of the institution, for without it there would be no library "Teas," and they are one of the social features, and also a source of revenue to the church. Every afternoon, tea and toast is daintily served for the small sum of fifty pfennigs. Someone flippantly suggested there should be an additional sign outside the door with this upon it: "Tea, Toast, and Theology." Every Saturday afternoon a special "Tea" is given, which is more in the nature of a reception. One lady presides as hostess, and also contributes the refreshments for the occasion. On these afternoons there is real American cake and real American ice cream served, and real American apple pie. But one has to go early to capture a bit of the latter delicacy, for in this pieless land, apple pie, as we know it—fat and juicy, with crisp, flakey paste—is a feature of culinary art apparently unknown to Teutonic cooks.

In addition to being the social center for the American colony in Munich, the Library is also a recorder of events, past, present, and future. The bulletin-board answers almost every question, and if there is anything one can't find out there, the obliging librarian will furnish the information. Owing to the fact that we have been forced to stay indoors so much lately by the bad weather, we have seen more of the guests of the house than usual. A German pension is full of interest. So many nationalities are represented, so many grades of society are gathered to-

gether under one roof, and their manners, dress, ideas, and ways of living are so varied, that it is as good as a play to watch them. The Europeans are such polyglots that it makes a poor one-language Canadian feel half-educated to hear such a babel of tongues and understand so little.

The educated Germans, as a rule, speak excellent English, but occasionally one comes across one who is not as smart as he thinks he is.

The first night we were here I was placed at table opposite a strikingly handsome young Bavarian officer, with eyes as blue as his uniform, and a perfectly fascinating wave in his brown hair. He condescended to address me in English (it being the time-honored privilege



The Pompous Little Dachshund.

of the men in Germany to bow or speak first), and as a conversational opener remarked in measured tones

"Do you speak German?" "Very little," said I, modestly, "just enough to get along with."

"Ach so!" said he, regarding me in a pitying way as if it distressed him beyond measure to meet a person so unfortunate as not to understand the German language.

He then transferred his gaze to his soup-plate, spooning the fluid up so vigorously and sucking it into his mouth with such a gurgling noise, that I was conscious of every swallow. When he had scooped up the last drop by tipping the plate on edge, he turned to me again, and in a patronizing tone, said:

"And from where do you come?" I suppressed a smile, but before I had time to answer, his aunt, who was sitting next him, interrupted and said: "You should say come, not came."

He straightened up and glared at her indignantly. "I prefer came," said he haughtily. "It is more poetical. It agrees better with the metric system."

I have been wondering ever since what he meant. He departed the next day, so I had no opportunity of finding out.

Their places were taken by an elderly German couple—the wife a bulgy German frau, with a red face, three chins, and a chestnut-colored wig; the husband a hollow-chested person with a Cyrano beak of such proportions that his face in profile seemed to be all nose. Our table conversation was very limited in character, and carried on in a sort of halting phrase-book German. The Frau Geheimrat was confined to her room for a few days, and during this period the Herr Geheimrat took it into his head to talk English. I think he just wanted to practice. They all do it when they get a chance. His English was of the kind that has to be recalled word by word, and these words he accentuated by tapping on the table with his fingers. We were very much mystified by some of his phrases; others we understood, and some we just guessed at. He always had a special kind of cheese for dinner, and he explained to us by tapping every word out on the table and pausing between taps while he groped in his mind for the right word, that—"the-doctor-defended-me-to-eat-cheese-on-account-of-my-character."

We guessed that he meant constitution,

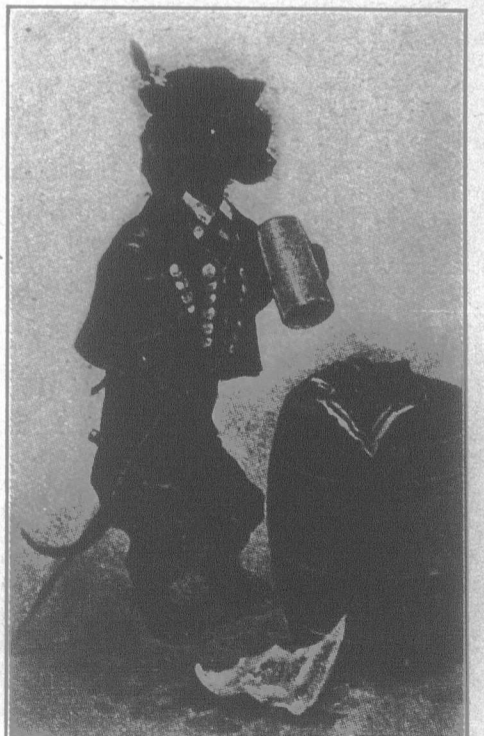
as we couldn't see that cheese had any direct influence on the development of character. Although, I think perhaps Limburger might have. I know it affects my disposition if it's anywhere within ten feet.

We inquired for his wife one day when she was ill, and with great deliberation he tapped out this astonishing sentence: "She—some—better—can—be—but—she—should—have—went—out—in—the—sunlight—to-morrow."

We said we thought so, too, knowing that he meant yesterday. Oh, it's quite easy to converse in any language if you are a good guesser.

Aunt Julia was so rheumatic for a couple of days she couldn't come down stairs, but when she re-appeared the Herr Geheimrat stretched out a bony hand to her and said with great cordiality: "Convalescences."

I was sorry when they left Munich, because they supplied us with so many amusing phrases. I never had any idea what their real name was, as in Germany men and women are always addressed by their titles, and we only knew this couple as Herr and Frau Geheimrat (privy-councillor). The wife is always called by her husband's title. This custom has certain advantages; it is much easier to use a title, if it is a short one, than to grapple with one of those yard-long German proper names, full of tongue-twisting sch's and unpronounceable u's. But there are disadvantages in having to nip this off your tongue on the spur of the moment: "Guten Morgen, Frau Oberlandesgerichtsrat (Chief Justice of the



A Very Popular Bavarian.

Peace)." How much easier to call her Frau Putz, which is her real name. There was such a batch of Frau Obersts in the pension that I was sure there was a family convention being held, but couldn't make out why the representatives were all elderly widows—and no relation. The mystery was solved when I learned that Oberst was a military title meaning colonel. But in Germany everything, from a fresh egg to a commander-in-chief of something, has to have a label, and the label is always in evidence. Rank is worshipped in Germany, more, perhaps, than in any other country, but the high-born and the lowly rub elbows in pensions. We have any number of "Hoheits" (highnesses) here:—a Russian nobleman, a Servian count, a couple of Hungarian barons, an Italian duke, a few German princes, and military titles to burn.

The Germans have such a passion for long words that they have a habit of stringing a lot of moderately-long words together and leaving out the hyphens. The result is perfectly paralyzing to a student who is grappling with the language, and it makes the newspapers almost unreadable. Some of the word combinations are so long that Mark Twain says they are like alphabetical processions wending their way across the page. This one, for instance, which is said to be the longest word in the language: Constantinopolitanischerdudelsackpfeifenmarchegeselle. It means—an employee of a bag-pipe maker in Constantinople.

No wonder they count the letters instead of the words when they send telegrams in Germany.

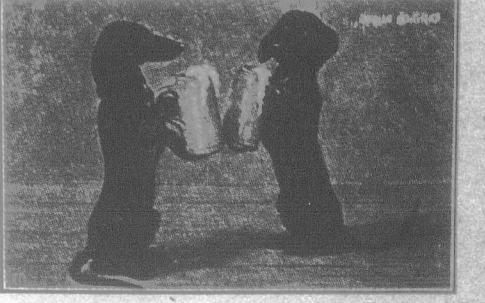
December 20th.

This is a real wintry day, with a cutting wind from the Alps. The little pet dogs of Munich are trotting along in gay sweaters, with stocking extensions, and in nobby, tailored overcoats. I saw a very fashionable terrier promenading on Theatiner Strasse this morning with its fashionable narrow-skirted mistress. The little dog wore a Bavarian-blue cloth coat, with red trimmings and silver fastenings. The coat had a storm hood, which was pulled up over Fido's ears, and it had a side pocket, out of which peeped a lace edged bit of white linen for Fido's little nose. Well, why not? It's far better for him to have his own handkerchief than to use the hall carpet. In very cold, icy weather, the little canine darlings of Munich wear shoes. And again—why not? If Fido's feet get so cold that locomotion is impossible, and he tries to make the best of chilly circumstances by balancing on one foot and whining for help—why shouldn't he wear feet protectors? The Germans are very fond of their dogs, and so with their usual thoroughness have provided for their comfort. The most adored kind of a dog in Munich is the Dachshund. In fact, Munich seems to be the home of that grotesque-looking animal, with its big head, floppy ears, long body, and almost invisible legs. It moves along as if it were on castors. It always looks to me as if its childhood's early days had been spent under a bureau, and it had been obliged to grow in the only direction possible. But it has a wonderfully intelligent face, and an aristocratic bearing that makes one think it really realizes its high position in Muenchner society. This top-lotly manner seems to be especially marked when the Dachshund is in the society of other dogs of other breeds. On these occasions it assumes a conscious air of superiority, and seems to say:

"I have prior rights in Bavaria. Bitte, get out."

And the other dogs turn tail and run, even if they are five-times the size of the pompous little Dachshund.

In the symbolistic picture post cards of Munich, the Dachshund usually shares the honors with the Muenchner Kinde, the radish, the sausage, and the beer-mug.



Here's to You—A Happy New Year.

The Roundabout Club

Literary Society.

STUDY I.

Quite an encouraging number of students, old members and new, rallied to take part in Literary Society Study I, subject, "Write an essay on a poem suggested by the accompanying picture," and a careful judging of the essays submitted resulted in the following allotment of places:

Prizewinners.—"Madam Crusoë," Lambton Co., Ont.; "Interested," Bruce Co., Ont.; "Marion Bell," Middlesex Co., Ont. Honor Roll.—"Grit," Grey Co., Ont.; "D. McB," Elgin Co., Ont.; Mrs. Buchanan, Grey Co., Ont.; W. J. Way, Kent Co., Ont.; "Rura," Halton Co., Ont.; "Lady of Captainsville," York Co., Ont.; "Enoch Arden," Bruce Co., Ont.; "Marie," Middlesex Co., Ont.

In addition, a little miss, in a letter addressed to "Dear friend Fack," sent a little poem about the picture, a quaint little poem reminding one, somewhat, of the poems by the very earliest English writers.

Another, among the older members of the club, also sent a poem about the picture instead of an essay "on a poem suggested by the picture." This mistake was probably due to the fact that a printer's error made the "on" "or" in the line beneath the picture in our issue of November 7th. We had hoped, however, that this mistake would not matter, as full directions for the study were given on the same page, and a correction in a subsequent issue.

Now, to the essays themselves. It was not surprising to find that the picture suggested to the great majority of the students Gray's immortal poem, one of the finest in the language, "Elegy Written in a Country Churchyard," (1751). Who, indeed, who had ever read that poem could fail to see in the quiet, English scene, instant suggestion of it. The evening, the distant tower, the ploughman—all are there. Read the first stanzas of the poem and see if you do not find the picture almost duplicated:

"The curfew tolls the knell of parting day,
The lowing herd winds slowly o'er the lea,
The ploughman homeward plods his weary way,
And leaves the world to darkness and to me.

"Now fades the glimmering landscape on the sight,
And all the air a solemn stillness holds,
Save where the beetle wheels his droning flight,
And drowsy tinklings lull the distant folds;

"Save that from yonder ivy-mantled tower,
The moping owl does to the moon complain
Of such as, wandering near her secret bower,
Molest her ancient, solitary reign."

True, you cannot see plainly the churchyard with its "mouldering heaps," but it is not far-fetched to imagine it beyond there, "beneath those rugged elms, that yew-tree's shade."

Burns' "To a Daisy," and "To a Mouse," were other poems suggested to some of our students, and to one, even Browning's "Up at a Villa—Down in the City," the old church ruin in the distance probably suggesting to this student the villa up in the country at which Browning's Italian "person of quality" was obliged to live, hating it though he did, because of the—yes, the high cost of living, even then, "down in the city."

"But bless you, it's dear—it's dear!
Fowls, wine, at double the rate,
They have clapped a new tax on salt,
And what oil pays passing the gate
It's a horror to think of."

Yes, "Lady of Captainsville," you have

grasped the right idea of "Up at the Villa," and we can assure you that a great many of the critics recognized as best, and a great many other people, who care not at all to be "fashionable," are very fond of Browning.

To return, however, it may not be amiss to suggest that those not already acquainted with Gray's most famous poem, will do well to read it at as early an opportunity as possible.

STUDY III.

The essays on Study II are now being considered, and those for Study III are called for. The subject is:

"Now, who shall arbitrate?
Ten men love what I hate."

Please remember that the time limit is Feb. 15. Address essays to The Roundabout Club, "The Farmer's Advocate and Home Magazine," London, Ont.

The Prize Essays.

GRAY'S ELEGY

By "Madam Crusoë."

"The curfew tolls the knell of parting day,
The lowing herd winds slowly o'er the lea,
The ploughman homeward plods his weary way,
And leaves the world to darkness and to me."

Twilight, the hour for reveries; a country churchyard, the place for long, long thoughts on life and death; a youth of a

of trumpets to herald one's approach—when the nation's eyes are turned on each heroic deed—when newspapers laud the hero to the skies. But Gray draws our attention to these unnamed, everyday toilers who have fought for long hours against the forces of nature in order that the great of the earth may be clothed and fed, and reminds us of the fact that the "village Hampden" may have as dauntless a heart to resist oppression from "the little tyrant of the field" as the Hampden of a wider sphere who resisted the tyrant Charles.

How strange it is that most of our poets and historians devote their pens to men who have attained their fame through the slaughter of their fellow-men. Our schools drill into our childish minds the greatness of Wolfe and Blake and Wellington. Pages are devoted to their bravery—but when it comes to telling of how our sturdy pioneers battled against poverty, loneliness and disease, that our country might become the land of plenty it is now, our histories are strangely silent. In our little country churchyards, so many of them in very truth, "neglected spots" is laid, "Some heart once pregnant with celestial fire" that glowed with a soft radiance upon the little circle that gathered round the blazing hearth, or met in the little country church. And after all they sleep as peacefully as their brothers in the fretted vaults.

Well indeed it is for the country whose rustic youth shun the lure of the city and remain contentedly upon the land "far from the madding crowd's ignoble strife," even though they at last lie in the country churchyard with an "uncouth rhyme" upon their headstone.

It seems most natural that Gray's thoughts should turn from the rude epi-

methinks we can hear the sound of the bell which the poet fancifully describes as tolling for the death of the day. We linger with the poet till the twilight fades and the "glimmering landscape" is obscured. Then, as our sense of sight no longer serves us, our quickened ear notes the hush of the peaceful evening, which presently is broken, nearer, by the awkward flight of the Maybug, and afar off, by the tinkling of the sheep bells, as the flock settles down in the fold for the night, and by the droning notes of the owl perched on "yon ivy-mantled tower." How appropriate that line, "All the air a solemn stillness holds," seems, in view of the proximity of the "city of the dead," and how descriptive of that hour of quiet, that comes at the close of the day, when a peaceful calm seems to brood over all nature. A beautiful, rural, home-like picture, but typical, not so much perhaps of Canada as of England,—with its farm hedges, its ancient elms, and its fine old ruin in the background.

The proximity of the quaint old churchyard, through which it was his custom to wander, rouses in the poet thoughts of the lives lived by those whose bodies rest therein. He reviews their everyday life, and holds the reader's interest with his picture of the peasant's day, with its round of duties, from his awakening in the morning by such morning sounds as the ranger's horn, the twittering of the swallows, or the crowing of the cock—all calling him out to inhale the incense of the morning—to his return to his home in the evening. We see him fare forth to the field, with his team to break the stubborn glebe, with his sickle to the cutting of the harvest, or with his axe to the felling of the giants of the forest. Then we witness his return when the day is done, to the warmth and cheer of the cabin, with wife's and children's greetings.

But now those lives are ended! Never again will pleasures and sorrows rouse their emotions! The grave has claimed them, as it claims all. But let not those who aspire to a wider sphere, or who are ambitious of the world's attentions and praises, make light of the simple, narrow life of the peasant; for those of high degree, those in authority, those who are beautiful, and those who have riches, all—all are claimed at last by the grave—"the paths of glory lead but to the grave." Nor must the proud blame the humble, "If memory o'er their tomb no trophies raise"; it was their lot in life, not necessarily any lack of native ability, that forbade their living such lives as would call for the raising of trophies over their tombs, or the singing of anthems in cathedrals to their praise. They lost little by the lack of such attentions from the world, for no honors paid them after death could have recalled them to life, or gratified them in death. Yet, for anything we can tell, some of these humble folk lying here may have possessed the courage of "Hampden," the genius of "Milton," or the military talent of "Cromwell," had not ignorance and poverty condemned them to lives of obscurity.

And now comes that stanza, so often quoted, and which is regarded as one of the gems of English poetry:

"Full many a gem of purest ray serene,
The dark, unfathomed caves of ocean
bear;
Full many a flower is born to blush
unseen,
And waste its sweetness on the desert
air."

A beautiful thought, beautifully expressed. The poet compares the unknown genius to a rare gem on the ocean floor, never seen by mortal eye, and again to a flower blooming unseen in the desert.

Men are but creatures of circumstance, but if poverty and ignorance prevented these humble people doing great and noble deeds, they also prevented their being notorious for wicked and cruel acts.

To protect the remains from insult or sacrilege, a more worthy reason surely than that which caused the erection of "storied urns" and "animated busts," simple monuments have been erected to memory of the departed, bearing rude inscriptions, telling their names and their years; with suitable quotations from Scripture. Thus Nature is satisfied, for no one, however humble, wishes to be forgotten after death.



Subject Literary Society Study No. 1.

(Write an essay on a poem suggested by this picture.)

melancholy and introspective habit of mind—from these was produced perhaps the most popular poem our language knows. By his "Elegy" alone is Gray remembered. Not a prolific writer was he, but all his poems are marked by a studiously beautiful style, and an almost pedantic mode of expression. This poem, however, seems to set in words, as we could not, our own thoughts.

So many of our friends we have followed to their last resting-place, "where heaves the turf in many a mouldering heap," and, standing by their graves, we recall how

"Oft did the harvest to their sickle yield,
Their furrow oft the stubborn glebe has broke,
How jocund did they drive their team afield,
How bowed the woods beneath their sturdy stroke."

It does not seem possible those lines could have been written about others than our own Canadian pioneers so well they seem to fit.

To do one's work well and faithfully, no matter if it be obscure, therein true greatness lies, and the little trials of everyday life require a heroic spirit to overcome them with a smile. So easy it is to be a hero when there is a glare

taphs of these unknown rustics to his own death and burial, and his melancholy views of life and death are shown plainly in that part of the poem referring to his own death. How different is his anticipation of his death to Tennyson's, "Twilight, and even star, and one clear call for me," so full of trust and peace; or to Stevenson's chosen epitaph.

"Here he lies where he longed to be,
Home is the sailor, home from the sea
And the hunter home from the hill."

ESSAY II.

(By "Interested.")

When studying the picture, my thoughts would turn to the poem entitled, "Elegy Written in a Country Churchyard." The scene described in the first four stanzas of the "Elegy" is here depicted.

In the foreground we have the plowman preparing to leave the scene of his labors, and "homeward plod his weary way." In the distance we note the outlines of the old church, and gathered around its base, the tombstones of the churchyard show white in the dimming light. Some little distance to the left stands a farmhouse, with its attendant outbuildings. In the distance might perhaps be seen the farm herd "winding slowly o'er the lea," lowing as they go.

Dr. Maria Montessori

The poet's moralizing is here interrupted by a thought that intrudes itself. "Will some kindred spirit take an interest in my life, after I have departed this world?" Yes, one of the oldest inhabitants will no doubt be able to answer the inquiries, and will tell facts of his life, his eccentricities, his death, and will point out his grave, and the monument erected to his memory.

It is now generally admitted that the churchyard the poet had in mind when he composed the "Elegy" was "Stoke-Pogis," near which his mother resided, and where the bodies of both him and his mother now lie buried. The poem was written by Thomas Gray, who lived from 1716 to 1771. This is considered one of the finest poems of English literature, just as the poet was considered one of the best-educated men of his time. It is told that Gray kept the poem for seven years, revising and retouching it before he allowed it to appear. It was of this poem that the hero Wolfe, on the day preceding his victory and death said, "I would rather, gentlemen, be the author of that poem than take Quebec." To quote Dr. Johnson, "It abounds with images, which find a mirror in every mind, and with sentiments to which every bosom returns an echo."

INTERESTED.

ESSAY III.

(By "Marian Bell.")

The gray twilight settling down on an English landscape, with the battlemented towers suggestive of some ancient castle in the background, the sturdy, fantastically twisted and gigantic trees in the middle distance, and the plowman with his team wending homewards, suggest that immortal poem, written by Thomas Gray, that in its wholesome sentiment has touched many a responsive chord in the human breast. The snatch of scenery portrayed in the picture might suggest Gray's "Elegy Written in a Country Churchyard."

We are not given a glimpse of the churchyard, where the author caught his inspiration, but we see one of the pictures among the many which passed in quick transition as the poet sat on some rustic seat, casting his eyes over the beautiful but darkening landscape and on the rude slabs around him, which crowned "many a mouldering heap."

The plowman has toiled all day, and with his deserving team, moves homeward. The rugged elms and sombre yew trees stand as sentinels in the twilight. The swallow twitters, the beetles drone drowsily, and all Nature, with the dead below, is lulled to repose. The whole atmosphere of the place is soothing to the poet's mind, but he is given up to meditation upon the dead.

"No fretted vault, storied urn, or animated bust," absorb his attention, but the bodies which were once "pregnant with life," but with "virtues circumscribed," and "crimes confined," he ponders upon. These people lived simply, tilled the soil, had homely joys, lived peacefully, and when the day was done, sought rest till the morrow. "Far from the madding crowd's ignoble strife their sober wishes never learned to stray." Who knows what noble spirits might have possessed them, greatness in embryo that might have risen to another Hampden, Milton, or Cromwell, or any other great soul, whose name has been clarified forth. But the thought to reconcile he gives in those lines:

"Full many a flower is born to blush unseen,
And waste its sweetness in the desert air."

Gray could see and love the country, and he felt "the still, sad music of humanity," whether the life was spent in the midst of rural scenes or "with the boast of heraldry or the pomp of power," and knew "the paths of glory lead but to the grave."

Topics for Debating Societies.

Often the editors of this paper are asked, during the winter, for subjects for debate and discussion. Perhaps the following will be of value:

Do militancy and strikes help their respective causes?

Is woman's suffrage a sex problem or a social development?

Is eugenics a science or a fad?

Should corporal punishment be banished from the schools?

Does the Boy Scout movement tend to militarism?

What does this neighborhood most need?

Does the trend of public and individual life to-day show that money is esteemed more than anything else in the world?

What does mankind, on the whole, value most, wealth or character?

Could the average general farmer make as good a success of specialized agriculture as he does of mixed farming?

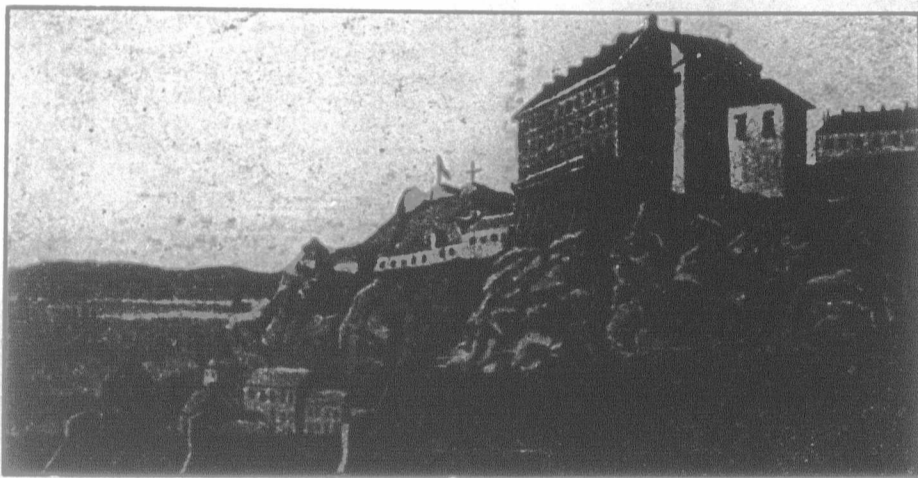
Little Trips Among the Eminent.

Canadian History Series.

SOME STRONG MEN OF EARLY DAYS.

With the powerful Mazarin and Colbert at the helm in France, and the influence of the Abbe Laval, the Vicar Apostolic for Canada, to intercede for her, momentous changes took place in the colony.

In February, 1663, the Charter of One Hundred Associates was rescinded by royal edict, and New France was placed under "Royal Government," a plan by which, it was hoped, order would be better maintained and growth better promoted than heretofore. According to



Castle St. Louis.

On the site of which the Chateau Frontenac now stands.

Can Canada assimilate foreign immigration at the present rate of influx, according to population, and maintain the present high standing of her citizens physically, mentally, and morally?

Has party politics the hold upon the people of Canada that it once had? If so, is it in the best interests of the people?

Is the social position of the farm laborer less to be desired than that of the city laborer or tradesman?

Is Canada ready for the initiative and the referendum, and if adopted, would they cure the ills of present-day politics?

Does our school system meet the needs of the present day?

Are farm women destined to become the leaders in the fight for more progressive agriculture?

Is there any danger of co-operation leading to combination, and thus defeating its own ends?

Is the fight for wealth having a degrading effect upon the race, or is it developing intellect and moral character?

this plan the administration of affairs in the colony was placed entirely in the hands of a Supreme Council, made up of the Governor, whose especial duty was to control the military affairs of the country; the Bishop, in charge of all affairs ecclesiastical; and an Intendant, in whose hands was placed the legal administration of the colony;—these to be assisted by four, afterwards twelve, councillors.

A clash between the Governor, M. de Mezy and Laval, led to the recall of the former, but he died before the summons reached Canada, and was succeeded by the Sieur de Courcelles, a man of great energy and initiative, with the Marquis de Tracy as Lieutenant-General and Viceroy. With Courcelles came also M. Talon, the first Intendant, and a great company of soldiers and settlers. A red-letter day for Quebec, indeed, was that upon which the ships arrived. "The scanty population," we are told, "gazed with pride, and the Indian scouts with amazement, on the solid phalanx of these mail-clad warriors, as with roll of drums

and peal of trumpets they climbed the steep ascent to the citadel. The mounted officers especially struck terror to the savage breast, as they were deemed inseparable from the horses they bestrode, the first the Indians had ever seen."—(Withdraw.)

And now "Royal Government" was in full sway, the Council meeting every Monday, first at the Chateau St. Louis (where the Chateau Frontenac now stands), and later in an old brewery, made to do duty as a "Palace of Justice," or embryo House of Parliament.

Both De Courcelles and Talon were filled with plans for the advancement of Canada. Not only were forts built at Chambly and Sorel, but it was determined by De Courcelles, "a rash but gallant soldier," to put a check on the Iroquois irritation by attacking them in their own country. The first venture was, however, somewhat disastrous. In midwinter of 1666, the "Annus Mirabilis" of England, the year of the plague and the great fire of London, De Courcelles set off up the Richelieu to Lakes Champlain and George, to make an attack upon the Mohawks. But he had not reckoned upon the inclemency of the Canadian winter. Repulsed rather by the bitter cold than by the prowess of the Indians, he was obliged to withdraw, after losing eleven men killed, and several wounded. On the way back to Quebec—a long march of 1,500 miles—sixty died of exposure.

The idea had, however, taken hold of the French at Quebec, and the next autumn De Tracy, the Viceroy, then nearly seventy years of age; organized another expedition. With three hundred boats and thirteen hundred men, he set off in October over the old trail, up the St. Lawrence, up the Richelieu, then a march of one hundred miles through the woods, a march on which De Tracy himself, who was suffering from gout, had to be carried.

The attack began on the first Mohawk town by the roll of twenty drums and the roar of two small cannon. Terrified by the noise and the sight of Frenchmen pouring suddenly from the shades of the forest, the Mohawks fled from town after town, all of which were promptly burned by the French. When the last stronghold had disappeared, the French erected a cross, sang the Te Deum, and took possession of the whole Mohawk country in the name of King Louis XIV. Victoriously the soldiers (of whom one hundred were Indian allies) returned to Quebec, where they arrived before the bitterness of winter had set in, but before spring, it was told, four hundred Mohawks succumbed to cold and starvation, for all their supplies had been burned. The result of the onslaught was, however, that a treaty was made



A Winter Scene in Newfoundland.



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which brought peace for eighteen years.

TALON'S WISE PLANS.

While all these events had been transpiring, England—that country which was eventually to obtain supremacy in the country which had inspired the fond dreams of so many brilliant Frenchmen—was establishing herself to the southward. She had taken possession of the Dutch settlement on the Hudson, with its chief town, New Amsterdam, which was renamed "New York," in honor of James, Duke of York, brother of King Charles II, and there she was steadily building up trade and exerting all her cleverness in dealing with the neighboring Iroquois, who now sided with the English or made peace with the French, as best suited their own interests.

For the present, however, the affairs of the colony along the St. Lawrence prospered, above all, perhaps, because of the unceasing endeavors of the Intendant Talon. He strove to develop trade and to establish industries; he began the construction of an intercolonial road to Acadia; he brought out settlers, especially shiploads of young women for whom he secured "homes" by fining men for celibacy and offering bounties for early marriages. Indeed, so lively were the pranks of Dan Cupid in those days that, it was said, on the arrival of the ships, "couples were wedded by thirties at a time." Bounties were also given to the largest families, and, although the land was held under a sort of feudal system, with seigneurs as overlords, grants were given to all disbanded soldiers, and others who would farm. These farms, usually along the banks of the St. Lawrence and the Richelieu,—that the waterways might be made use of, and that the settlers might live closer together for companionship and protection—were very narrow, but often ran backward to a distance of a mile and a half. So began the "riband farms," on some of which, even to-day, live descendants of those early settlers.

For the protection of the Seigneurs, the tenants were obliged to give some return. "The censitaires (or tenants)," says Withrow, "paid to the seigneur a nominal rent; but they were required also to pay a small annual tribute in kind, as a goose, a pair of fowls, or the like; to labor for his benefit a certain number of days in the year; to get their corn ground at his mill, paying a fixed toll therefor; to give him one fish in every eleven caught; and, in case of a sale of their lands, to pay him one-twelfth of the price received.

At first these demands were reasonable, but as time went on and values increased, the tax on the tenants became very heavy. The system was not given up, however, until 1654.

A UNIQUE COUNCIL AT SAULT STE. MARIE.

But the plans of De Courcelles and Talon extended far beyond the country bordering the St. Lawrence. To secure a key to the lower lakes, the Governor proposed to build a fort where Kingston now stands, a plan which his successor (Frontenac) carried out. Talon's plans for the exploration of the great West beyond also fell, for their execution, to a successor, but all the while the missionaries were steadily blazing the trails and preparing the way for those who were to come later.

In 1670, Father Marquette established a mission as far west as Sault Ste. Marie, and in 1671, Talon announced a great council of representatives from the Western Indian tribes to meet at that point. There, by the rushing rapids, with the dense forest as a background, met the strange assemblage—the dusky aborigines, the party of Frenchmen glittering in brilliant military dress donned for the occasion, four Jesuit priests in the robes of their order; and when the council was over a large cross was raised, a hymn was sung, the Indians pledged loyalty, and the envoy, St. Lussion, raising a sod of earth on high, took possession of the whole region in the name of Louis XIV.

Under Talon, Frenchmen also established posts on the shores of Newfoundland and the Hudson's Bay, despite the fact that English posts were already in existence on those then bleak and lonely shores.

In 1672, because of ill-health, De Courcelles resigned as Governor, and Frontenac was appointed in his stead, an ap-

pointment which, it is said, caused the resignation of M. Talon also.

Next time will be told something of the story—sad, yet triumphant—of the greatest, perhaps, among the explorers of the new continent, chief of them Robert Caveller, Sieur de la Salle.

Hope's Quiet Hour.

A Procession of Cross-bearers.

Come, take up the cross, and follow Me.—S. Mark x: 21.

In the R. V. the call is simply: "Come, follow Me," addressed to the young man who wanted to follow the Great Leader, and was hindered by great possessions. But the call is the same, even if the cross is not mentioned—to follow Christ is to take up the cross. "If any man will come after Me," He says, "let him deny himself, and take up his cross daily, and follow Me." Rev. Wm. Temple says that the Jews expected their Messiah to lead a triumphal procession into Jerusalem, but the procession will not be of the expected kind. "What it will look like is a procession of condemned criminals wholesale crucifixions were not so very uncommon at that time; the picture would have been vivid enough, each man carrying his own gallows to the place of execution."

We often talk lightly about taking up the cross, as if it only meant accepting bravely something unpleasant. But when our Leader took up the cross, He was doing far more than that—even "carrying His own gallows to the place of execution."

Does He call us to do this hard duty every day? Are we to walk sorrowfully through life, like criminals on the way to a terrible death? No, our Leader calls us to joy—a joy that no cruel tyrant can take away. His call is a call to victory, not to defeat, for He goes on to say: "Whosoever will lose his life for My sake, the same shall save it."

We all want to save life, to live victoriously here and on the other side of death. Our Leader is our great inspiration, telling us the way to live, and going before to show us how. If life were not a battle we might—perhaps—be happy without God. As it is, we need Him every day. When a great catastrophe appals a community, some—whose faith is weak—begin to doubt whether God is really in His heaven, whether all can be well with the world. Others—who have stronger faith—know that pain makes them cling more closely to their Father's hand. It was said of the Israelites, long ago: "When He slew them, then they sought Him . . . and they remembered that God was their Rock."

If life were always smooth and easy, there would be little progress and little glory. "My path has not by any means been one strewn with roses," wrote one. We are called to follow a Great Leader,—would he have won our hearts if His path had been strewn with roses? Think over the "great" lives which make us proud to belong to the human family—were they easy lives? The words "easy" and "great" don't seem to go together. If anyone lives an easy life, making easy sacrifices and doing easy work, we don't call him great, and we don't feel inspired to follow his lead.

I sit here at my desk, quietly writing; but my spirit reaches out to touch many unknown friends who are perplexed and lonely, weary and discouraged. How can I open their eyes so that they may see One walking beside them, One Who has carefully and lovingly planned their lives? If He offered you a life of easy pleasure, with no troubles or difficulties, you would not like to accept the offer. You would not desire to slip through the Master's school without any training. Children like holidays, but no child with any sense wants to have holidays all the time. We are not put here just to have a good time, God wants us to amount to something—and we want to amount to something. We all get discouraged at times, but the remedy is not to escape troubles, but to endure them; it is to

Dr. Maria Montessori

run with patience the race that is set before us, looking unto JESUS, Who— with eyes on the joy that was set before Him—endured the cross, despising the shame. Susan Coolidge writes:

"The day is long and the day is hard; We are tired of the march and of keeping guard, Tired of the sense of a fight to be won, Of days to live through and work to be done, Tired of ourselves and of being alone. And all the while, did we only see, We walk in the dear Lord's company. We fight, but 'tis He Who nerves our arm, He turns the arrows which else might harm, And out of the storm He brings a calm."

As the New Year dawned I was kneeling before Christ, accepting from His hand the cup He offered. It was a solemn thing, in the midnight hush, to reach out both hands for that cup of blessing; remembering the Master's earnest question to disciples who wanted to share His coming glory: "Are ye able to drink of the cup that I shall drink of?" Remembering His death, and setting out to follow Him, how strange it is that we fret and worry and complain over trifling troubles and inconveniences! We read of the marvellous endurance of many martyrs who follow in His train, and we claim to belong to the same glorious army—how is it that our patience is so poor and our trust so weak? Perhaps it is because we don't realize that little trials and testings of our faith matter much. If we were given our choice between denying Christ and suffering pain of death, we should at least know it was worth while. We don't always realize the splendor of today's fight. Every day we are called to walk in that strange procession of cross-bearers, pressing close after our Leader. Then it is always worth while to bear commonplace troubles with the joy of a martyr. Keble reminds us of our high privilege:

"Thus everywhere we find our suffering God, And where He trod May set our steps: the Cross on Calvary Uplifted high, Beams on the martyr host, a beacon light In open fight."

Sometimes we are called to deliberately choose the hard and lonely road. I am at present reading with deep interest the life of Hudson Taylor, the great missionary to China. From childhood the desire to carry the news of God's love to the Chinese had been pressing on his soul. But at the threshold of manhood he was called to a momentous choice. The woman he loved did her best to shake his determination and drown the call which sounded so clear. "Must you go to China?" she questioned, evidently thinking that it would be much pleasanter to serve the Lord at home.

God intended woman to be a help and an inspiration to man, but how often women have acted like Eve, and have tempted the men they loved to choose an easy path, though they knew God was calling them to a hard and great duty. If Hudson Taylor had yielded to the temptation, the apparently easy path would have been far from peaceful, for his own heart would have given him little rest. It is a daring thing to tempt a man in one direction when God is calling him elsewhere. It is so natural to feel—on the surface of one's nature—that this life's business is to have a good time. But the pursuit of selfish gratification can never really satisfy a soul. We all want to make our lives worth while.

Hudson Taylor knew that he would not be really happy if he yielded to the insidious temptation and shut his ears to the call of God. Nothing—not even a pure earthly love—could be allowed to stand between him and his Leader. The fight was hard, but when he at last succeeded in accepting the Divine call in his heart, sacrificing even the love which had become part of his life, the light returned in wonderful glory. He wrote soon after:

"Unspeaking joy, all day long and every day, was my happy experience. God, even my God, was a living, bright

Reality, and all I had to do was joyful service."

He gave up the idea of marriage, for Christ's sake, and God gave back the gift of human love—a love that was really in harmony with his own. A few years later he married a woman who had already worked for five years in China. Six weeks later he wrote from Ning-po:

"Oh, to be married to the one you DO love, and love most tenderly . . . that is bliss beyond the power of words to express, or imagination conceive!"

Those who choose duty, resolutely following their Master, find that He presses joy also into their hand. A cross—carried after Christ—is like the tree which made the bitter waters in the wilderness sweet and wholesome.

The happiest people are not those whose lives are most easy—look around you and see—but they are those who take daily work, pain and pleasure, as gifts from the hand of their Master.

"Lo! amid the press, The whirl and hum and pressure of my day, I hear Thy garments sweep, Thy seamless dress, And close beside my work and weariness Discern Thy gracious form, not far away, But very near, O Lord, to help and bless."

DORA FARNCOMB.

"Lonesome's" letter, with its enclosure of \$3.00 for my "Charitable Work," reached me yesterday. Part of it has already been given to another lonely person—a sick woman who is alone all day—who asked me to thank the giver. The balance will soon find a chink to stop up. I thank all the readers who have sent me good wishes for Christmas and the New Year. It is an ever-fresh joy to find myself in touch with so many people. HOPE.

The Ingle Nook.

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

Helen Keller.

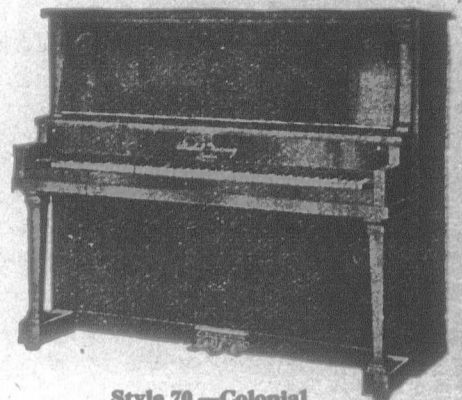
Dear Ingle Nook Friends,—To me, for a long, long time, there have been just three absolutely wonderful women in the world, Helen Keller, Mrs. Sullivan Macy (Helen Keller's teacher), and Madame Curie, of Paris; and a few nights ago I had the very great privilege of seeing two of these women, and hearing them speak,—Helen Keller, and her scarcely less wonderful teacher.

You know about Helen Keller, do you not?—that wonderful girl who has triumphed over blindness and deafness, and put to shame a world of people equipped with all that is necessary to progress in life? At nineteen months of age she was left, through a serious illness, absolutely blind, and absolutely deaf. Not a soul was near who knew how to teach the afflicted child. Her only avenue of learning was by touching, feeling, handling everything within reach, hence, as a consequence, until nearly seven years of age, she was like a little blind animal, perfectly healthy, yet knowing nothing except what came to her by intuition and through her wonderfully sensitive fingers, not even the names of things. Her world was a world of things without names. She had signs by which she made known her wants, and she was accustomed to fly into fits of uncontrollable rage when she could not make herself understood. Then came Mrs. Macy, or as she then was, Miss Sullivan, and before six months had passed the little baffled animal had become an alert, enquiring child. At the lectures of which I have spoken, we were told how the miracle was accomplished.

Mrs. Macy spoke first, a woman of charming personality and a fine eloquence. She herself, almost blind until eighteen years of age, when an operation gave her relief, had been at the Boston Institute for the Blind, and had some intercourse with Laura Bridgman, born

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deaf and blind, who had been taught to communicate with her fellow-creatures; so when the request came from Helen's father asking if it would be possible to send a teacher for his daughter, she was the one chosen.

Very graphically she told of her arrival at the beautiful Alabama farm home, and of seeing the child standing in the doorway.

"Helen seems to have been expecting someone all day," said the mother, "she has been going to the door and going to the door, instead of amusing herself as usual."

Can it be that the power of telepathy was reaching through the thick wall of the dark world in which the afflicted little one lived, acting upon her mind, telling her in some vague way that someone was thinking of her concentratedly, that some great epoch was approaching in her life?

At all events, the idea seemed to be communicated to her at once that Miss Sullivan was a friend, for she hurled herself upon her and caught her about the neck, examined her features and all her clothes with her sensitive fingers, and finally signified that she believed candy to be in the handbag.

I wish I could tell you all the story in detail, of how Miss Sullivan gave her a doll, spelling on her fingers—d-o-l-l; of how other words were taught in the same way, until several were mastered and used whenever Helen wanted the things they signified.

As yet, however, the little mind had not grasped the fact that all things had names. The revelation came one day at the pump. Miss Sullivan pumped water on her hands, spelling the word, as usual, on her fingers. Suddenly, light broke upon the child. A look of keen intelligence flashed upon her face. Immediately she flew about, touching the pump, the door, the trellis, the vines, everything within reach, asking the names. Within a few hours she had learned thirty nouns and three verbs, more than all she had assimilated in the months before.

From this time her thirst for knowledge was almost impossible to satisfy. As Mrs. Macy said, she sometimes wondered whether the teacher was guiding the child, or the child dragging the teacher after her.

Always the little one's quaint conclusions and questions were a source of surprise, and often of amusement. For instance, like all other children, she was curious about the origin and ownership of things, and learned something of Dame Nature.

"Are the flowers Dame Nature's children?" she asked one day.

"Yes."

"And the grass?"

"Yes."

"And the too many bugs?"

"Yes."

"Then," she said, "I think Dame Nature is like the old woman in the shoe; she has too many children."

She always insisted on being told what was the subject of conversation when her elders were talking. Once, when but ten years of age, she was told that the subject was the tariff. She wanted to know what that meant, and when told that she could not understand yet, exclaimed indignantly:

"How do you know I can't understand! The Greeks told their little children wise words, and how can I be wise unless you tell me wise words?"

So the years went on, and the continuous conversations, always by means of those sensitive fingers, although, of course, much study was carried on by means of raised-letter books for the blind. Essays and compositions were written on a typewriter. Even this necessitated that someone be always near unless hopeless mistakes were left possible. For instance, sometimes the ribbon would slip, and the girl would write for hours, turning off nothing but blank sheets. When told of the trouble, however, she never expressed impatience, but with a smile would begin to do the task all over again.

It was she herself who conceived the idea of going to college. Of course, the college governors threw cold water on the idea, and even Mrs. Macy discouraged it. But Helen was determined. "I know the difficulties in my way," she

wrote to the authorities, "but it is a poor soldier who acknowledges defeat before the battle has begun."

Radcliffe College, connected with Harvard University, Boston, was the one selected, and the blind, deaf girl, managed to pass her matriculation examinations successfully. For the next four years Mrs. Macy sat by her side in the class-rooms, spelling off into her hand with lightning speed the words of the professors. The task was terribly arduous, unhappily so, for both, but at last the weary time was over, and as a result this girl, living in a world black and silent as the grave, wrote off her examinations (on the typewriter) as fairly as did the others, and succeeded in taking her B.A. degree in Greek, Latin, French, German, English literature, history, and philosophy.

During the same period, too, she wrote



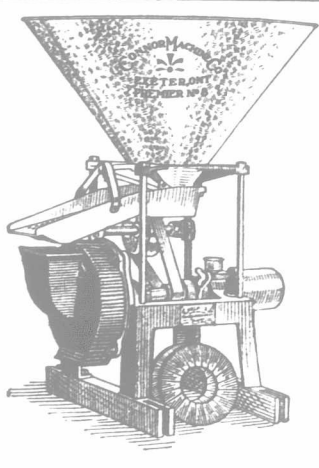
Helen Keller, in Her College Days, With her teacher, Miss Sullivan, now Mrs. Macy.

her book, "The Story of My Life"—the work being allowed as part of her English course. It was published in installments in the Ladies' Home Journal, and as Mrs. Macy remarked, "Probably this was the only time in the history of education that a student was paid \$3,000 for undergraduate essays."

It was Helen herself, too, who determined to learn to talk. As a beginning, she was taken to Miss Fuller, of the Boston Institution for the Deaf, but whereas the deaf were partially taught to talk by watching the processes of speech, it was necessary to teach Helen by touch. This was done by having her place her thumb on the larynx of the speaker, the first finger on the lips, the second on the lower part of the nose, thus conveying to her the guttural, labial and nasal sounds. The process was long and tedious, and almost unbelievably difficult, but at last, to her joy, she was told that she was beginning to articulate words, though she herself could not hear a sound that she made.

I shall never forget the moment,—it seemed a supreme one, supreme because a visible proof of the triumph of soul over body, of will over apparently unsurmountable obstacles—when Helen Keller stepped upon the platform, a tall, well-built girl, with a face radiantly happy, though she could not see a glimmer of the vast audience before her, nor—because of the carpet which deadened the vibrations—be conscious of a sound of the noisy applause that greeted her.

Her voice was not as the voice of those who hear, but her words were almost perfectly enunciated, though with emphasis on the gutturals, and by paying attention strictly, one could gather all of her dear little loving address, which dwelt most of all on the dependence which binds us humans one to another, and the great love each for all which could make us all of one brotherhood. We listened to her with lumps in our throats, and marvelled. A clergyman of the city probably voiced afterwards the thought of many when he said, "I never felt so near God as when I stood there listening to Helen Keller."



A GRAIN GRINDER

That will give satisfaction is what you get when you buy a

Premier No. 8

The grinding surfaces of the Premier Grinder are absolutely parallel, and will do good chopping without the plates coming in contact. You will readily see that this means small power consumption and long life for your Grinder.

Don't take our word for it that the Premier is the best Grinder on the market, but write us to ship one to your address on trial, in order that you may see for yourself.

Ask us for unsolicited testimonials from users of the Premier Grinder.

CONNOR MACHINE CO., LTD., EXETER, ONT.

We build the Premier Air-Cooled Engine in 2, 4, 7 and 10 H. P. sizes. We will be glad to send full particulars on request.

Strawberries and RASPBERRIES reach their highest development here on the shore of Lake Erie. Our Free Catalog describes 50 leading kinds, with cultural directions etc. Be sure and write for it. THE LAKE VIEW FRUIT FARM, H. L. McConnell & Son, Grovesend, Ont.

Essex Grown Seed Corn

For prices, write to JOS. J. TOTTEN (R.R. No. 2), Woodslee, Ont.

See mention "The Farmer's Advocate."

The address over, people here and there in the audience (by request of Mrs. Macy) asked questions. These were repeated to Miss Keller by Mrs. Macy, the girl replying the words after her as she stood with her fingers on the vocal organs of her dear teacher.

"When were you first conscious of a Supreme Being?" she was asked, and her countenance glowed.

"I think I always knew there was a God," she replied, as she had before to Phillips Brooks, "but I had forgotten His Name."

"Why are you a Socialist?" asked someone.

"Because the world is full of blindness," came the answer.

"What is the cause of the blindness?"

"Instantly the reply flew from her lips: 'Poverty. One man has two houses, another has none. One man does no work and has a large income; another does hard work and has a small income. Socialism would give an equal opportunity to all.' (There was more which I cannot remember.)

"Do you think Socialism would remove the poverty?"

—And like a flash came the reply, "All unnecessary poverty."

Then came a question that brightened her face as though a light shone upon it, the light indeed "that never was upon sea or land." It appealed at once to her intellect, to her pet sympathy, and to her appreciation of literature:

"Who, do you think, is the true poet of Socialism?"

Like a flash again came the answer, "Whitman."

Thoughts and emotions surged upon one as one sat listening to her, and among them was always the consciousness of shame that one's self, with all the faculties, had accomplished so little and grumbled so much.

"Why are you so happy?" she was asked.

"Because everyone is good to me, and I have found useful work to do."

—Yes, surely useful. Her very life is an inspiration. Helen Keller is truly a genius, but she is also a living example of what will and application and constant burnishing of the mind can do. One of her messages to mankind is a plea for the development of the mind. "We do not appreciate it enough," she says, "we do not use it enough."

And how she loves her teacher; that woman almost as wonderful as she. "Her hand brought me my soul," she says. "For I was blind, now I see; I was deaf, now I hear; I was dumb, now I speak."

Yet how many of us having eyes and ears are still blind, still deaf, or at least more blind, more deaf, than we should be.

When not about on her lecturing tours, Miss Keller is a much-appreciated inmate of Mrs. Macy's home. "When we come down to breakfast," said Mrs. Macy, "and before we are rightly awake, there she is alert and eager to talk on all the questions of the day, the currency bill, the Mexican problem, the tariff, all sorts of things."—With so vast an interest in public affairs, it is little wonder that she instantly replied when asked what she thought of votes for women, "I am a suffragist."

I am sorry that I cannot tell you more of this truly wonderful woman, surely the most wonderful being in the world to-day, but if I have interested you, perhaps you will be glad to buy one of her books. She has written five:

"Out of the Dark" (\$1.00; postage, 10 cents)—Doubleday, Page & Co., Long Island, New York.

"The Story of My Life" (\$1.50; postage, 12 cents); by the same publishers.

"Optimism" (75 cents; postage, 8 cents)—T. Y. Crowell & Co., 426 West Broadway, New York.

"The World I Live In" (\$1.20; postage, 10 cents)—The Century Co., Union Square, New York.

"The Song of the Stone Wall" (\$1.20; postage, 10 cents)—The Century Co., Union Square, New York.

I am quite sure that you will not be disappointed in these books, for not the least wonderful thing about Miss Keller is the fine literary style with which she expresses her keen insight into life, and her beautiful thoughts. Truly, in the

words of Oliver Wendell Holmes, "It seems as if her soul was flooded with light and filled with music that has found entrance to it through avenues closed to other mortals. Anthropologist, metaphysician, most of all theologian, here is a lesson which can teach you much that you will not find in your primers and catechisms."

JUNIA.

RE PAPER WHITE NARCISSUS.

Where can I get "paper" narcissus bulbs? Do they bloom well in summer? Are they expensive? How are they cultivated?

HOWARD.

Hastings Co., Ont.

The popular "Paper White" narcissi, a member of the polyanthus or bunch-flowered narcissus group, are, according to Bailey (a recognized authority), best grown "under glass," i. e., in a greenhouse, or at least in the house, for winter blooming. Plant in pots with the neck at the surface of the soil, about the middle of October, and set the pots in a dark, cool place, for a week or ten days—for first bloomers. If fresh pots are brought up every two weeks, a succession of bloom may be had for two months or more. Put plenty of drainage material in the bottom of the pots before potting, and use a good, turfy loam, keeping the soil moist. After bringing the pots from the cellar, or wherever they have been kept for root growth, introduce them gradually to the light.

For garden bloom, the narcissus poeticus (or Poet's narcissus), and the Trumpet varieties, are recommended. Plant in late summer or early fall. Narcissus bulbs may be bought from any seedsman.

DOUGHNUTS—CHOCOLATE PIE.

Please give a good recipe for:

1. Doughnuts.
2. Filling for chocolate pie.

ALEX.

Doughnuts.—Rub together 1 tablespoon butter and 1 cup sugar, then add 2 beaten eggs, 1 teaspoon salt, little grated nutmeg, and 1 cup milk. Stir 2 teaspoons baking powder in a little flour and add, then add enough flour to make a soft dough, just stiff enough to bear rolling. Twist into doughnuts, and fry in deep, very hot fat. When cold, roll in confectioner's sugar.

Chocolate Filling for Pie.—Beat yolks of 3 eggs until light, and add to them 2 tablespoons milk. Heat 2 tablespoons grated chocolate with almost a coffee-cupful of milk, add ½ teaspoon salt and ¼ cup sugar, and when scalding hot add the egg-yolks. Let cook 2 minutes, stirring well, then remove, and when partly cooled add vanilla to flavor. Line a pie-pan with crust, pour in the filling, and bake 20 minutes in a quick oven. Cover with a meringue made of the egg-whites beaten with 1 tablespoon sugar.

My Row of Bags.

"Along a beam in my attic," says a housekeeper, "hangs a row of bags, each labelled, and I can truthfully say that the little array is among my greatest conveniences. One bag—a stout, paper hat-bag, securely tied at the top, is labelled 'Feathers,' and into it go all odd tips, wings, quills, etc., that are not in immediate use. The next one to it contains 'Flowers,' and the next 'Ribbons, Velvet, etc.' These three bags, as you may imagine, are called into service when millinery is to be done, and you would be surprised if you saw the hats that are made up from their contents. Feathers are curled, flowers tinted, old velvet steamed from the wrong side, ribbons cleaned and pressed, and so, in trimming alone much money is saved. . . . Another bag contains 'Cotton Patches,' and yet another 'Bandages'—rolls of old cotton all washed and torn into strips ready for use in case of emergency. . . . This is my 'row of bags,' and very useful it proves. In places readier to the hand I have also other bags, one for buttons, one for laundry, one for dust-cloths, a sort of combination bag, with pockets, for medicine bottles, and another for slippers. Try the idea; you will find that it will save many a half-hour of 'looking for things.'"

EIGHTY-SECOND ANNUAL REPORT OF The Bank of Nova Scotia

Capital Paid-Up, \$6,000,000 Reserve Fund, \$11,000,000

PROFIT AND LOSS

1912. Dec. 31. By Balance	\$54,854 48
1913. Dec. 31. " Net profits for current year; losses by bad debts estimated and provided for	1,210,774 39
	<u>\$1,265,628 87</u>
1913. Feb. 15. To Premium paid Bank of New Brunswick on purchase	\$ 100,000 00
Dec. 31. To Dividends for year at 14%	814,504 00
" Contribution to Officers' Pension Fund	50,000 00
" Written off Bank Premises Account	150,000 00
" Transferred to Reserve Fund	110,000 00
" Balance carried forward	41,124 27
	<u>\$1,265,628 87</u>

RESERVE FUND

1912. Dec. 31. By Balance	\$8,728,146 00
1913. Feb. 15. " Reserve Fund Bank of New Brunswick	1,790,000 00
Dec. 31. " Premium on New Stock	371,854 00
" Transferred from Profit and Loss	110,000 00
	<u>\$11,000,000 00</u>
1913. Dec. 31. To Balance carried forward	<u>\$11,000,000 00</u>

GENERAL STATEMENT AS AT DECEMBER 31st, 1913

LIABILITIES

Capital Stock paid in	\$ 6,000,000 00	
Reserve Fund	11,000,000 00	
Balance of Profits, as per Profit and Loss Account	41,124 27	
Dividends declared and unpaid	215,545 17	
Rebate of Interest on unmaturing Loans	208,724 28	
Notes of the Bank in Circulation	5,948,022 01	17,465,393 74
Deposits not bearing Interest	\$12,670,716 40	
Deposits bearing Interest, including Interest accrued to date	43,305,668 61	55,976,385 01
Balances due to other banks in Canada	61,924,407 02	
Balances due to banks and banking correspondents in the United Kingdom	107,131 46	
Balances due to banks and banking correspondents elsewhere than in Canada and the United Kingdom	78,577 68	
	430,679 54	62,540,795 70
Acceptances under Letters of Credit		145,640 57
		<u>\$80,151,829 99</u>

ASSETS

Current Coin held by the Bank	\$ 4,363,163 08
Dominion Notes held	6,077,686 00
Notes of other Banks	736,092 08
Cheques on other Banks	3,142,765 74
Balances due by other Banks in Canada	880 56
Balances due by banks and banking correspondents in the United Kingdom and sterling exchange	2,107,219 16
Balances due by banks and banking correspondents elsewhere than in Canada and the United Kingdom	1,898,505 53
	18,326,312 15
Deposit in the Central Gold Reserves	500,000 00
Dominion and Provincial Government securities not exceeding market value	651,439 25
Canadian Municipal securities and British, Foreign and Colonial public securities other than Canadian, not exceeding market value	1,268,300 28
Railway and other bonds, debentures and stocks, not exceeding market value	3,489,742 02
Call and demand loans in Canada secured by bonds, debentures and stocks	4,208,081 67
Demand loans in Canada secured by grain and other staple commodities	4,468,668 00
Call and demand loans elsewhere than in Canada	6,160,565 08
	39,073,108 35
Deposit with the Minister of Finance for the purposes of the Circulation fund	248,495 22
Loans to governments and municipalities	1,165,793 01
Current loans in Canada secured by grain and other staple commodities	2,082,566 95
Other current loans and discounts in Canada	30,184,073 53
Other current loans and discounts elsewhere than in Canada	5,584,004 27
Liabilities of Customers under Letters of Credit, as per contra	145,640 57
Overdue debts, estimated loss provided for	84,125 11
Bank Premises at not more than cost, less amounts written off	1,560,150 12
Other assets not included in the foregoing	23,872 86
	<u>\$80,151,829 99</u>

JOHN Y. PAYZANT, President. H. A. RICHARDSON, General Manager.

AUDITORS' REPORT

We have investigated the affairs of The Bank of Nova Scotia, and certify that the above Eighty-second General Statement in our opinion presents a fair and conservative view of the condition of the Bank as at the close of business on December 31, 1913. Our investigation included an examination of the general books of the Bank as kept at the offices of the General Manager in Toronto, and an investigation and compilation of figures from certified returns made by its various branches. We further verified by count and examination the cash on hand at the offices in Halifax and Toronto, King Street, and inspected all securities owned by the Bank excepting those held at St. John and Havana. In verification of the securities held at these two branches certified statements were forwarded to us.

MARWICK, MITCHELL, PEAT & CO. Chartered Accountants.

Toronto, January 13, 1914.



THE ROSS RIFLE

"A Successful Hunting Trip Using My 'Ross .280'"

John C. Harris, Binghamton, N. Y.
From every quarter of the globe we are receiving letters of praise for the performances of our "Ross" Rifles. An Arctic explorer whose life and that of his comrades was saved by the hard hitting, high power, accuracy and speed of his "Ross .280," under trying conditions, adds gratitude to his praise.

FOR BIG GAME

No combination excels the "Ross .280" High Velocity Rifle which sells at \$55, and the "Ross .280" sporting cartridge with copper tube bullet—patented—selling at \$7.50 per hundred. Other models Ross Rifles at from \$12.

If your dealer cannot supply you, write for complete illustrated catalogue to:
Ross Rifle Co., Quebec, Canada.

WANTS & FOR SALE

Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

FOR SALE or rent—800 acre farm in good wheat growing and mixed farming district, 400 acres under cultivation. For full particulars write Mrs. Gable, 55 Chantry Ave., Moose Jaw, Sask.

FARM FOR SALE—Centre half lot 42 Con. 7 East Wawanosh, 100 acres, 85 cleared, all seeded, good soil, well underdrained, 4 acres orchard mostly winter fruit, 1 1/2 story frame house, kitchen and woodshed, barn 60x70 on stone wall cement floors, windmill water in house and stable on main gravel road 1 1/4 miles from Belgrave P. O. school and church. Apply to Wm. Wightman, R. R. No. 3, Wingham, P. O., Ont.

FOR SALE—Two excellent 100-acre farms in Middlesex County, on good gravel road, four miles from Glencoe; soil rich clay loam. These farms are well fenced; good buildings and water. Will be sold reasonable; possession last of March. Archie McVicar, Mossa, R.R. No. 2, Glencoe, Ont.

FOR SALE—80 acre farm near Paris, all cleared, good buildings, silo, good well, orchard, garden, small fruits, fall ploughing, wheat in ground. Geo. Featherstone, Paris, Ont.

MAN Wanted to operate greenhouse for the Dominion Canners Farms at Wellington, Ont. Must have expert knowledge of growing tomato plants in large quantities. Apply stating experience, salary expected etc. M. B. Clark, Wellington, Ont.

SEND for wholesale catalogue to Lancashire's Cheapest Drapery Warehouse, and learn how to increase income. Make money selling British goods, tablings, towellings, ready-made dress materials, ladies' overalls, pinafore muslins. Cochrane's Warehouse, Victoria Bridge, Manchester, England.

SNAP—307-acre farm, Saskatchewan; choice land, best district; good buildings and water; all cultivated. Low price and easy terms. Must be sold. Apply Box 65, Farmer's Advocate, London, Ont.

WANTED—A man and wife for farm, man must be a first-class general farmer and a good dairyman and the woman a good cook and capable of managing a farm household. Apply stating age and experience to Farmer's Advocate, London, Ont.

WANTED—HIDES TO TAN
For robes, coats, etc., horse hides, cattle hides and furs. No leather tanned.

B. F. BELL, - Delhi, Ontario

WANTED—
Hay, Oats, Vegetables and
Fresh BEEF, in car lots.
H. McKnight, Mine Supplies, Cobalt, Ont.

Cream Wanted

Toronto consumes daily the milk and cream from over 14,000 cows, and the butter from over 70,000 cows. We need your cream. Write

TORONTO CREAMERY CO., Limited
9, 11 and 13 Church St., Toronto

POULTRY AND EGGS

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

A FEW choice S. C. White-Leghorn cockerels from good laying strain \$2. each. A. H. Baird, R. R. No. 1, New Hamburg, Ont.

BRONZE turkeys—The best we ever raised, from winners at Guelph, 1912. Apply to W. Stewart & Son, Menie, Ont.

CHOICE Pekin ducks of both sexes for sale. Bred from prize winners. Garland Bros, Pinkerton, Ont.

CARLUKE Poultry Yards highest class exhibition Barred Rocks, winners again at Guelph Show the Premier Show of Canada; also at Toronto. Some choice cockerels. Either cockerel or pullet matings for sale. Write for prices. We have the goods. G. Morton & Sons, R. R. No. 4, Box 130, Hamilton, Ont.

FOR SALE—Mammoth Bronze turkeys; prize-winners at the Western Fair, also Guelph. Angus Beattie, Wilton Grove, Ont. R. No. 1.

FOR SALE—A few choice Rose Comb Rhode Island Red cockerels, from my best laying strain, two to five dollars each, Howard Smith, Winona, Ont.

FORTY-FIVE varieties fancy poultry. Hand-some catalogue free. S. A. Hummel, Box 23, Freeport, Illinois.

MAMMOTH Bronze turkeys, fine, heavy, vigorous birds; bred from prize stock. R. G. Rose, Glanworth, Ont.

MAMMOTH Bronze turkeys for sale; also Single-Comb White Leghorn cockerels; choice stock. J. H. Rutherford, Box 62, Caledon East, Ontario.

PURE Bred Bronze Turkeys, Brown Ducks single comb White Leghorns. Prices reasonable. C. A. Powell, Arva, Ont.

"SNOWFLAKE" White Leghorn Cockerels. Either show or breeding quality. Low prices. E. W. Burt, Paris, Ontario.

WHITE Wyandottes—Cockerels and hens. Satisfaction guaranteed. Duncan McTavish, Chesley, Ont.

SEED CORN

that will GROW.

I have 300 bus. Wis. No. 7 White Corn and 100 bus. of White Cop Yellow Dent that was picked for seed. Picked from standing stalk after being fully matured and placed on drying racks. Never piled up, and thoroughly dried before cold weather. This corn is an early variety and especially good for silo and fodder. Will ship either in crate or shelled. If shelled, will be tipped and graded. Will ship on approval. Address

THE POTTER FARM,
Roy Potter, Mgr. Essex, Ont

News the of Week

CANADIAN.

Parliament opened at Ottawa on January 15th.

Senator George J. Cox died in Toronto on January 16th, at the age of seventy-four.

At a meeting of the Executive of the Toronto Suffrage Association, it was decided to send letters to every mayor and reeve in Ontario, asking them to bring in a resolution favoring municipal suffrage for married women.

Over one hundred persons on board the Cobequid, wrecked in the Bay of Fundy, were taken off by steamers Westport, John L. Cann, and Lansdowne. But one wireless message could be caught from the vessel because of the icing up of the aeriels.

Last week was marked by destructive fires in the wholesale district of Montreal, in West Toronto, in Belleville, and Midland.

The Dominion Government on January 13th, awarded a contract for the construction of a dam at the head of Big Chaudiere, French River. The step is preparatory to the putting through of the Georgian Bay canal.

The sum of \$25,000 was voted in Toronto to provide public work for the unemployed. The question of immediately establishing a registration office for the unemployed was referred to the Board of Control.

The new field husbandry building of the O. A. C. was formally opened at Guelph on January 12th, by Hon. Martin Burrell, Dominion Minister of Agriculture.

BRITISH AND FOREIGN.
An Academy of International Law is to be established at The Hague in connection with the Palace of Peace.

It is reported that a commission of 42 German officers has been appointed, at the request of the Turkish Government, to take charge of the Constantinople troops. The Russian Novoye Vremya looks upon this as a blind transference of the Ottoman Empire into German hands.

The Pope has appointed Cardinal Merry Del Val, who was once Papal Delegate in Canada, to succeed the late Cardinal Rampolla as Archbishop of St. Peters.

Henry Ford, the automobile manufacturer, has announced that he will take his employees into partnership with him, and divide \$10,000,000 among them. Mr. Ford was born on a farm eight miles from Detroit. He still runs the farm, and has made it a sanctuary for birds, of which he is very fond. He started life at sixteen with nothing, worked in a factory, eventually invented the automobile, and is now a multi-millionaire.

Terrific volcanic eruptions occurred during the week on some of the islands of Japan, Volcanos Sakurashima, Kirishima and Asama all being active. Cities and villages were blotted out, and many refugees were saved by vessels cruising along the coast. The number of dead is not yet definitely known.

In consequence of the recent strikes, martial law was proclaimed in South Africa, and the trouble is now believed to be over.

Madame Sarah Bernhardt was decorated in Paris, on January 15th, with the cross of the Legion of Honor.

Submarine A7, with sixteen officers and men on board, sank while practicing torpedo-firing in the English channel on January 16th.

Great Auction Sale of High-class Horses
Of the late W. C. KIDD estate will be held at LISTOWEL on
Thursday, Jan. 29th, 1914
Consisting of
Standardbred Stallions
Percherons Clydes
Belgians, etc.
Also harness, rigs and racing equipment. Full particulars will be given on application to
McINTYRE & GABEL
Listowel Ontario

HICKMAN & SCRUBY
Court Lodge, Egerton, Kent, England
Exporters of Pedigree Live Stock of all Descriptions.
We are the only firm in Great Britain who make his their sole business, and therefore offer advantages not obtained elsewhere. When our Mr. A. J. Hickman started this business seven years ago, he did not know a single foreign breeder. This year we have exported more stock to order than any other firm in Great Britain. This is a fact which speaks for itself. The frequency with which we buy stock from English breeders means that we can do business with them on more favourable terms than can be done by anyone else. No one should import draft horses, beef or dairy strains of cattle, or mutton breeds of sheep without first getting all particulars from us. Highest references on application.

FARM AND SHOP BLACKSMITH FORGE 6.85
Farm and Shop Blacksmith's Forge a well built and practical forge with good egg pan—18 inches across. The fire box is 18 inches and produces a strong blast. This forge stands 31 inches high and weighs 95 pounds. Our reasonable low price only \$6.85.
Write for our complete catalogue of like hammering goods for farm and shop. Sent free.
The HALLIDAY COMPANY, Limited
HAMILTON, CANADA
Successors to the Mail Order Business of STANLEY MILLS & COMPANY.

C. & W. Liquid Roup Remedy
Positive cure for roup in poultry and pigeons. Applied direct to afflicted part. One man cured a valuable bird with one application. Send us your dealer's name and address, with 25c. for trial bottle. Large size \$1.
Free advice given regarding diseases by our poultry expert.
The Specialty Agency
134 Carling St. London, Ont.

Cream Wanted
We pay express charges on cream from any express office within 200 miles of Ottawa. We also supply cans. Sweet or sour cream accepted. Write for particulars to
Valley Creamery of Ottawa, Limited
Ottawa, Ontario

SHOEMAKER'S BOOK on POULTRY
and Almanac for 1914 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 990, Freeport, Ill.

Trade Topic.
The manufacturers of Planet Jr. farm and garden implements, whose advertisement runs in these columns, have issued an excellent illustrated catalogue of their implements, and one which intending purchasers should see before buying. Write S. L. Allen & Co., Philadelphia, U.S.A., for a copy.

EVENTS TO BEAR IN MIND.
Eastern Ontario Live-stock and Poultry Show, Ottawa, Jan. 20 to 23.
Poultry short course at Macdonald College, Que., Feb. 16 to March 6.
Live-stock meetings, Toronto, the first week in February.
Ontario Corn Growers' Association annual convention, Chatham, Ont., February 3, 4, 5 and 6.

"Maple Leaf" Brand Oil Cake Meal
Old Process. Absolutely Pure.

If it pays the British farmer to send 4000 miles for "Maple Leaf" brand Oil Cake Meal to feed and fertilize his soil, it will surely pay the Canadian farmer to feed it to his own stock and enrich his own soil. Are you feeding Oil Cake Meal? If not, a trial will convince you of the superior quality of our product. All orders given prompt and careful attention. Write us for samples and prices.

MAPLE LEAF CANADIAN LINSEED OIL CAKE BRAND

THE CANADA LINSEED OIL MILLS, LIMITED,
Mills at Toronto and Montreal.

The People of the Whirlpool.

[Serial rights secured from the Macmillan Publishing Co., Toronto and New York.]

By Mabel Osgood Wright.

Chapter XIII.

GOSSIP AND THE BUG HUNTERS.

July 18. It is such a deadly sin to marry outside of the limited set that is socially registered, that I now understand why many of the Whirlpoolers are mentally inbred, almost to the vanishing point, so that they have lost the capacity of thinking for themselves, and must necessarily follow a leader.

Sylvia Latham's engagement to Horace Bradford has caused a much greater sensation than her mother's divorce. To be sure, every one who has met Horace, not only fails to find anything objectionable about him, but accords him great powers of attraction; yet they declare in the same breath that the affair will not do for a precedent, and deplore its radical influence.

To-day we have settled down to mid-summer quiet and to a period of silence after much talking. The Bluffs are quite deserted except by a bevy of children left with governesses while their parents are yachting or in Europe, and the servants in charge of the various houses. But a trail of discontent is left behind, for these servants, by their conspicuous idleness, are having a very demoralizing effect upon the help in the plain houses hereabout, who are necessarily expected to do more work for lower wages.

I am fully realizing, also, that the excitement of living other people's lives, which we cannot control, through sympathetic imagination, is even more wearing than meeting one's own responsibilities. A certain amount of separateness—I use the word in an entirely opposite meaning to that of aloofness—is, I find, necessary to every member of our household, and this chance for intimacy with oneself is a luxury denied to those who live all their lives taking joy and sorrow equally in a crowd.

Even the boys, young as they are, recognize it unconsciously, and have separate tree lairs, and neither may enter the other's, without going through some mysterious and wonderful ceremony and sign language, by which permission is asked and granted.

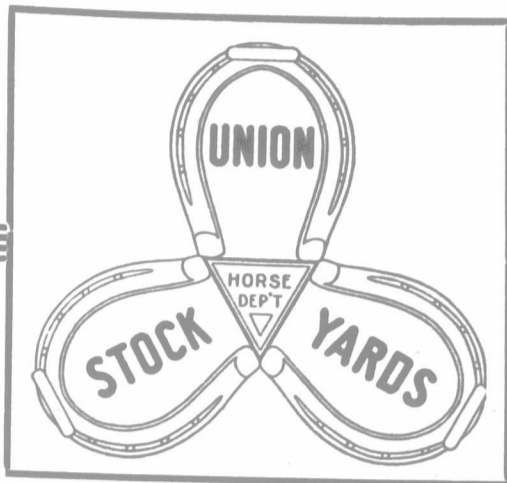
There are often days when father sits in his study with closed door or drives over the hills without desire for even the boys as companions. This need not signify that he is either ill or worried,—it is simply the need of separateness. The same thing applies to Evan when he sometimes slips out through the garden at night, without word or sign, and is only traceable by the beacon his cigar point makes, as he moves among the trees, until this also vanishes, while my attic corner and the seat at the end of the wild walk offer me similar relief.

At least the attic did until Martin Cortright, at my own invitation, established a rival lair at the opposite end. I did not think that it would matter, the presence of this quiet man barricaded by his books and papers, but it does, because the charm of isolation is destroyed. I would not have done otherwise, however; I have all outdoors, and he will have returned to New York to find winter quarters, and arrange for the publication of the first volume of his history when autumn and shut-in time draws near.

Mrs. Latham sailed last week, and Sylvia is now in New York visiting her father at his hotel and arranging her future plans. To-morrow she returns, and together with Lavinia Dorman goes to the Alton cottage until late August or early September, when her wedding is expected to take place.

At the last moment Mrs. Latham changed her plan of leaving the Bluff cottage in the charge of servants, had all her personal belongings moved away, and offered the place for sale.

"Yes, my dear," said Mrs. Jenks-Smith, who, being a sort of honorary stewardess of the Colony, usually remains a full week after the breaking-up time, and frequently runs in to report



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AUCTIONEER: CAPT. T. E. ROBSON.

progress, "she's not coming back; being divorced she doesn't need to claim residence here. The place is so convenient to town, too, but I can't really blame her,—though of course I'm glad poor Sylvia's to be happy in her own way, and all that, for it's plain to be seen with one eye she's too slow to go her mother's pace—you couldn't expect Vivvy Latham, over all the hurdles but one, and almost at the end of the race, to relish her daughter's mother-in-law being in the egg trade in the very neighborhood.

"At first everybody thought that the Bradfords, mother and son, would probably give up work and float on Sylvester J. Latham's money, for they say (to spite Vivvy, most likely) he took to Horace Bradford at first, for what did the young fellow do but go straight to town and look Sylvester up, and make a clean breast of it before the gossips could even twist their tongues around the affair.

"Sylvester thought he could handle Bradford to suit himself, move him to New York, jam him into business, cut up the farm in house lots, reorganize his affairs, and declare a dividend out of him for his own benefit, as he does with lame railroads,—but not a bit of it!

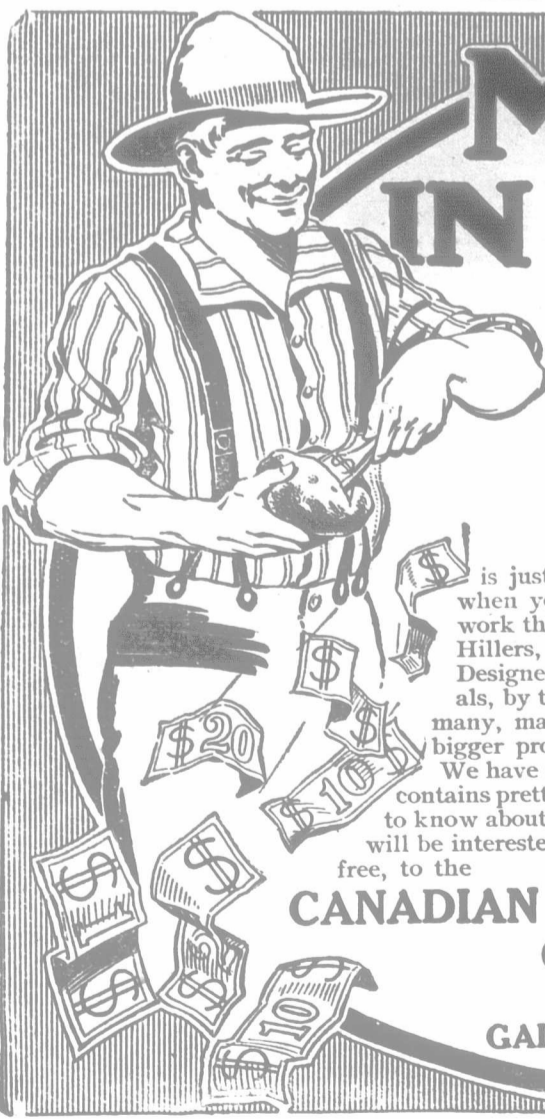
"With what you may choose to do for Sylvia personally, it would be selfish for me to interfere; but our way of living can only be planned upon the basis of what I earn," said Horace, looking Mr. Latham in the face, and he's a big man too,—Sylvia gets her height from him.

"It rather knocked Sylvester out, because it was a kind of spunk he'd never met, and he told Jenks-Smith about it. Thought they didn't speak? Oh yes, they're thick again, just now, over some kind of a deal.

"Did you know Jenks-Smith had bought Vivvy's house here? Yes, the deed was passed the day she sailed. We've got to keep the Bluffs select, you know, and if the house was put on the market, goodness knows who might buy it, just to get in with us.

"Mr. Latham had an idea of taking it and giving it to Sylvia, but they wouldn't have that either,—are just fixing up the old house a bit, and going to summer at the farm, while the old lady will keep on selling eggs the same as ever. Not but what she's a thoroughbred all right, though in a cheap stable. I was down at Vivvy's the day she came to call on Sylvia! Just as quiet and cool, except that her hands in the openwork silk mits shook, as if her son was a duke. I thought there would be a lively row, and I

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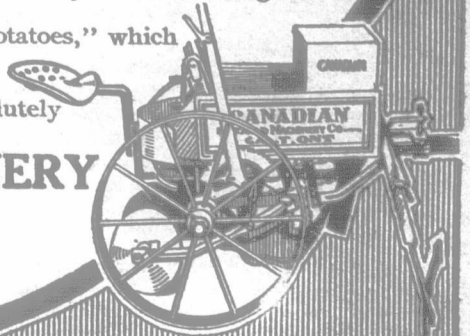
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wished myself out of it, but Vivvy hadn't a chance to strike out until the old lady got up to go, then she only said: 'You must not understand that I approve of Sylvia's folly, or in any way give my consent to this rash engagement. I cannot prevent it, that is all.'

"The old lady's eyes flashed, and I thought now for it; but she only looked Vivvy through and through, and said very clearly: 'Most brides are better in spite of their mother's blessing, but under the circumstances I think we prefer to do without it.'"

Well-meaning Lady of the Bluffs, I'm really acquiring a sort of affection for her in spite of her crudity. If all the Whirlpoolers were like her, the pool might be a noisy torrent, but never a dangerous one.

This is Lavinia Dorman's last lay with me, and I know she is really sorry to go, in spite of a sort of pleasurable responsibility and excitement she feels in managing Sylvia's affairs for a time.

She waked up with a bad headache—a rare thing for her—and after breakfast seemed so forlorn and blue that I coaxed her into my room and petted her for a while, almost as I would one of the children; and as she no longer conceals the fact of the false front from me, I took it off, brushed and brushed her lovely hair until it grew supple and alive, and began to glisten, and the pain gradually slipped through it into the air; then I drew it up cushionwise from her forehead and coiled it loosely on top, and she, declaring that my fingers had a magic touch, spent the rest of the morning at my desk in writing letters.

The lovable woman who has no one specially to love her is a common tragedy of everyday life. Strangely enough it more often draws ridicule than sympathy, and it seems to be al-

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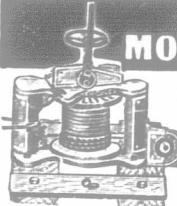


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ways considered the woman's own fault, instead of a combination of circumstances, woven often of self-sacrifice, mistaken duty, and the studied suppression of natural emotions.

I think that both Miss Lavinia and Martin Cortright dread the going back to their old existence, and yet I am not sure that either of them would consent to change it in any way, in spite of their growlings at the modern conditions of life in New York. They have learned to lean upon the very restrictions that cramp them, until the idea of cutting free seems as impossible as for the bulky woman to sever the stay-lace that at once suffocates and supports her.

Martin Cortright stayed to luncheon to-day. Not that it is an unusual occurrence, but he wished to have a long afternoon to finish reading a certain portion of his manuscript to Miss Lavinia before her sitting in the morning.

We were seated at the table when she came in hurriedly, apologizing for being late, saying that she had become so absorbed in finishing her letters that she did not realize that it was even noon. I did not look at her particularly until a few moments later, when Martin, after fussing with his bread a good deal, looked up and said, with a charming smile, "What a very becoming gown you have on to-day, Miss Lavinia."

"Yes," said father, "I was thinking precisely the same thing myself, so you see that in spite of our condemning your sex for paying so much attention to clothes, we men are the first to note the result of them."

Miss Lavinia looked puzzled. She was too much the politic woman of the world to say that the dimity gown was the same one that she had worn for the two or three days previous; besides, the fact would have cast a doubt upon their judgment, and she was par-

Dr. Maria Montessori

JANUARY 22, 1914

THE FARMER'S ADVOCATE.

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mular in all such little details of good breeding; so she parried the compliment deftly, and straightway fell to pondering as to what circumstance the remark might refer. Glancing toward the open window, she caught a reflection of herself where the glass, backed by the dark green curtain, made a mirror. She had forgotten to rearrange her hair, and her burnished silver-shot locks remained rolled back lightly from her white forehead without the ugly, concealing front! I rejoiced inwardly, for the spontaneous tribute to the improvement by those two dear, stupid, discriminating men, has settled the fronts in a way in which no arguments of mine could, for to-night she came to dinner not only with her own, emancipated hair, but wearing a bit of red geranium stuck fetchingly in the puff.

August 1. Sylvia has returned, and Miss Lavinia has gone to her. Lucy and the portly cook having arrived from New York last night, in company with Josephus, confined in a large hamper borrowed from the fishmonger, in the top of which a ventilator has been introduced. Josephus was naturally indignant when first let out, and switched his tail in wrath, declining to recognize his mistress, and starting to explore the house like an evil spirit. This morning I found him calmly perched on our woodshed roof, gazing wickedly at the boys' banty chickens in the coop below. I predict that he gets into trouble, unless his silver collar, like a badge of aristocracy, protects him. But what can you expect of a misguided Whirlpool cat, whose only conception of a bird is a dusty street sparrow, when he meets face to face the delicious and whetting elusiveness of a banty chick or a young robin.

Poor Sylvia is nervously tired out, and the month's rest will be a real boon. Her plans are quite settled, and there is nothing for her to do but rest until the time comes to carry them out. She and Horace are to be married the last week in August, so that they will have time for a Canadian trip before College begins and they return to settle down in a scrap of a house in Northbridge.

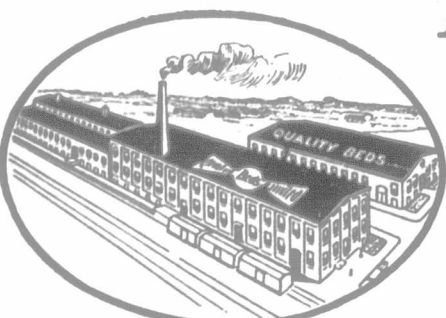
August seems to be considered an unusual month for a wedding; but it suits the circumstances, and as Sylvia has decided to be married quite privately here at Oaklands, for her own sake, as well as for Mrs. Bradford's convenience, she wisely wishes to have it over before the possible return of the Whirlpoolers.

Horace had hoped that his mother would join them in Northbridge, but she said "No," very firmly, adding, with a quaint, twinkling smile, "Horace, nobody ever loved each other closer than your father and I, but there were times in the beginning when ever so well meaning a third finger in our pie would have spoiled the baking. Best leave old mother on the farm until by and by, when she can't tell a fresh egg from a bad one any longer."

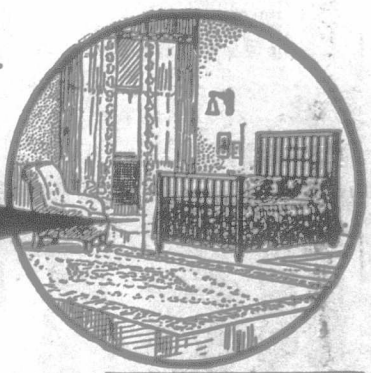
So Horace comes down twice a week to visit Sylvia, and Miss Lavinia often drives to Pine Ridge with her and leaves her for a day, so that Mrs. Bradford may share the pleasant woman's talk of linen for table and bed, and other details of a bridal outfit.

We all missed Miss Lavinia when she left, that is, all but the boys, and they hailed the change with joy, as giving them another house to roam in and out of. How much of the joy of childhood that we so envy comes from their freedom from prejudice, the ability they have for adapting themselves.

Martin was so distraught for a time that father absolutely ventured to tease him a little, whereupon he turned stoutly about and declared: "I have never denied the inspiration and value of congenial female society, and the mere fact that circumstances have shut me from it so much of late years makes me all the more appreciative of present privileges. Oh, Dick, old friend, isn't it some credit to a man who has lived backward, almost from his birth, if, after he's sixty, he realizes it and tries to catch up with the present? It seems to me as if the best things had always been just within my grasp, only to slip away again, through unforeseen circumstances, and my ill luck reminds me of a story and picture in a comic paper that the boys were chuckling over last night. It was of a well-intentioned beetle who fattened a nice green cater-



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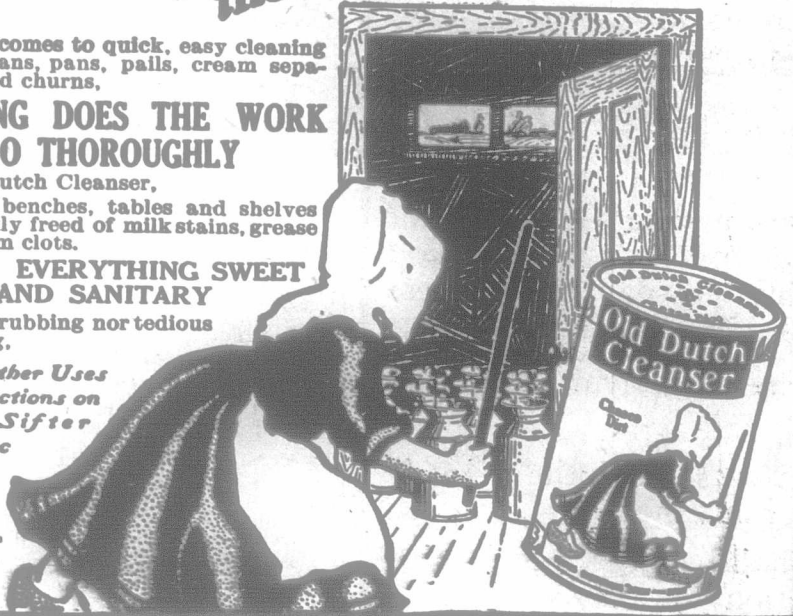
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pillar for its family's thanksgiving dinner, and the thing went and spun itself into a cocoon the night before!"

Martin Cortright at times verges on the pathetic, but always cures himself by his appreciation of his own limitations before he reaches the bore stage. He too is taking a short vacation from work, or rather I should say that he has developed industry in a new direction and become absorbed in entomology, to the extent of waging war on the tent caterpillars that are disfiguring both the orchards and the wild cherry trees on the highways with their untidy filmy nests, leaving the foliage prematurely brown and sere, from their ravages. Yesterday, in driving home from Pine Ridge with Sylvia, we noticed that even the wood edges had the appearance of being scorched by fire, and many of the old orchards where we go in May for apple blossoms are wrecks meshed in the treacherous slimy webs.

Martin's methods are regular and very simple, but he goes about his task each day as if the matter was a marvel of military strategy. First he puts a book ostentatiously in one pocket and a flask of alcohol in the other. Next he takes his torch, consisting of a piece of sponge wired to an old rake handle, which he keeps on the back stoop, and makes sure that it is tight and secure, finally searching me out to say that in case he meets Miss Lavinia, have I any message for her.

Why he does not keep his outfit up at Martha's I do not know; perhaps he is cause of Timothy's keen tongue.

Miss Lavinia, after her morning house-keeping is over, takes her work bag to the narrow cottage porch and apparently gives herself up to the task of making pin-cushions for Sylvia or embroidering initials on napery. Suddenly she will get up, say that her feet are falling asleep and that she needs a walk to restore her circulation. Will Sylvia go with her? Sylvia, after pretending to consider, thinks not, making some excuse of its being too warm or that she expects Horace that day. Presently two prim people walking in opposite directions meet and, taking the same path, may be seen any morning along the less frequented roads and orchard paths, sometimes repairing the torch that has a constant tendency to lose its head, sometimes watching the destruction by fire of an unusually wicked worm city, and frequently with their heads stuck into some suspicious bush, where they appear to be watching invisible things with breathless interest.

Father and I chanced upon them when thus employed the other morning. Mar-

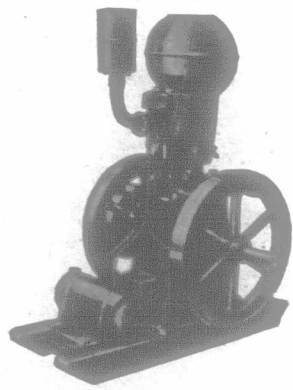
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tin turned about and in the most serious manner began to dilate upon the peculiarities of worms in general and particular, as well as of the appropriateness of their study by the book collector, as the score and a half insects that injure books and their bindings are not worms at all, having none of the characteristics of the veritable book worm *Sitotropa panicea*, to all of which Miss Lavinia listened with devout attention.



The Bug Hunters.

"What makes them act so?" I said, half to myself, as we drove on, and father stopped shaking with laughter. "There isn't the slightest reason why they should not go to walk together; why do they manoeuvre with all the transparency of ostriches?"

"It's another manifestation of suppressed youth," said father, wiping his eyes. "Upon the principle that the boy would rather slip out of the window to go coasting at night than ask leave and walk out publicly, and that when a young girl begins to grow romantic, she often takes infinite pains to go round the back way to meet some one who is quite welcome at the front door. When young folks have not had a chance to do these things and the motive for them lies dormant, heaven alone knows how or when it will break loose."

Others, however, have observed, and the "Bug Hunters" has now come to be the local nickname of these two most respectable middle-aged people with ancestors.

Josephus, who has been leading a sporting life for many days, or rather nights, has at last returned minus his long tail with which he used to express his displeasure in such magnificent sweeps. Miss Lavinia is in tears, and wishes to have a reward offered for the apprehension of the doer of the deed.

Evan says that if she does, and thus acknowledges the cat as hers, she may be deluged with bills for poultry, as he has been hearing weird tales on the train, such as are often current among commuters who are not zoologists, of a great black lynx that has been invading chicken coops and killing for pleasure, as his victims are usually left on the ground. Thus his country freedom corrupted the manners of a polite cat, and at the same time a hay knife (probably) has rendered him tailless.

August 20, Summer is at high tide. How I dread its ebbing; yet even now the hastening nights are giving warning. Evan has been taking a vacation, and we have spent many days we four, following the northward windings of the river in a wide, comfortable boat and lurching in the woods. We are pagans these days, basking in the sun, cooling in the shade, and living a whole life between sunrise and sunset. The boys are showing unconscious kinship with wood things, and getting a wholesome touch of the earth in their thoughts.

I am sure that the mind often needs a vacation more than the body, and yet the conditions of change that bears the name of rest frequently merely gives the head fresh work.

How far away the Whirlpool and its people seem as we sit perhaps on one of the many tiny river islands enjoying

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Do you ever hunt or fish? Be sure to write today for our free book. Find out how to stuff and mount birds, animals and game birds and tan skins. Fine business, very fascinating and profitable. Every hunter and fisherman should have this book. Don't go another day without it. Book is free and prepaid.

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Dr. Maria Montessori

this time separateness, not as individuals, but as a family, for the whirl of the pool is tiresome even to watch. I have felt old these last three months, and I suppose it is still a further carrying out of the allegory and penalty of eating the fruit of the tree of knowledge; only the discipline does seem a little hard when, having no desire either to pluck or taste the apple, one stands actually away with hands safely behind back, and yet has the fruit absolutely thrust between unwilling lips.

Even the feathered things about us are in this mood; their family life is over, the companionship of fall travel has not begun, and the woods are full of moulting birds choosing this separateness in preparation for the tension of new flight and its perils. Everything, in short, in wild nature has its corresponding note in our own humanity,—the sweating of the corn, the moulting of the bird, the contraction of the earth by frost, all have a kindred season or experience in the heart.

Then, too, the August nights—so heavy with the intensity of sleep that is akin to sleeplessness, broken by peremptory thunder voices and searching lightning, or again enveloped by moonlight that floods the room—shut out the world until, kneeling in its tide between the little white beds, I can feel the refrain of that hymn of mother's that father taught me long ago to say to myself in the night when she had gone away from sight and I was lonely:—

"Father, on thy heart I lean
When the world comes not between."

August 30. Sylvia and Horace were married under sunshine yesterday in the little chantry of the church that is used in winter and for week-day services. To-day the cold northeasterly storm has come, under cover of which August so often disappears and September enters the marshes upon the wings of low-flying plovers, to the discordant call of the first waterfowl on the return migration.

Mr. Latham came to the wedding. In fact, he has been here several times during the month. He is a well-built man, under sixty, dark and taciturn, and would be handsome but for the hard expression of his face.

His attitude toward the world has seemed to be one of perpetual parry and self-defence; of course he may have good reason for this distrust, or, as Evan says, he may have brought the necessity upon himself by his constant severity of attack on others. Yesterday I partly changed my mind about him. He evidently once had tender feelings, but, from what cause who can say, they have in some way been compressed and frozen until they exist only as hurts.

Sylvia was married in bridal white. She had wished to wear a travelling gown and go away from the chantry door, but Miss Lavinia urged her out of the notion, saying, "Horace has the right to a pretty bride, even if you do not care." It would have taken but very little, after the strain of the last two months, to make Sylvia morbid and old beyond her years, her one thought seeming to be to get away from the surroundings of the past year and begin to live anew.

Our group, and a dozen friends of the Bradfords, including some from North-bridge who belonged to both, filled the little chapel which Horace, Martin, and Evan had trimmed with flowers wholly from our garden. At the last moment, Mrs. Jenks-Smith, whom we thought abroad, dashed up in a depot hack, perspiring and radiant, her smart gown having a most peculiar and unnatural looking promontory on the chest. "No, my dear, I'm not in Carlsbad. Jenks-Smith was called back on business, and I missed the wedding in the air and hooked on,—only arrived last night. Have you seen the papers? Hush, I'll tell you later," and her voice sank into an awed whisper, and she gave a startled look as the bride entered on her father's arm, with Ian and Richard as her only attendants. Having heard so much talk of marrying and of weddings, they had asked Sylvia to let them be "bridesmaids," and it seemed she really wanted them. Their faces were solemn to the verge of comedy as they walked hand in hand before her, their feet in brand-new pumps, keeping step and pointing out carefully, while their evi-

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St. Lawrence extra granulated is now sold in three different sizes of crystals: all choicest and purest cane sugar.

Fine Grain (red label):
In this every grain from top to bottom is about the size of a pin point.

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Like small seed pearls, even and white and marvels of sweetness.

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Like small diamonds and almost as brilliant, but quickly melted.

Order The Size You Prefer.
Every grain, no matter its size, is finest extra granulated pure cane sugar, shown by analysis 99-99/100 to 100% pure. The weight is guaranteed as well as the quality.

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Gravity Washer
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for robes, coats, etc., horse hides, cattle hides and furs. No leather tanned.

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Such a variety of entertainment! Here the latest up-to-date song hits of the big cities. Laugh until the tears stream down your face and your sides ache from laughing at the funniest of funny minstrel shows. Hear the grand old church hymns, the majestic choirs. Hear the pealing organs, the crashing brass bands, the waltzes, the two-steps, the solos, duets and quartettes. All will be yours with the Edison in your home. Send the coupon TODAY

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Why should we make such an ultra-liberal offer? 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.

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If you want to get right on the fertilizer question, friend, take my advice and visit the nearest agency for

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You will know the Harab agency by the sign shown above. It will be found over the door of our dealer in your nearest town or village. Every agent is thoroughly posted about profitable fertilizing. I say here—that fertilizing the Harab way is like sowing pennies to harvest dollars, for it not only gingers up the present profits by providing a bigger crop—but also nourishes the soil for future dividends.

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The Harris Abattoir Company have an interesting booklet of information about their twenty-five successful fertilizers. Just write for a copy to-day—and keep a weather eye open for the Harab sign—visit the Harab agency.



*Yours for bumper crops,
Progressive Jones*

Fertilizer Department
The Harris Abattoir Co., Limited
Toronto

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Sydney Basic Slag

The Ideal Fertilizer for Clay and Muck Soils and Wet Sour Land.

Wherever used last season gave wonderful results. Hundreds of Ontario farmers will fertilize with Sydney Basic Slag this spring. Apply it to your wornout pastures. Use it on all grain crops and turnips.

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on your soil. The soil must be sweet to produce good crops. Where sorrel, horse tail, moss, etc., appear, the soil is sour, and you cannot expect the maximum yield of hay, cereal or fruit without correcting this acid condition. Lime Carbonate (Caledonia Marl) will do this. In many instances it has more than doubled the yield. We furnish blue litmus paper free, with directions for testing your soil. Write us for further information. Agents wanted.

INTERNATIONAL AGRICULTURAL CORPORATION
Caledonia Marl Branch 827 Marine Bank Building, Buffalo, N. Y.

dent satisfaction brought a smile like a ray of belated sunshine to the face of the serious bride.

I watched Mr. Latham, usually so immovable, during the ceremony as he stepped back from the altar into the shadows, when he left Sylvia finally with Horace. His shoulders lost their squareness, his head drooped; but when I saw that it was to hide the tears that filled his eyes, I looked away. Father says he has seen this type of man, contracted by money-getting, hardened by selfish misunderstanding, recover himself, soften, and grow young again at the transforming touch of grandchildren. Who knows, Sylvia may find her childhood's father again some day.

When we went back to the cottage for luncheon, the bump in Mrs. Jenks-Smith's corsage was removed, and proved to be a gift for Sylvia,—a thick leather case, holding a rich neck ornament of diamonds, a sort of collar with pendants, for the Lady of the Bluffs is nothing if not generous.

"I got it in this way without paying a cent of duty," she said in a stage whisper to Miss Lavinia and me in the hall, as she struggled to release the box, wrench off a waist hook or two as she did so.

"Jenks-Smith said it didn't look natural, and I'd surely be spotted, but I said I'd like to see mere hired men try to tell a lady how stout or how thin she had a right to be. Almost too gorgeous for a professor's wife? Not a bit; Miss Lavinia, you're not advanced. Nobody knows nowadays, at the launching, how anybody's going to turn out,—whether they'll sink or float,—and diamonds are an all-right cargo, anyway. If she moves up, she can wear 'em, if she slumps, she can sell 'em, and if she just drifts along on the level, she can look at 'em once in a time. No, my dear, diamonds are a consolation that no woman can afford to miss."

Considering her usual careless good nature, it seemed that Mrs. Jenks-Smith was very fussy during the luncheon, ill at ease, and strangely anxious to hurry the departure of Sylvia and Horace. The guests, all but ourselves, left first, then, Mr. Latham, who went upstairs to take leave of his daughter alone. When Sylvia finally came down, her color had returned and she looked her radiant self again as she kissed Miss Lavinia and Mrs. Bradford, and went down the steps holding Horace, not by the arm, but clinging to his hand.

As the carriage disappeared around the bend of the road, and as we stood looking at one another, feeling for a second the reaction and the sense of an empty house that always follows the going of a bride, the Lady of the Bluffs sank into a deep chair exclaiming, "Thank the Lord, they've gone!"

"Why, what is it? Are you ill?" cried father, who was just leaving, coming quickly to her side.

"It's this. I wanted to get her started north ahead of it. When she comes back she won't care so much," she replied incoherently, pulling a scrap of a morning newspaper from her card-case and holding it out at random for the nearest one to take. Father caught it from her hand, and going to the window, read aloud in slow, precise accents of astonishment:—

AN EVENT OF INTEREST TO NEW YORK SOCIETY.

[Special Cable to New York Herald.]

London, Aug. 29.—Yesterday, the marriage took place of Montgomery Bell to Mrs. Vivian Latham, both of New York. The wedding, at the registrar's and quite informal, was followed by a breakfast given the couple by Mrs. Center—who chanced, with several other intimates of the American colony, to be in the city en route to the German baths,—at her apartment which she always keeps in readiness for occupancy. Mr. Bell, who is a member of all the best clubs, is known socially as the "Indispensable." Mr. and Mrs. Bell will return to New York in November and open their magnificent house at Central Park East with a series of the delightful entertainments which they both so well know how to render unique.

(To be continued.)

An Income For the Farmer's Wife



THE wife of every farmer should have her own income and her own bank account.

And it does not matter how busy you are in the home, or how little time you have to devote to the raising of poultry we can show you how you can make a good income and build up a substantial bank account by poultry raising the Peerless Way.

We can show you how to be independent of the money your husband gets for his crops and other farm produce, so that when you wish to buy clothes, or take a shopping trip to town, you can just stop at the bank and draw all the money you will require.

The Peerless Way Makes Poultry Pay

If you know the right way to raise and keep poultry it requires very little outlay or money, and takes but very little of your time. The right way is the Peerless Way, that is, by hatching the eggs in a Peerless Incubator and rearing chickens in a Peerless Brooder.

Bowsman River, Man.

"I bought a Peerless machine from a friend. It was the first machine I ever have seen. I brought out three hatches; the first hatch I got 137 chicks from 106 eggs, second hatch I got 143 chicks from 204 eggs, and the third hatch I got 134 chicks from 210 eggs. I intend starting another hatch this week. I like my machine fine and would not be without one again.

Yours very truly,
(Sgd) Mrs. Sol. Richet."

We have prepared a book for you entitled "Money In Eggs," if you would be interested in learning how other women like you are making independent incomes from the sale of eggs and plump chickens. Experience is not essential. We are practical poultry raisers ourselves and will furnish you all the information necessary to make your chickens pay you handsome profits.

Fill in and send this coupon now for full particulars.

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Dr. Maria Montessori

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Protein	-	-	-	20%
Fibre	-	-	-	10%
Fat	-	-	-	6.3%

N.B.—You will oblige by promptly notifying us if your dealer hasn't Caldwell's Dairy Meal on hand. Write for booklet.

The Caldwell Feed Co., Ltd., Dundas, Ont.
Molasses Meal, Dairy Meal, Cream Calf Meal, Poultry Meals



Easiest Way to Clean Cutlery—

Just use a little Panshine sprinkled on a damp cloth, and let your cutlery be as dirty, greasy, grimy as it may, Panshine will make it glistening, sweet and clean in a jiffy. For an easy shine, use

PANSHINE



It's just as good for painted work and woodwork—for pots, pans, linoleums and bathroom fixtures. Panshine is a pure, white and clean powder without any disagreeable smell and does not harm the hands.

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Questions and Answers.

1st.—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd.—In Veterinary questions; the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Ganders and Geese.

Advise as to how many geese should be kept to one male. - Would five geese and one gander answer the purpose?

R. W.

Ans.—Geese tend to mate in pairs, but success is often attained with three females, and sometimes four, to one male. Two or three females to one male is preferable. Five is too many for a general practice.

Lightning Rods.

Would you give me some advice on putting lightning rods on my barn? My barn is 60 x 64 feet, and has a corrugated-steel roof. Would it be satisfactory to put a cable made of four or five strands of No. 9 soft galvanized wires, at two of the corners, diagonally opposite each other, and attach them to the roof, the other end to be in the ground about eight feet?

J. E. C.

Ans.—You would make two mistakes. In the first place, use no less than eight strands of No. 9 wire, and in the second place, it would be advisable to extend your cable along the roof, having up-rights every twenty feet. With this system, it is immaterial whether you ground your cable at the corners or at the ends. You will find some useful information on page 2286, in the issue of December 25th, 1913. A measure of protection would result by putting an eight-strand cable down from each diagonal corner if well connected with the roof and run down to permanent moisture. Eight feet should be enough. But we would prefer running the cable the entire length of the roof.

Gossip.

James Bowman, the Aberdeen-Angus breeder, of Guelph, Ont., informs us that he has sold H. C. Soldan, Hensall, Ont., four Aberdeen-Angus heifers and a bull. Two of these heifers were winners at large summer fairs. Mr. Soldan has laid a good foundation for a herd. He also reports the sale of the junior bull calf that won first prize at Winnipeg, Regina, Saskatchewan, Edmonton, Toronto, and London, to Mr. Herbert Hook, Jos. Stone's energetic herdsman, who has fitted so many good cattle for fat-stock shows, and the prize junior yearling, to C. C. Elliott, Strathcona, Alta. J. J. Bell, of Islay, Alta., also took six good yearling rams, and a very promising bull calf. Mr. Elliott and Mr. Bell are both doing good pioneer work in these breeds in Alberta. John Shorby, of Boissevain, Man., also took a useful bull, by the champion bull, Elm Park Wizard. Col. Mitchell, of Niagara-on-the-Lake, took two useful heifers, bred to one of the first-prize bulls. John D. Larkin, of Queenston, Ont., has very recently purchased one of Mr. Bowman's stock bulls, Beauty's Prince 5102. This bull is by the famous imported bull, Prince of Benton, that was champion at Toronto, 1903, and at Winnipeg, 1903 to 1905, and left so many good cattle, both in the East and West. Beauty's Prince is out of the champion cow, Elm Park Beauty 4th, that has a record that is very hard to beat as a show animal or a breeder. Wm. Kelly, of St. Paul's, has bought a good bull calf by this bull. Suffolk sheep are also being eagerly sought after, and Mr. Bowman has sold twelve rams and ten ewes to Alan McGregor, of Suffield, Alta., manager of Southern Alberta Land Co.; ten ewes to Edwin Messory, Loughheed, Alta.; six rams to J. J. Bell, of Islay, Alta.; one champion ram and a lamb to H. P. Jacques, Castor, Alta.; two good shearlings to Geo. Armstrong, Spring Hill, Sask.; H. Hancox, of Dominion City, Man., took ten shearing ewes and four rams this year, and about the same number last year. Mr. Hancox is greatly pleased with the way Suffolks thrive in Manitoba, and says he cannot supply enough rams to satisfy demand.

Butter and Eggs

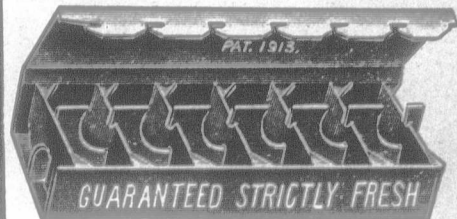


FIG. 1

RUDD'S Butter and Egg Cartons

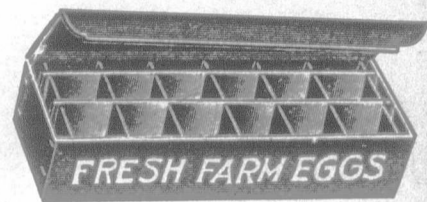


FIG. 2

ARE SAFE, SANITARY and ECONOMICAL For Every Purpose

Fig. 1.—Our patent, self-locking egg carton. Fig. 2.—Knock-down egg carton with cushion division. Fig. 3.—Butter carton to hold one pound paraffined.



FIG. 3

Write for circulars and price.

RUDD PAPER BOX CO., Limited Toronto, Ontario 23

Aylmer Superior Lever Force Pump

For Hand and Windmill use. Has Six, Eight, and Ten-inch Stroke. Adjustable Base.

Fig. 36.



Fig. 36 represents our Superior Lever Pump, fitted for hand and windmill use. Made in 1½ and 2-inch.

This style of lever and fulcrum has several advantages over the ordinary style; having longer stroke the power is greater, making it work easier. The handle being wood, they are not so liable to break in frosty weather.

The base is adjustable admitting of top being raised or lowered to any position desired.


The handle is drilled for three lengths of stroke. Six, eight, and ten-inch stroke.

This is readily converted into a Windmill Pump by the addition of a flat bar, which screws into the cross-head on top.

Cylinders capped inside require to be two inches longer to obtain same stroke.

This pump is adopted for all depths of wells; furnished with Iron, Brass Body or Brass Lined Cylinder. You'll never regret placing one of these pumps on your farm. Write us to-day for prices and illustrated catalogue free.

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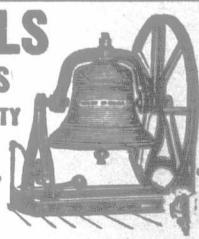
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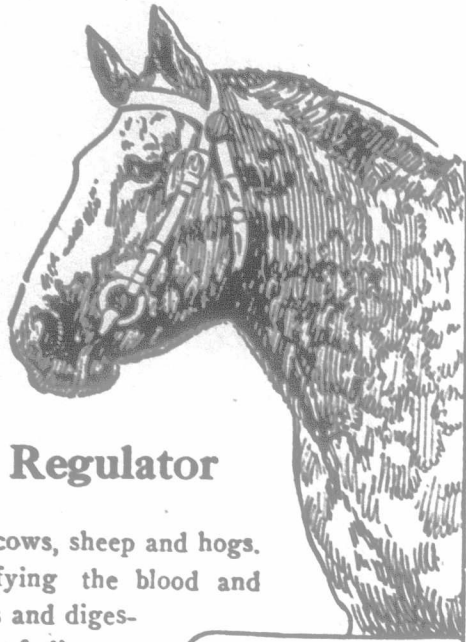
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PLENTY of sunlight, clean bedding and fresh air are essential to the maintenance of health in the stable. But even with the best of care, the close confinement and heavy demands made upon the animals always necessitate a tonic and health regulator.



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puts new life and vigor into horses, cows, sheep and hogs. It is a mild digestive tonic, purifying the blood and gently regulating the bowels, kidneys and digestive organs. It is a preventative of disease, because it supplies just the necessary elements to keep the stock healthy and vigorous when closely confined or overworked.

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Pratts Healing Ointment (for Man or Beast), 25c.-50c.
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Questions and Answers. Veterinary.

Agalactia.

1. Two-year-old sow, fed on wheat and oats, farrowed twelve strong pigs, but did not have any milk.

2. If bred again, will the same condition exist? F. E. P.

Ans.—1. This is called agalactia, and is liable to occur in any female without appreciable cause. Its cause is not understood.

2. It is not possible to say definitely. In addition to chopped wheat and oats, feed a percentage of shorts during pregnancy, and if not in a season when grass is procurable, feed some raw roots daily, and allow plenty of exercise, and it is probable she will have milk. V.

Enlarged Udder.

After calving a year ago, my cow's udder became swollen and hard, but it did not interfere with health or quality or quantity of milk. It would not yield to treatment, but remained swollen until she was turned on grass, when it disappeared entirely in seven days, and the udder remained normal all season. As soon as she was brought to the stable in the fall the swelling reappeared. There is no heat or soreness, nor is the milk secretion or general health interfered with. She is now dry, but will be due to calve in July. A. H.

Ans.—This case is peculiar, but as no undesirable results follow, there is probably no occasion for alarm. Feed her on laxative food and raw roots. Get an ointment made of 2 drams each of iodine and iodide of potassium, mixed with 2 ounces vaseline, and rub some of this well into the enlarged parts once daily. In addition, massage it well two or three times daily, and give her 1 dram iodide of potassium twice daily. V.

Miscellaneous.

Ringworm.

Eight out of nine of my yearling heifers have developed a peculiar, scaly eruption about the eyes. This appears as a raised spot through the hair. It is white, and not tender. The hair then falls out, and it spreads very slowly. It is dry, and white scales fall off on rubbing. It appears to spread in a circular manner, from the eyes to the forehead.

1. What is it?
2. What is the treatment?
3. Should affected ones be isolated?

Ans.—1. The symptoms you mention are exceedingly like those of ringworm. 2. Moisten the scales with sweet oil, then remove them, and dress with tincture of iodine daily until cured. 3. Isolate the infected individuals, and whitewash the stalls with whitewash containing a five-per-cent. solution of carbolic acid. The disease spreads by a germ, and will be carried on utensils, cloths, or anything of that nature.

Poultry Queries.

1. What kind of a rooster would you prefer, a long-legged one or a short-legged one?
2. What kind of feed should a laying hen have? Is oats, bran, flour, and sprouted oats, all right?
3. What temperature should a room be to put eggs in to keep for hatching, and how should you pack them? What temperature should it be or duck eggs?
4. I have two ducks and a drake which are related. Would it be better to trade drakes, and would the eggs hatch if I kept the drake?

Ans.—1. This depends upon the breed. Usually, in the general-purpose breeds, a fairly short-legged bird is to be preferred.

2. Whole grain, as wheat, corn, barley, and oats or buckwheat, mixed, if possible; rolled oats in a hopper, sour milk to drink, and green feed, as cabbage, sprouted oats, mangels, etc.

3. The best temperature is from 40 to 50 degrees F. They should not be exposed to extreme heat or cold. Place them on end on a little bran chop, or some such substance, and turn daily. Duck eggs require similar treatment.

4. It would be advisable to trade drakes. However, eggs might hatch all right.

SAVE-THE-HORSE

(Trade Mark Registered)

BOOK
FREE



Do not waste time talking to neighbors, lamenting hard luck and listening to a lot of contradictory advice that in the end does not amount to anything. Just go right at it and cure the horse as quickly as possible; get him in a condition to work and earn again.

It is Economy From The Word Go To Get A Permanent Cure.

Florenceville, N. B., October 2, 1918.
Troy Chemical Co., Toronto, Ont. I used one bottle of Save-The-Horse on a bone spavin a few years ago and completely cured it. If you guarantee to cure, etc., let me hear from you at once.
Yours truly, H. M. Estey.

Windser, N. S., October 17, 1918.
Troy Chemical Co., Toronto, Ont. I am writing after a long time to thank you for curing my horse, Dan, of ringbone, with swelling of the tendon. He has not been lame for a year and is all right.
Yours truly, R. H. Canavan.

WE ORIGINATED the plan of treating horses Under Signed Contract to Return Money if Remedy Fails. You risk nothing by writing; it will cost you nothing for advice and there will be no string to it.

OUR LATEST Save-The-Horse BOOK is our 18 years' Discoveries—Treating Every Kind—Ringbone—Thoropin—SPAVIN—and ALL—Shoulder, Knee, Ankle, Hoof and Tendon Disease—Tells How to Test for Spavin; how to locate and treat 58 forms of LAMENESS—Illustrated.

But write and we will send our —BOOK— Sample Contract and Advice—ALL FREE to (Horse Owners and Managers—Only).

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148 Van Horn St. :: Toronto, Ont., also Binghamton, N.Y.
Druggists everywhere sell Save-The-Horse WITH CONTRACT, or we will send by Parcel Post or Express paid.

Feared Lockjaw in Badly Calked Horse — But Egyptian Liniment Saved Him

The season of icy roads and sudden heavy snowfalls is an anxious one for horseowners, because it is so easy for a sharpshod horse to cut himself seriously when floundering in the deep snow. A bottle of

Douglas' Egyptian Liniment

on hand then may be the means of saving a valuable animal for you. It not only stops the bleeding at once, but keeps the wound clean and healthy and quickly heals it.

Read what Mr. G. P. Ashbocker, Evan Mills, N. Y., says about it: "Egyptian Liniment has made extraordinary cures for me. One of my horses got badly calked, and everyone said he would have the lockjaw. The wound gathered and broke, and there was a great hole between the hair and the hoof. I used only Egyptian Liniment, and the horse's foot was soon sound and well. It made a permanent cure. In my estimation there is nothing equal to this Liniment for cuts or sores of any kind."
25c. at all dealers. Free sample on request.

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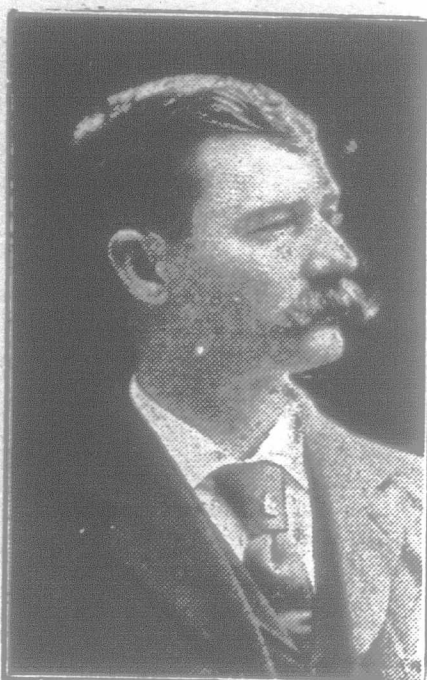
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Stallions, prize winners of highest quality, character and breeding; Fillies, prize winners in foal, also stock bull, Crown Imperial 86997, a high class bull.
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Seven 4-year-olds and two 3-year olds with an average weight of 1750-lbs. all of them safe in foal, well matched pairs, have been in Canada over a year and in fine condition. Choicely bred, a high class quality lot.
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To the Clydesdale men of Canada we wish to say our 1913 importation is home, and we have some of the best show material in this country. More size, more style, more quality, more character and better breeding than ever before, in both stallions and fillies.
JOHN A. BOAG & SON, Queensville, Ont. Electric cars every hour.

BREEDING & QUALITY CLYDESDALES—STALLIONS AND FILLIES

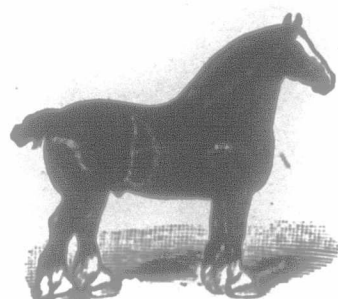
My fall importation of Clydesdale Stallions and Fillies are now in my stables; there never was a better bred lot imported, and their standard of character and quality is the highest and my price the lowest.
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BY AUCTION Clydesdale AND Percheron

Stallions, Mares and Fillies, Imported,
At the Repository
Cor. Nelson and Simcoe Streets, Toronto, Ont.
Wednesday, Feb. 4th, 1914
Commencing at 1.30 p.m. Sharp.

Dr. T. H. Hassard of Markham, Ont., will sell without any reserve, a consignment of the highest-class quality, Clydesdale and Percheron Stallions and Mares, ever sold by Auction in Canada. All of them are imported, practically all of them are prize winners, including Champions and Grand Champions at leading shows in Scotland and Canada, representing the best blood of the breeds, every one thoroughly acclimatized and in the pink of condition. A big lot to choose from and every one high-class, also some Standard Bred Stallions, Ponies and Harness Horses, together with his show Paraphernalia, Heavy and Light Harness, Halters, Belts, Rollers, etc., as Dr. Hassard is out of the show business for good. The whole making a sale of High-class Horses and Fittings never before duplicated in this country.



For terms, etc., write for a catalogue, which is now ready.

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Cheap Rates on all Railways

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The premier show herd of Canada. All ages, blacks and greys, weights from 1800 to 2150 lbs. Write for the greatest illustrated horse catalogue in Canada

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Imported Percherons, Clydes and Shires

My 1913 importation from France and Scotland are now in my stables. If you want the best in Percherons, Clydesdales and Shire stallions and fillies, come and see my offering; 30 head to select from. Also Hackney and French Coach stallions. I have all ages of best breeding and high est quality, and the prices are low.

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WE have again landed at our stables a large and choice collection of Clyde Stallions and Fillies of strictly high-class show calibre. We never had a lot that measured up to the standard of this lot, big, flashy quality; close, straight action and bred in the purple. We can supply winners in any company. Write us.

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I have just landed a big importation of Clydesdales and Percherons, if you want a big ton stallion with the best of quality, come and see me, I can show you the best lot of stallions you ever saw.

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If you want Stallions, Fillies or Foals of the above breeds, personally selected from A. and W. Montgomery's Clydesdale Stud and the Bramhope Shire Stud, Cheshire, and home-bred of the most fashionable strain. See and select from the large stock now offered. Prices and terms will please. D. McEachran, Ormsby Grange, Ormstown.

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The Season is advancing, select your horse now. I can show you Clydesdale Stallions with size, quality, and breeding, second to none in Canada, for about half the usual price, and the same in Percherons.

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PRIZE-WINNERS & CHAMPIONS

For this season's trade we have Clyde Stallions and Fillies that were up to championship honors in Scotland, and the same honors in Canada. Breeding characters, quality and action unsurpassed. Visit our barns if you want the best.

ROBERT NESS & SON

HOWICK, QUE.

Questions and Answers. Veterinary.

Crippled Pigs.

Two of my pigs of about 110 pounds, fed on shorts, oats and barley, are stiff when walking, do not eat well, and stand with backs humped up.

A. J. H.

Ans.—This is partial paralysis, due to digestive trouble. Purge each with 3 ounces Epsom salts, and follow up with 3 grains nux vomica three times daily. Get the grain chopped and in addition feed raw roots daily, and allow plenty of exercise.

Fatality in Colt.

Colt in fine condition and splendid flesh appeared in the best of health, and in sixteen hours he was dead. A post-mortem revealed a bunch of worms about ten inches long, and the stomach was rotten, and some bots were attached to it.

G. B.

Ans.—As you do not give any of the symptoms before death, it is hard to diagnose definitely. Inflammation of the stomach was evidently the cause of death. I do not think this was caused by the worms, and certainly not by the bots. All horses that were on pasture during the summer have bots. It is very probable the trouble was the result of indigestion, which frequently occurs without appreciable cause. It is quite possible that a veterinarian could have treated successfully if called early, but it is a disease that an amateur cannot treat.

Miscellaneous Veterinary

1. I bred a heifer to a certain bull. All cows that have been bred to him are aborting. How can I prevent abortion in my heifer, and protect my other cows from infection?
2. How should the bull be treated?
3. Thrifty young cow has a hard cough that seems to come clean from her tail.
4. Give details for applying the tuberculin test.
5. Give treatment for a cold in a cow.
6. What makes a good condition powder for a cow?

G. O.

Ans.—1. Remove the heifer at once from your herd. If she be infected, you cannot prevent it now. If she aborts, it will be wise to destroy her, or dispose of her in some way, but on no account allow any communication in any way, by attendants or otherwise, between her and the herd, and give the stables a thorough coat of hot-lime wash, with five-per-cent. carbolic acid.

2. Do not breed him for at least six months. Isolate him, and flush his sheath out daily with a warm solution of corrosive sublimate, 30 grains to a gallon of water. When bred again, flush his sheath both before and after service.

3. The symptoms indicate tuberculosis, but the tail is comparatively safe. The tuberculin test is the only definite means of diagnosis.

4. Take the temperature every three hours for twelve hours before injection. Then inject about 60 drops of a 10-per-cent. solution of tuberculin in a 1-per-cent. solution of carbolic acid. Disinfect the seat of injection with a 5-per-cent. solution of Creolin before injection. We usually select the loose skin, just behind the shoulder blade for injection. In nine hours after injection, take the temperature again, and every three hours afterwards until twenty-four hours have elapsed. If the temperature increases two degrees or more, higher than it was before injection, it indicates that the animal is tubercular. A test made by an amateur is usually not reliable. He does not understand the use of the thermometer, nor how to use a hypodermic syringe, and is very liable to overlook or not understand important details. The test is essentially the work of a veterinarian, or a person who has had special instructions, and actual practice, under the supervision of a veterinarian.

5. Keep in comfortable, well-ventilated stall. Steam the nostrils three times daily. Give 1 dram quinine and 2 drams chloride of potassium three times daily, and feed on laxative food. Of course, complications must be treated according to symptoms.

6. A tablespoonful three times daily of equal parts sulphate of iron, gentian, ginger, and nux vomica.

V.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe, Speedy, and Positive Cure
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or Blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
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Save a horse and you won't have to buy one. Don't sell or destroy any horse on account of Spavin, Splint, Ringbone, Curb, Sprains or Lameness. Spend one dollar for a bottle.

KENDALL'S SPAVIN CURE

has saved a great many horses—has put them back to work, even after they have been given up. Over 35 years of success have proved its value.

Mr. J. M. Gordin of St. Lin, Que., writes: "I have been using your Spavin Cure for many years, always with excellent results." Get Kendall's Spavin Cure at any drug store. Price, \$1.00 per bottle, 6 bottles for \$5.00. "A Treatise on the Horse" free at druggists or from



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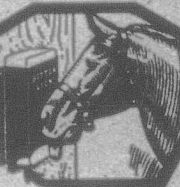
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Great Conditioner & Worm Destroyer
Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc., in such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen; all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only a week. Ask your dealer or write for booklet. STEELE, BRIDGE SEED CO., LTD., WINNIPEG, MAN. Wm. Cooper & Nephews, Toronto, Ont.

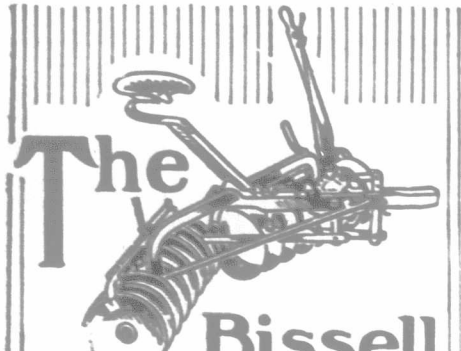
5 Yearling Clydesdale Stallions

10 Young Holstein Bulls
1 Stallion (Imp.)
In dam, others by Baron's Pride, bulls got by King Fayne Segis Clothilde, a grandson of King Segis and Grace Fayne 2nd's Homestead, 35-lbs. butter in 7 days (world's record), and 2 other sire's dams in R.O.P. milking up to 8-lbs. per day, and 1000-lbs. in a year. Write, or better come and see them (a few Ponies).
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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. P.S.—Nogent is in the heart of the Perche horse district.

MUST HAVE EXPERIENCE.
"I have never loved before," he said.
"Well," she replied, "I am not running a kindergarten."



The Bissell Out-Throw Disk Harrow

To settle all doubt about which is the BEST OUT-THROW DISK HARROW, we ask you to test the "Bissell" Out-Throw in a field competition with other Out-Throw Harrows.

The "Bissell" Out-Throw has many features that have made the name "Bissell" famous in connection with Disk Harrows. It has plates of the correct shape. One gang is set slightly ahead of the other. The gangs cannot crowd or bump together and cause the Harrow to rock when you come to hard soil—a new feature in Out-Throw Harrows. The hitch is well back, the draught is light and there is no neck weight.

The machine in actual use is our best advertisement. No need to send special travellers to sell the "Bissell." We put our name on every Harrow. If you would like to learn more about Disk Harrows, send to Dept. W for free booklet of both out-throw and in-throw styles. 72

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A SPECIAL FORMULA FOR EVERY REQUIREMENT.

Do not buy a "A Pig in a Poke."

Send for booklet showing just what Fertilizer you should use and the exact composition of it. Your copy will be sent for a post card.

The W. A. FREEMAN CO., Ltd.
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SEED OATS FOR SALE

"Improved American Banner"

This year I offer about 200 bush, grown direct from Registered Seed, purchased last Spring at a high price, to renew and improve if possible my seed stock, it was very pure and clean and gave me a great yield.

I also have a large quantity grown from my original stock, that has given such good satisfaction not only to myself, but to all who have purchased them. Both strains have been grown on clean land, carefully hand-picked while growing, are as pure and clean as it is possible to make them, and are very bright and plump.

For further particulars, samples, and prices on application.

A. FORSTER, Markham, Ontario

Book Review.

A SENSIBLE ARITHMETIC.

In a handy 120-page volume called "Rural Arithmetic," John E. Calfee, Professor of Mathematics, Normal Department, Berea College, Kentucky, has produced a book that invests the subject with life and meaning for the scholars and teachers of rural public schools. And at this juncture in the progress of education, when people are really awakening to the fact that agriculture is the fundamental business, it is just the sort of a text-book that might well be used in town and city schools. Its applications are by no means narrow, and its household, banking, and building problems are universal. They are based on things with which the pupils are familiar. It identifies school with home and farm interests in a most natural and graphic way, some three dozen attractive diagrams and illustrations being used. Many of the old-time arithmetics made school life a misery, with catch questions and pages of meaningless calculations, and some of the newer ones have been rather bewildering by messing together old and new ideas. After dealing with fundamental processes, like rapid addition, etc., in the work before us, there are sections of problems based on education and thrift, idleness, waste of farm machinery, poultry and market dealings, spraying, measurements of all sorts, soil and fertility, household and health, growing crops, estimating crops, stock and feed problems, cost of bad roads, building problems, machine-shop questions, and business problems. The author and the publishers (Ginn & Co., Boston) are to be congratulated upon the issue of an arithmetic that appears to be at once so sensible and teachable. Used by a teacher in trained sympathy with farming, it is easy to see how effective a single text-book like this could be made in promoting education that would cultivate a liking and respect for agriculture, and aid in making boys and girls more successful on the farm.

Rather Confusing.

The Dairymen of Eastern Ontario, in convention at Cornwall, on January 8th, predicted that in three years, or five at the most, our native hemlock would be exhausted, and some other package would have to be adopted, or other lumber utilized in the construction of cheese-boxes. It was also suggested that the Government be petitioned to find and assist in the transportation to them of suitable elm. Simultaneously, almost to the minute, the lumbermen of the Province, in session at Toronto, were deploring the fact that Southern lumber, including hemlock, was being admitted into this country. They, too, had the Governments in mind, and set about to inform them of this gross error on the part of Canadians.

What can any Government do in a case of this kind but "seriously consider it." Instead of being criticised for not legislating in favor of every demand, their long-suffering attitude in listening should be commended, and they can well afford to "stand pat" until the people they represent learn to give and take in matters of national importance.

Henry Arkell & Son, write: "Our sheep sales in both Oxfords and Hampshires have been numerous this season, and at good prices. We have retailed in both rams and ewes 122, and also three car lots. We have been in the business for over 35 years, and never has there been such good demand, and we thank 'The Farmer's Advocate,' and attribute most of our sales to it."

SECRETS.

"My wife wants me to give away everything we've got!"
"That's unfortunate."
"I should say it is. Why, only last night I came home and told her an important secret. What did she do? Went right over to our next-door neighbor and gave it away."
"It's a fact that the only secret a woman can keep is her age!"
"And there you're wrong. That isn't a secret. She only thinks it is."

ANNUAL SALE OF HIGH-CLASS SHORTHORNS

In the Butler House Yards, Lindsay, Ontario
TUESDAY, JANUARY 27, 1914
At 1.30 p.m. Sharp.

The Victoria Pure Bred Stock Association will offer for sale by public auction, twenty head of Shorthorns, mostly males. These offerings include some of the richest breeding in Victoria County, a noted Shorthorn district. The offerings of this association in the past have been eagerly sought after, several bulls having been sold last year to the Ontario Government. Those who attend may be assured that the lot offered this year will be as good or better than in former years.

TERMS—Cash or ten months credit will be allowed on approved joint notes, all notes to bear interest at the rate of 5% per annum from date of sale. Catalogues will be mailed on application to the Secretary.

Wm. Marquis, Auctioneer. A. A. Knight, Secretary, Lindsay Ont.

Train connections leaving Lindsay: Going West, G.T.R. 6.23 p.m.; C.P.R. 4.30 p.m. Going East, G.T.R. 8.15 p.m.; C.P.R. 4.30 p.m., and 5.25 p.m.

SHIP US YOUR CREAM

WE Supply cans and pay all express charges within a radius of 100 miles of Berlin. Send a statement of each shipment. Pay every two weeks.

WRITE FOR FULL PARTICULARS

THE BERLIN CREAMERY COMPANY
BERLIN, CANADA



Black Knight Stove Polish

MAKES HOME BRIGHTER AND LABOR LIGHTER

A PASTE | THE F.F. DALLEY CO. | NO DUST
NO WASTE | HAMILTON, CANADA | NO RUST

Canada's Champion Herefords When selecting a herd header the fountain herd; for years my herd have proven their title as the champion herd of Canada. I have always both sexes for sale

L. O. CLIFFORD, Oshawa, Ontario

ELM PARK ABERDEEN ANGUS AND CLYDES

We have for sale: a few two-year-old heifers by imported bulls and out of imp. cows bred to good bulls. We also have four good Clydesdale fillies, two 2-year-olds and two yearlings. Also two stallion foals. Five of them out of Lord Charming mares by King Seal, imp. Address **JAMES BOWMAN, ELM PARK, GUELPH**

Shorthorns & Clydesdales

We have seven yearling bulls and seven bull calves from 7 to 12 months. All reds and roans, and of choice breeding. We have some extra good imported mares for sale, also some foals. If interested write for catalogue of their breeding.

W. G. PETTIT & SONS, FREEMAN, ONTARIO
Burlington Junction, G. T. R. Bell Phone

SHORTHORNS

"A PLENTY." I have a wide range for selection in Shorthorn bulls and heifers, in pure Scotch or Scotch topped, beef bred and beef type. Dairy bred and dairy type; make a point to visit my herd at Markdale, Ontario.

T. L. MERCER, MARKDALE, ONTARIO

100 SHORTHORNS IN OUR HERD 100

For sale—Imported yearling show bull; 14 calves 8 to 14 months old; cows and heifers and show material all ages. Herd headed by 3 high-class imported bulls, all 3 were prizewinners at Toronto this year.

Farm 1/4 mile from Burlington Junction **MITCHELL BROS. Burlington, Ont.**

Shorthorns—I have ten young shorthorn bulls, some fit for service now. Part of them are bred, and made so that they are fit to head the best herds in any country, some of them are of the thick, straight, good Shorthorns, and the prices of all are moderate. I have Shropshire and Cotswold rams and ewes of all valuable ages. Write for what you want, I can suit you in quality and in price. Ask for Bull Catalogue.

ROBERT MILLER, STOUFFVILLE, ONTARIO

Salem Shorthorns—As ever in the front rank. Special offering: Ten young bulls, quality and price to suit any buyer.

J. A. WATT, Elora, Ont.

Glenallan Shorthorns We have some of the best young bulls we ever bred, Scotch or Booth breeding, low thick mellow fellows of high quality.

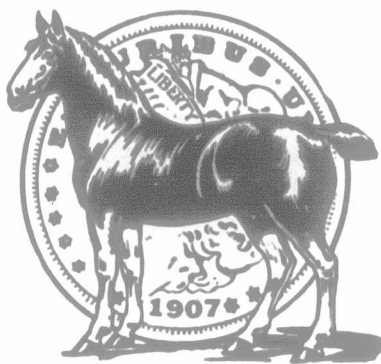
also some heifers. **Glenallan Farm, Allandale, Ontario.**
R. MOORE, Manager.

Dr. Maria Montessori

SOUND AS A DOLLAR

All Signs of Lameness Gone.

We absolutely guarantee Mack's \$1,000 Spavin Remedy to cure Bone or Bog Spavin, Ringbone, Thoroughpin, Curb, Capped Hock, Shoe Boil, Sprung Knee, Lacerated and Ruptured Tendons, Sweeney and all other forms of lameness affecting



a horse. It's a powerful remedy that goes right to the bottom of the trouble and cures lameness in just a few days while the horse is being worked as usual. Contains nothing that can injure the horse and heals without leaving scar, blemish or loss of hair. We have deposited \$1,000 in a local bank which must be forfeited if we fail to do as we say. If you are not absolutely sure what causes the lameness, mark with an "X" on horse above where lameness occurs, tell how it effects the gait and give age of horse, and send to us. Our expert graduate veterinarian will tell you what it is and how to cure it.

Your druggist will obtain Mack's \$1,000 Spavin Remedy for you if you ask him. If for any reason you can't get it, write us. We will see that you are supplied. Ask for instructive free book "Horse Sense".

\$5.00 Per Bottle

It's Worth It

McKALLOR DRUG COMPANY, BINGHAMTON, NEW YORK

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will reduce inflammation, swellings, joints, sprains, bruises, soft bunches; Heals Boils, Poin Evil, Quittor, Fistula, or any unhealthy sore quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister under bandage or remove the hair, and you can work the horse. \$2.00 per bottle, delivered. Book 7 K free.

ABSORBINE, JR., antiseptic liniment for man and horse. Reduces Painful, Swollen Veins, Gout, Wens, Strains, Bruises, stops pain and inflammation. Price \$1.00 per bottle at dealers or delivered. Will tell you more if you write. Manufactured only by W. F. YOUNG, P. O. F. 258 Lyman Bldg., Montreal, Can.

Aberdeen-Angus Bulls & Heifers. In both young bulls and heifers we can supply first, and second prize winners, nice thick good ones Mayflowers and Fair Ladys. (Geo. Davis & Sons R. R. No. 2, Erin, Alton Sta.)

LOCHABAR STOCK FARM
Choice Dairy Shorthorns, Leicester Sheep, and Berkshire Pigs. I am offering males and females of different ages, same breeding as won for me at Guelph, London and other fairs. The above stock are mostly the get of imported sires and dams. Correspondence solicited. Prices reasonable. Long distance phone in connection.
D. A. GRAHAM, R. R. No. 3, Wyoming, Ont. Shipping Stn., Wanstead, G. T. R.

Shorthorns "Trout Creek Wonder" at numbers about 40 head. Heifers and bulls of the best quality for sale at reasonable prices.
Duncan Brown & Sons, RR 2, Shedden

Shorthorns For Sale
2 yearling bulls of the right kind, 2 high-class herd headers, 12 months, one from imp. cow, 4 bull calves, also young cows and heifers, some good milking strains.
Stewart M. Graham, Lindsay, Ont.

1854 MAPLE LODGE STOCK FARM 1914
Shorthorns and Leicesters
I have a most excellent lot of young rams for sale, mostly sired by imported Comaught Royal. Something very choice in young bulls. House one mile from Lucan Crossing G. T. Ry.
A. W. SMITH, MAPLE LODGE, ONTARIO

Spring Valley Shorthorns
A few of the best young bull prospects we ever had. They will please you. Will sell females too. Visit the herd; we think we can suit you. Particulars on application.
KYLE BROS., R. R. No. 1, Drumbo, Ontario

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.

Gossip.

Robert Miller, manager of the big Shorthorn sale to be held in Toronto February 4th, says: J. A. Watt is easily one of the best Shorthorn breeders on this continent, and he comes by it naturally. His ancestors have been successful breeders for generations; he is more than ordinarily fond of the work, he is plucky and energetic; he is fresh from big winnings at the biggest shows, and he offers the best lot of cattle he has ever sold. Kyle Bros. have done a great deal of showing this year and in past years; they are young men that are fast making a good name as breeders and reliable business men, too. They sell for the first time, and they want you to judge them by their cattle. John Miller, Jr., is of the fourth generation that have spent their lives in breeding good cattle. He has always sold young things that were bred right and made right, and they have always grown in value. This lot are the same, and they will interest you. Capt. T. E. Robson, one of the best judges in America, will sell three head that he says are grand in every way, and I say so, too. I will not speak of my own cattle, but to say that the whole makes the best lot of Shorthorns that we have ever sold, and no matter whether you want one bull to head your herd, one female to improve it, or more than one of either sex to show or to breed from, there has not been a chance like this will be. The Shorthorn meeting will be on the 3rd, and you will get cheap rates.

J. B. HOGATE'S PERCHERONS.

J. B. Hogate, of Weston, Ont., has been importing draft horses for many years, and has made a reputation by bringing out bigger horses, with more genuine draft character than any of his competitors. He pins his faith on the big fellows, but at the same time they must have the right quality of bone, the right slope of pastern, and the big, wide feet. In the lot that now fill his long rows of box stalls, he has easily eclipsed all his former importations in the above desirable and necessary draft-horse qualifications, both in his stallions and mares. In age, the stallions range from one to five years, the mares from one to two. Many of the stallions are up to 1,900 and 2,000 pounds, big, stylish horses, showing draftiness all over, and with big, flat bones, nicely sprung ankles, and big, open feet. The fillies are up to the same standard, immensely thick and smooth, with the nice, clean, flat kind of underpinning. Two of them, Lametrie 4011, and Laque 4036, dark grays, rising three years of age, are a pair of extra good ones, remarkably well matched, thick, smooth, and well balanced. They should go together, and will reach 1,900 lbs. when developed. An exceptionally big yearling is the gray, Marguerite 4028. With her big size, she has beautiful quality, and will make a show mare of merit. The others are blacks and grays, big, stylish fillies. In the stallions, one of the best is the gray four-year-old, Javal 4014. He is a horse of outstanding merit, no matter where you look at him, big, rangy, and with abundance of quality and character. Koureur 4003 is a dark gray, rising four years, weighs 1,910 pounds, and has all the qualifications of the ideal drafter. At the late show in Toronto, although only landed less than a week, he was easily first in a big class of three-year-olds, and was reserve champion. A close second to him in the same class, was the black three-year-old, Koutelas 4006. He was placed second, and his big size and superb quality easily entitled him to it. Third in the same class also came to this stable on the beautiful and well-balanced Lodi 4015. Among the two-year-olds at the same show, Kerlogarden 4002 was placed third in a class that produced the champion of the show. He is a low, thick, smooth colt, on a great bottom. Those mentioned are representative of the entire lot, great size, beautiful bone, style, range, and nice, straight action, are characteristic of the entire stable. Mr. Hogate can suit the trade this year if the horsemen want what the country needs—big, draft horses, that will get big, draft horses.

The Great Canadian Annual Shorthorn Sale

WILL BE HELD AT THE Union Stock Yards, TORONTO, on Wednesday, February 4th, 1914

When Robert Miller, Stouffville, Ont.; J. A. Watt, Elora; John Miller, Jr., Ashburn; Capt. T. E. Robson, London, and Kyle Bros., Ayr, will sell sixty-six Pure Scotch Shorthorns, 24 bulls and 42 cows and heifers. Every one a good one, but amongst them first-prizewinners in both sexes at our best shows, the grand champion bull at the Canadian National Show in Toronto, the first-prize junior yearling, and several others that won first and second prizes there and at many other good shows. There are numbers of high-class show animals in the offering. It is better than ever before in quality. The bulls are the best lot that have ever been sold in Canada, they come from the best herds in the country. All are young and valuable, and they consist of Lavenders, Missies, Nonpareils, Butterflies, Augustas, Village Blossoms, Minas, Jenny Linds, Glosters, Miss Ramsdens, Kilblean Beautys, Golden Drops, Wedding Gifts and others. Every animal in the sale is straight and smooth and attractive, and they are valuable, but they will be sold. In past years many have been sold very cheap, and resold for three times the price in some cases, but always at a profit. We want you to be there to get some of the bargains this year.

ASK FOR CATALOGUE AT ONCE
ROBERT MILLER, Stouffville, Ont.
MANAGER OF SALE
COL. CAREY M. JONES } Auctioneers
COL. FRED. REPPERT }
CAPT. T. E. ROBSON }

"THE AULD HERD"

We have a select lot of females of all ages, and of the best Scotch families for sale. Also a March bull calf, red, little white, an Orange Blossom by Broadhooks Ringleader.

A. F. & G. AULD, Eden Mills, P.O. Guelph or Rockwood Stations

SHORTHORNS Our present offering consists of Nonpareil Lord = 87184 = Dam Imp. Dalmeny Nonpareil 6th. 7 young bulls from 6 to 12 months old. 15 cows and heifers of choicest quality and breeding.
A. J. HOWDEN & CO., COLUMBUS, ONTARIO
Myrtle C.P.R. and G.T.R. Long-distance phone.

Maple Grange Shorthorns
Pure Scotch and Scotch topped. Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.
R. J. DOYLE, Owen Sound, Ont.


Willow Bank Stock Farm Shorthorns and Leicester Sheep. Herd established 1855; flock 1848. The imported Cruickshank Butterfly Roan Chief = 60865 = heads the herd. Young stock of both sexes to offer. Also an extra good lot of Leicester sheep of either sex; some from imp. sires and dams.
James Douglas, Caledonia, Ontario

SHORTHORN BULLS FOR SALE
8 head from 10 to 18 months, bred from cows which are from imported dams and sired by choicely bred bulls, prices are not high as I need the space for stabling cattle.
Shropshire and Cotswold ewes bred to imported rams.
BLAIRGOWRIE FARM JOHN MILLER, JR., ASHBURN, ONT.

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 quality.
HARRY SMITH, HAY P. O., ONT. Exeter Station. Long-distance Telephone.

When writing advertisers, please mention "The Farmer's Advocate."

Ring-Bone



There is no cure 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 ever fails. Easy to use and cure in three to five applications. Works just as well on Spavin and Bone Spavin. Before ordering specify any kind of a remedy for any kind of a lameness, write for a free copy of Fleming's Vest-Pocket Veterinary Adviser

Thirty-six pages of veterinary information, with special attention to the treatment of lamenesses. Durable bound, indexed and illustrated. Make a right beginning by sending for this book.

FLEMING BROS., Chemists,
75 Church Street, Toronto, Ont.

RAW FURS

Our specialty is **CANADIAN RAW FURS**. Write for our free price list. We pay all mail and express charges. Remit same day as goods received. Hold shipments separate when requested. Prepay charges for returning furs if valuation is not satisfactory. We do not buy from dealers, but from trappers only.

HALLMAN FUR CO., Toronto
N. Hallman, Manager, 4 years with John Hallman; E. J. Hagen, 7 years with John Hallman; J. L. Jewell, Buyer, 5 years with John Hallman; G. Hagen, Secy., 7 years with John Hallman.

EVERGREEN AVENUE STOCK FARM

SHORTHORNS. One Imp. Roan Lady bull for sale or exchange. Scottish Prince = 60869 = (93372) got by Sittyton Choice (84822) he by Collynie Champion (78608) Calved 10th of April, 1905, quiet and reliable. Also 1 good bull calf 12 months old. Also 1 3-year-old registered Clydesdale stallion.

GEO. R. A. MILLER,
Sunderland, R. R. No. 1, Ontario Co., Ont.

Glengow Shorthorns

Five of the best bull calves ever in the herd, ranging from 9 months to 15 months. A "Kiblean Beauty" calf, a show proposition. A number of choice heifers, all ages.

Write for prices.


WM. SMITH, Columbus, Ontario

Shorthorns

Fourteen good young bulls, from 6 to 12 months old, and a number of females. Would appreciate your enquiry for same.

H. CARGILL & SON, Cargill, Ontario

WOODHOLME SHORTHORNS



I have for sale a most attractive offering in young bulls and young females, pure Scotch, breeding unsurpassed, the low thick kind. Write me your wants.

G. M. FORSYTH,
North Clarendon, Ont.

"OAKLAND" 47 SHORTHORNS

Bulls and females of No. 1 quality. Present offering is three grand bulls, 11, 15 and 20 months respectively. Also a few females of milk strain. "Visitors say they find things as represented."

JNO. ELDER & SON, HENSALL, ONTARIO

THE MANOR SHORTHORNS AND LINCOLNS

Young bulls, also heifers, got by, and cows in calf to one of the good bulls of the breed. In Lincoln 5 yearling rams and 10 ram lambs by an imported ram. Inspection solicited.

J. T. GIBSON,
Denfield, Ont.

SHORTHORNS FOR SALE

I have two extra roan bulls; fourteen and fifteen months old, one from Imp. dam. Also some heifers, all bred in the purple. Phone or write.

Hugh Thomson, Box 556, St. Mary's, Ont.

SHORTHORN Bulls & Heifers—choice lot, and heifers in calf.

Former sires: Joy of Morning (Imp.) = 32070 = and Benachie (Imp.) = 69954 =. Present stock bull, Royal Bruce (Imp.) = 55038 = (89909).

GEO. D. FLETCHER, R. R. No. 2, Erin, 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 sows.

ANDREW GROFF, R. R. No. 1, Elora, Ontario

SHORTHORNS

Choice young bulls and heifers from good milking strains.

Robert Nichol & Sons, Hagersville, Ontario

Gossip.

The accountant of the National Livestock Records informs us that Volume 3, of the Canadian Hackney Studbook, will positively close on March 1st, 1914. In order that animals not at present recorded may appear in volume 3, application for registration must be filed at the National Record Office, Ottawa, before the date above mentioned. A mare that is sired by a registered Hackney horse, providing her dam is sired by a registered Hackney horse, is eligible for registration.

SOME GILT-EDGED CLYDESDALES.

Some of the choicest Clydesdale breeding that ever crossed the ocean is to be found among the importation made by Goodfellow Bros., R. R. No. 2, Bolton, Ont. This, with the superb quality and proven show-ring individuality, make them particularly interesting to intending purchasers. Kirkcudbright Baron 14055 is a bay, rising four years, by the great Baron's Pride, dam by the H. & A. S. champion, Prince Thomas, grandam by the Cawdor Cup champion, Prince of Carruchan, grandam by the Glasgow and H. & A. S. first prize, Flashwood. This, with five numbered dams, makes him one of the best-bred horses registered. Besides, he won many prizes in Scotland, and was second at the Toronto National, and first at London. Baron's Hope 14052, a bay, the same age, and by the same sire, was second at the Highland in a class of thirty-two; third at London, and fourth at Guelph. His dam was by the £3,000 prizewinning Prince of Albion, grandam by the noted prize horse, Prince of Brunstane. He, too, has five numbered dams. Baron Gregor 14051 is a bay, also rising four, by Baron's Pride, dam by the Kirkcudbright prize and premium horse, Majestic; grandam by The Raider, great-grandam by Macgregor. He also has five numbered dams; has won many prizes in Scotland; was fifth in Toronto, and fourth in London. These are the kind of stallions this firm has to offer. In fillies, among several is that big, quality, show filly, Black Queen 29424, a black, rising three, by the great Everlasting; dam by Up-to-Time. She was first at London, and reserve champion. They are also offering their stock bull, Crown Imperial 86997, a roan, three years old, by the champion, Prince Imperial, dam, a Winsome, by Secret Pride. An extra choice bull.

CANADA'S CHAMPION HOLSTEINS BY AUCTION.

Greater than has been, is a term rightly applied in reference to the complete dispersion by auction of the famous herd of high-class Holsteins, owned by A. E. Hulet, of Norwich, Ont., which event will take place at his farm, on Wednesday, February 11, 1914. In order that no misunderstandings may arise as to the genuine character of this sale, we think it only fair to Mr. Hulet to take the public into his confidence by stating that a number of years ago, on purchasing the old homestead on which he resides, it was necessary for him to place a mortgage on the farm, and that mortgage will be due in a few weeks. Mr. Hulet is tired of paying interest, and although it is a sore and sorry move for him, he has decided to sell every Holstein he owns, and make a fresh start with a clean sheet. As is well known, this herd as a whole stands in a class entirely by itself as a herd of the highest possible standard of individual perfection of show-ring type. Their almost complete sweep of the prize list at the Canadian National Show, at Toronto, last fall, an almost duplication at the London and Ottawa Shows, and again at the National Winter Show at Toronto, is proof positive that as a show herd they have no superior in this country. They have cost Mr. Hulet a lot of time, worry and money, and years of systematic culling to get them to the top in individual excellence and heavy producing ability, but he has reached the goal, and now they are for the public to buy at a price they set themselves. Remember the date, and write Mr. Hulet for a catalogue, and bring it with you to the sale. There is first-class hotel accommodation in Norwich for parties arriving the night before.



INTERNATIONAL STOCK FOOD
Is a splendid Pork Producer

The successful hog-raiser is the man who bends every effort to prevent disease and—KEEP HIS HOGS HEALTHY. He provides his hogs with warm, clean quarters—and adds a little "INTERNATIONAL STOCK FOOD" to every feed. This wonderful tonic keeps the blood pure—regulates the bowels—makes the animals eat well—and thus fortifies them against those banes of the breeder—Hog Cholera and Pneumonia.

3 FEEDS for ONE CENT

You can easily raise "Fall Pigs" and have them fine and fat for the market in May or June, if you feed "INTERNATIONAL STOCK FOOD."

Your sows will raise TWO GOOD LITTERS of strong healthy pigs EACH YEAR if you feed INTERNATIONAL STOCK FOOD. For fattening pigs for market, at the rate of 2 to 3 pounds extra a day, there is nothing in the world to compare with it.

The big hogs—prize winners, weighing from 500 to 600 pounds—are regularly fed "INTERNATIONAL STOCK FOOD." Why don't you feed it and make more money out of your hogs? 3 Feeds for one cent. For sale at all Dealers.

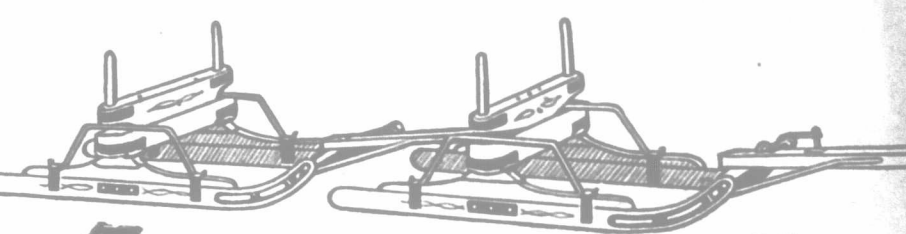
International Stock Food Co., Limited, Toronto

The Guaranteed Line

One good Sleigh is better than two poor ones

Cheap material and workmanship never did a man any good yet—it won't stand the test.

Empire Sleighs have stood the test; material and workmanship are first class; every Sleigh that leaves the factory is guaranteed.



31 "T. A." EMPIRE SLEIGHS are built right:—

SHOES—Spring Steel or Cast-Iron, extra long, grooved at heel (no slewing), turned up at rear (easy to back up).

RUNNERS—Seasoned white oak, reinforced with heavy steel nose irons and cheek plates. They oscillate and adapt themselves to uneven ground.

BENCHES AND BOLSTERS—Seasoned birch and maple with heavy steel wearing plate.

Get further information about "The Sleigh that is built to last" from

Tudhope-Anderson Co. Limited
ORILLIA - ONTARIO

The Guaranteed Line

M. MOODY & SONS CO. :: TERREBONNE, QUE.
Selling Agents for Province of Quebec.

LAKESIDE AYRSHIRES

A select lot of young bulls, all ages, sire 1 by the following: Barcheskie Cheerful Boy (Imp.) 28879 (7731); Hobland Bonnie Boy (Imp.) 33275 (8776); Morton Mains Planet (Imp.) 33279 (8774); Auchenbrain Sea Foam (Imp.) 35758 (8865). Imported dams. Record of Performance dams.

GEO. H. MONTGOMERY, Proprietor
Dominion Express Bldg., Montreal.

D. McARTHUR, Manager
Phillipsburg, Que.

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

Stocks of all ages for sale, one 12 months old bull (Imp.) in dam will make a winner for someone; also bull calves from a week to two months old all from show cows and sired by White Hill King of Hearts, a son of the great bull Emu Mee, and a half-brother of Brae Rising Star, highest priced bull in Scotland; prices and terms easy.

D. M. WATT - ST. LOUIS STA., QUEBEC.

Dr. Maria Montessori

1595
AND UPWARD
ON TRIAL.




AMERICAN CREAM SEPARATOR

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

Absolutely on Approval. The bowl is a sanitary marvel, easily cleaned. Different from this picture, which illustrates our large capacity machines. Shipments made promptly from WILKIE CO., 14 A ST. TORONTO, ONT., and ST. JOHN, N. B. Whether your dairy is large or small, write for our handsome free catalog. Address: AMERICAN SEPARATOR CO. Box 1200 BAINBRIDGE, N. Y.

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.

Calves Without Milk

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, Ontario.



WILLOWDALE STOCK FARM
Holsteins & Clydesdales

For Sale: A pair of choice Holstein cows, 6 and 7 years of age, just fresh. This pair won 3rd and 4th in dry class at Toronto National Dairy Show; also some other good cows soon to freshen and some yearling heifers. Write for prices and breeding.

EDGAR DENNIS, Newmarket, Ontario

The Maples Holstein Herd

Headed by Prince Aaggie Mechthilde. Present offering: Bull calves born after Sept. 1st, 1913. All sired by Prince Aaggie Mechthilde and from Record of Merit dams. Prices reasonable.

R. R. No. 5, WALBURN RIVERS, Ingersoll, Ontario

HOLSTEINS & YORKSHIRES

Minster Farm offers bull fit for service from a lot of a 4-year-old Heifer with R.O.P. record of 14,753-lb. and 540-lb. butter, and Lakeview Burke Payne whose dam and sire's dam average 32.14-lb. of butter 7 days. For extended pedigree write: Richard Honey & Sons, Brickley, Ont.

Holsteins, Young herd headers. Just now headers up to 15 mos. of age, closely related to our Toronto Dairy Test Champion, and sired by the richly bred, Imperial Pauline De Kol.

W. A. WALKER & SONS, Utica P. O. Manchester Station.

For Sale—Reg. Holsteins—A few choice and May; also three yearling heifers from officially tested stock.

W. A. BRYANT, Strathroy, Ont. R.R. No. 3.

Please mention "The Farmer's Advocate."

Questions and Answers.
Miscellaneous.

Untimely gravelling.

1. A notified B that he intended drawing logs while sleighing was good. B had gravel put on the road. Is this lawful?

2. In case of accident, can A claim damages from Council?
Ontario. A SUBSCRIBER.

Ans.—1. No.
2. It is not probable that such a claim could be maintained.

Age of Turkeys.

1. To what age will a turkey hen live, and be useful as a breeding hen?
2. What is the greatest age you have known a turkey hen to live?

Ans.—1 and 2. It is generally believed that a turkey hen does better the second year and thereafter, than she does as a young bird. They are generally most valuable up to six or eight years of age, but often live to much greater age. We have heard of a hen being very productive at thirteen years of age.

Barn Building.

I intend putting two narrow barns, each thirty feet wide, and the same height, side by side, on a high, nine-foot wall. They are too narrow to set that height against the wind. They also make better stabling side by side, with wall around outside and string beams to hold center. Could you give information as to keeping water out between the two barns? Could a gutter be made to keep the water out? Would it be best to cut the roof and bolt posts together, or leave them a couple of feet apart?

Ans.—With the barns placed together as stated, there would be difficulty in keeping out snow, and a great deal of water would run down between. It would be more practicable to place the barns together, and put one roof on the two.

Tile and Clover.

1. How many acres can be drained in a six-inch main tile?
2. How many acres can be drained in an eight-inch main tile?
3. How many acres can be drained in a ten-inch main tile? I am using three-inch tile, four rods apart, three acres long, depth between 2 and 3 1/2 feet; flat farm; fall 1 inch; water in trench just see it run slowly.
4. I would like to know if it would pay seeding alsike clover in the oats in spring, plowing it under the next fall or next spring. Red clover is very hard to catch. I don't like clover hay for feeding, it is simply to improve the soil, and not lose the season.

Ans.—The water will run very slowly in a ditch with only 1 inch fall in 100 feet. We gather from your remarks that it is 1 inch fall in 100 feet, as you say 3 acres long. Acres is a measure of area, not of length. To know what a certain size of tile will drain, it is necessary to know the fall, and our calculations are based on 1 inch fall in 100 feet.

1. Ten acres.
2. About 20 acres.
3. About 35 acres.
4. You cannot adopt a better system unless you use clover hay as one year in the rotation. Many successful farmers always have clover in the seed-box, even if they are not seeding down. Alsike on heavy land is a little more likely to catch than red clover in some seasons.

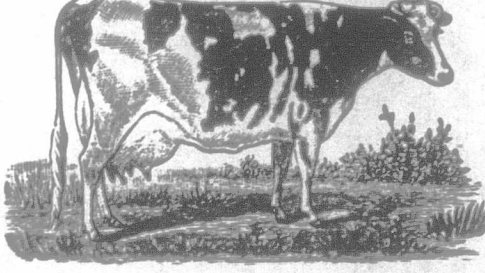
Gossip.

It may be of interest to some of our readers to know of the progress the Dominion Department of Agriculture has made in distributing pure-bred sires. Owing to the lateness of the season, only a few stallions were sent out. To date, about 125 bulls, 175 boars, and 225 rams have been placed with various associations. The majority of the bulls were placed in the Prairie Provinces, while the rams and boars were fairly evenly scattered, both West and East, with a few in Northern Ontario.

50 Prizewinning, Record-making **50**
Holsteins
BY AUCTION

Owing to circumstances which must be remedied, I will, at my farm, one and one-half miles from the Village of Norwich, on

Wednesday, Feb. 11th, 1914



sell by auction, absolutely without reserve, my entire herd of 50 head of high class, prizewinning, record making and richly bred, Holsteins. I have been many years getting this herd together, they have cost me a lot of time and money, culling and testing to get them up to the present high standard, a standard that their sweeping victories at the leading shows, proves they have not an equal in the Province; but they all go under the hammer.

Senior and junior champions, senior and junior first prize herds, as well as many lesser honors, won by them this past fall.

Adult records up to 25 lbs., 3-year-old records up to 22 lbs. 2-year-old records up to 17 lbs. with official backing for generations back.

40 females, 14 heifer calves, 6 yearlings, 6 two-year-olds, 3 three-year-olds, 4 four-year-olds, 1 5-year-old, 5 6-year-olds, 1 and aged. 10 bulls from calves up to two years, unbeaten champions among them.

TERMS: Cash or 6 months with 7%. Conveyances will meet all morning trains at Norwich.

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Telephone connection R. R. No. 7

Fairview Farms Herd

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Questions and Answers.
Miscellaneous.

Police Village Trustees.

Is it legal for trustees of a police vil-
lage to draw pay for work done by them
for said village? That is, can they go
on pay roll as day men with other-work-
men, or put in their own teams, or take
contract work for the police village over
which they are the Commissioners to let
the work?

Ontario.
Ans.—We do not find any provision in
The Municipal Act prohibiting it; and
however objectionable the practice may
seem to be, in the absence of such pro-
hibition it can hardly be regarded as
illegal.

A Cattle Deal.

A has some cattle for sale. B comes
along and asks A how much he wants
for the cattle and keep them till spring.
A states his price. B gives it to him,
and pays \$1 on the cattle. B has a
witness with him. A finds out later
that he has not asked enough for his
cattle. Can B compel A to let him have
the cattle? Is \$1 enough to hold cat-
tle?

Ans.—A must stand by his agreement.
He had his end of the bargain to make,
and can blame no one but himself if he
sold too cheap.

Warts On Udder.

I bought a cow a few weeks ago, and
her udder and teats are covered with
warts. Tell me a remedy.

N. R. T.
Ans.—These warts could best be re-
moved when the cow is dry. If the
warts have long, slender necks, they may
be safely clipped off with shears, and a
little five-per-cent. carbolic acid solution
applied. Warts with large bases may be
touched once daily with butter of anti-
mony, carefully applied with a feather in
small quantity. Always be careful in
using this not to overdo it and make a
large sore. Small-necked warts may also
be removed by tying a thread tightly
around them.

Assistant Surgeon's Fee.

A engaged a doctor* to attend wife in
operation, doctor to charge a certain
amount specified to cover all charges,
less hospital fee. A settles with doctor
as per agreement. Since then A has
received an account from Doctor No. 2,
who threatens legal action if not settled
at once. It appears Doctor No. 1
skipped out without paying his helper in
operation. Now he is trying to get A
to pay. When A settled with Doctor
No. 1, he made it emphatic that A owed
Doctor No. 2 nothing, as Doctor No. 1
engaged his helpers himself. Is A liable
in this case?

AN OLD SUBSCRIBER

Ontario.
Ans.—We think not.

Eye Trouble.

Two-year-old colt was used some on the
farm since July. In November, when on
the plow, I noticed her to be almost
blind. I then stopped working her.
She got better for a while, but now ap-
pears to be gradually going blind. What
has caused this? Can she be cured?
Would you kindly advise what to do for
her? This is not bred in her.

C. M. K.
Ans.—This is likely specific or periodic
ophthalmia. This is a constitutional
disease, and the attacks cannot be pre-
vented with any degree of certainty. The
administration of 20 grains of bisulphate
of quinine three times daily tends to pre-
vent the disease. Treatment for an at-
tack consists in keeping the patient in a
comfortable, partially-darkened box stall,
feeding lightly, bathing eyes three times
daily with hot water, and after bathing
putting a few drops of the following
lotion into each eye: Sulphate of zinc,
10 grains; fluid extract of belladonna, 20
drops; distilled water, 2 ounces. It is
quite probable that in time a cataract
will form over each eye, and the animal
will go permanently blind.

FELT HIS PART.

"Fellow-trablers," said a colored
preacher, "et I had been eatin' dried
apples for a week, and then took to
drinkin' water for a monf. I couldn't feel
more swelled up dan I am dis evening."



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ones of both sexes. A few nice bulls 4 to 8 months old. Heifers carrying their first
calves and others with calves at foot, of splendid milking strains. Two or three nice
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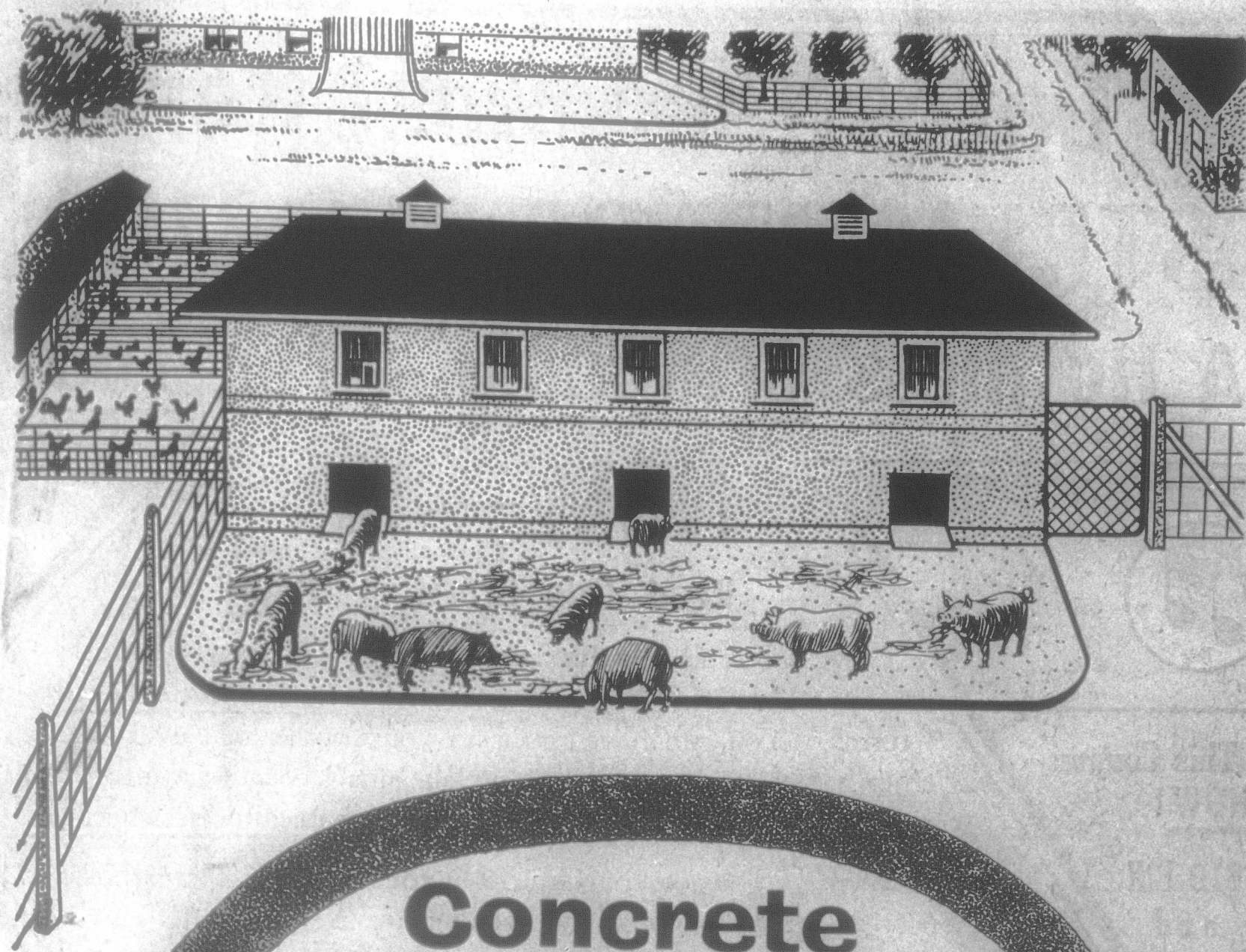
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